College of Arts and Sciences

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Aims and Objectives

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

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

Through hands-on research and creative projects (either on faculty projects or independently with faculty guidance and mentoring), fieldwork, internships, and study abroad, students integrate and bring coherence to their classroom learning.

Student Responsibilities

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

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

Academic Advising

To help plan a program of study, students are assigned an academic adviser by the department/program of their major. Students undecided about a major are advised in the UW Advising, Career, and Exploratory Studies office (222 Knight Hall).

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

Changing/Declaring a Major or Minor

When ready to declare or change a major, minor, or dual/concurrent major in a department or program in the college, the appropriate form is available from the Office of the Registrar (167 Knight Hall) or the Registrar's Web page. Approval is required from the appropriate department heads/program directors. Departments/programs will assign advisors at the time of signing their approval on the form.

Programs of Study

Undergraduate Degrees

A variety of specialized concentrations are offered within many of the following degree programs. Take a look at the department sections in this *Catalog* that follow this section or the departments' Web sites. Additionally, there are several inter-college or interdisciplinary degrees/majors such as Earth System Science and the affiliated major in Environment and Natural Resources that draw courses from several disciplines. See more detailed descriptions in this *Catalog* or the University of Wyoming home page at www.uwyo.edu, click on the A-Z Directory.

Bachelor of Arts

- African American and Diaspora Studies
- American Studies
- Anthropology
- Art
- Art Education
- Art History
- Chemistry
- Communication
- Criminal Justice
- English
- French
- Gender and Women's Studies
- Geology and Earth Sciences
- German
- History
- International Studies
- Journalism
- Mathematics
- Music
- Native American and Indigenous Studies
- Philosophy
- Physics
- Political Science
- Religious Studies
- Sociology
- Spanish
- Statistics
- Theatre and Dance

Bachelor of Science

- Astronomy/Astrophysics
- Biology
- Botany
- Chemistry
- Chemistry (ACS approved)
- Communication
- Environmental Geology/Geohydrology
- Geography
- Geology
- Journalism
- Mathematics
- Physics
- Physiology
- Political Science
- Psychology
- Sociology
- Statistics
- Wildlife and Fisheries Biology and Management
- Zoology

Bachelor of Fine Arts

- Art
- Theatre and Dance

Bachelor of Music

- Music Education
- Music Performance

Graduate Degrees

Master of Arts

- American Studies *(interdisciplinary)*
- Anthropology
- Communication
- English

History
International Studies *(interdisciplinary)*
Mathematics
Philosophy
Political Science
Psychology
Spanish

Master of Science
Botany
Chemistry
Geology
Geophysics
Mathematics
Natural Science *(interdisciplinary)*
Physics
Psychology
Reproductive Biology
Statistics
Zoology and Physiology

Master of Arts in Teaching
History
Mathematics

Master of Fine Arts in Creative Writing

Master of Music (In Performance)

Master of Music Education

Master of Public Administration

Master of Science in Teaching
Chemistry
Mathematics
Natural Science *(interdisciplinary)*
Physics

Doctor of Philosophy
Anthropology
Botany
Chemistry
Geology
Geophysics
Mathematics
Physics
Psychology
Reproductive Biology
Statistics
Zoology and Physiology

Minors in Arts and Sciences

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

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

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

Students desiring a minor must notify the department in which the minor is offered. Forms for declaring a minor are available in the Office of the Registrar (167 Knight Hall) or on the Registrar's Web page. The department of the minor will assign an adviser.

For a description of the minors in A&S, see department offices or Web sites.

Minors available in the College of Arts and Sciences include:
African American and Diaspora Studies
Aging Studies
American Studies
Anthropology
Art Department
Art History
Ceramics
Drawing
Graphic Design
Metalsmithing
Museum Studies
Painting
Photography
Printmaking
Sculpture
Biology
Botany
Chemistry
Communication and Journalism
Communication
Journalism
Marketing Communication
Public Relations
Creative Writing
Criminal Justice Department
Criminal Justice
Prelaw
English Department
Literary Studies
Professional Writing
Gender and Women's Studies Department
Gender and Women's Studies
Queer Studies
Geography
Geology/Geophysics
Geology
History
International Studies Department
Asian Studies
European Studies
International Studies
Latina/o Studies
Mathematics
Modern and Classical Languages Department
Chinese
Classical Civilization
French
German
Japanese
Latin
Spanish
Music
Native American and Indigenous Studies
Paleoenvironmental Studies *(interdisciplinary)*
Philosophy Department
Environmental Values
Ethics
Philosophy
Physics/Astronomy Department
Astronomy
Physics
Political Science Department
American Politics
International Relations and Comparative Government
Political Theory
Public Law
Psychology
Religious Studies
Remote Sensing
Sociology
Statistics
Theatre and Dance Department
Dance
Theatre
Wildlife and Fisheries Biology and Management
Zoology/Physiology Department
Animal and Human Physiology
Neuroscience
Zoology

College Degree Requirements-The 2015 A&S Core

Bachelor of Arts or Science Programs

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

regarding University Studies requirements. Students who matriculate for the first time at UW or a Wyoming community college in fall 2015 or after are required to follow both the new USP and A&S Core. Students transferring from a Wyoming community college with an associate's degree and the Wyoming Core completed between May 2013 and fall 2015, may continue to complete the 2003 USP and 2003 A&S Core requirements (if there has been no interruption in their enrollment for a year or more). Students who matriculated at UW or a Wyoming community college prior to fall 2015 and choose the 2015 USP must also complete the 2015 A&S Core requirements. For additional information please refer to the sections in this *Catalog* that describe the university graduation requirements, the 2015 University Studies Program, and the policies for reenrolling at UW after an absence of a year or more.

I. College credit hour requirements

A. Minimum total semester hours 120

B. Upper-division credit requirements (42). Thirty of the 42 hours must be earned from UW. Courses must be taken for a letter grade unless offered for S/U only. This is an all-university requirement for all degree programs and may come from the courses that fulfill the USP, the A&S Core, the major, the minor, and electives.

C. Major field of study (30-60). Credit hours in excess of 60 in the major subject may not be used to satisfy the requirement of 120 hours for graduation. Credits in AS internship, independent study or special topies courses (AS 2400, 2490, 4400, 4500, 4510, 4900, and 4975) may not be used to fulfill these outside the major requirements. At least 30 hours of C grade or better must be earned in the major subject (the major may require more). Courses in the major must be taken for a letter grade unless offered for S/U only.

D. A&S Core requirements (6). Courses must be taken for a letter grade unless offered for S/U only.

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

II. 2015 A&S Core Curriculum

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

The approved courses for the following requirements are searchable within WyoRecords under the Browse Classes feature.

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

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

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

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

Checksheets and lists of courses that satisfy A&S college core requirements are available on the Web at www.uwyo.edu/as or in the A&S Advising Center, Ross 6, 766-4013, asadvising@uwyo.edu.

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

Transfer Students and Acceptance of Transfer Credit

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

Courses Taken for S/U Credit

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

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

Concurrent Majors

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

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

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

Dual Degrees

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

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

Second Bachelor's Degrees

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

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

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

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

Concurrent Major in Environment and Natural Resources

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

Preprofessional Studies

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

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

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

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

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

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

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

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

Premedical, Predental and Preoptometry Study. Students with the most promise and the best undergraduate preparation have

the competitive advantage in being admitted to these professional programs. These schools are favorably impressed by a broad educational background, including a substantial number of both non-science and science courses; therefore, students are well advised to look beyond the minimum requirements.

Students may select any major in which they are interested. In addition to completing all university, college and departmental requirements, students must include in their curriculum the basic professional school requirements such as courses in biology, chemistry, math, and physics. Professional schools have other specific requirements and students should learn about any additional recommendations from those professional schools in which they are interested. For assistance, contact the Pre-Professional Health Advising office in the College of Health Sciences, 110 Health Sciences, (307) 766-3878, or hsadvise@uwyo.edu.

Common majors in the College of A & S for these preprofessional programs include chemistry, biology, botany, psychology, physiology, and zoology. However, there are preprofessional students in programs as diverse as theatre and dance and anthropology. Students need not declare a major immediately upon first enrollment. Advisers in individual departments can discuss options or if students wish to remain undeclared, they are advised in the UW Advising, Career, and Exploratory Studies office.

Preprofessional assistance is available in the Departments of Chemistry, Physics, Psychology, and Zoology/physiology. The preprofessional advisers in the College of Health Sciences have current information regarding professional school admission requirements, entrance examinations, programs in Western Interstate Commission on Higher Education (WICHE), Wyoming Medical Contract Program WWAMI (affiliated with the University of Washington School of Medicine) and financial assistance for professional education. The honor society for students enrolled in preprofessional studies, Alpha Epsilon Delta, is also administered in the College of Health Sciences. The Web site, http://www.uwyo.edu/preprof/ includes additional information.

Internships

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

Special Courses (AS)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

2000 [ENGL 2110]. Study Abroad. 1-18 (Max. 18). Students may register through the University of Wyoming for up to two semesters of academic work abroad with the approval of the academic adviser, head of the major department and coordinator of the Study Abroad Program.

2400. Lower-Division Internship in _____. 1-12 (Max. 12). Allows students to gain hands-on experience that will help to bridge the gap between the theory of academia and the practicality of the work world. Specific arrangements must be made in advance to identify the academic component of the internship and the grading criteria. Planning will involve the internship agency, the student's academic adviser and the associate dean of the college. *Prerequisites:* sophomore standing and the approval of the adviser, head of the major department and an associate dean of A&S.

2490. Special Topics in____. 1-3 (Max. 6). Courses of broad general appeal and an interdepartmental flavor will be offered from time to time under this title. Permits utilization of unusual faculty expertise and provides highly-specialized and particularly pertinent, timely subject matter. See current class schedule for topics. *Prerequisite:* sophomore standing.

4400. Upper-Division Internship in ___. 1-12 (Max. 12). Permits students to contribute in the areas of their expertise and gain hands-on experience that will help to bridge the gap between academia and the real world of work. Specific arrangements must be made in advance to identify the academic component of the internship and the grading criteria. Such planning will involve the internship agency, the student's academic adviser and the associate dean of the college. *Prerequisites:* approval of adviser, head of the major department and the college advising coordinator.

4900. Special Topics in _____. 1-3 (Max. 6). Courses of broad general appeal and an interdepartmental flavor will be offered from time to time under this title. Permits utilization of unusual faculty expertise and provides highly-specialized and particularly pertinent, timely subject matter. See current class schedule for topics. *Prerequisite:* junior standing. (Offered based on sufficient demand and resources)

4975. Independent Study. 1-3 (Max. 6). Offers the advanced student the opportunity to pursue an individualized topic of interest with the assistance and direction of an instructor. *Prerequisites:* junior/senior standing and consent of instructor.

The School of Culture, Gender, and Social Justice

African American and Diaspora Studies

108 Ross Hall, (307) 766-2481
Director: Dr. Ulrich Adelt
Web site: www.uwyo.edu/aads

Professors:
JACQUELYN BRIDGEMAN, B.A. Stanford University 1996; J.D. University of Chicago 1999; Professor of Law 2008, 2002.
DARRELL D. JACKSON, B.A. College of William and Mary 1987; J.D. George Mason University School of Law 1990; Ph.D. University of Colorado School of Education 2011; Professor of Law 2018, 2013.
TRACEY OWENS PATTON, B.A. Colorado State University 1993; M.A. 1996; Ph.D. University of Utah 2000; Professor of Communication and Journalism 2012, 2003.

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

Assistant Professor:
FREDRICK D. DIXON, B.A. Purdue University 1993; M.A. Northeastern Illinois University 2003; Ph.D. University of Illinois Urbana-Champaign 2018; Assistant Professor of African American and Diaspora Studies 2019.

Associate Academic Professional Lecturer:
MARY L. KELLER, B.A. Williams College 1987; M.A. Syracuse University 1992; Ph.D. 2002.

Lecturers:
JASMINE AUSTIN, B.A. University of Mary Hardin-Baylor 2013; M.A. University of Wyoming.
JASCHA HERDT, B.A. University of Wyoming; M.A. 2011.

The African American and Diaspora Studies Program, through an interdisciplinary course of study, examines the experiences of African Americans in the United States, in the context of Africa and its Diaspora in Europe and the Americas.

Undergraduate Studies

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

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

African American and Diaspora Studies Major

The B.A. in African American and Diaspora Studies consists of 35 credit hours:

- 15 credit hours of core course requirements: AAST 1000, AAST 2240, AAST 2360, AAST 3130, AAST 4975
- 3 credit hours of a lower division (1000- or 2000- level) AAST course (excludes core courses)
- 6 credit hours of upper division (3000- or 4000-level) AAST courses - internships are highly recommended
- 3 credit hours of a lower division or upper division AAST course (excludes core courses)
- 8 credit hours of a single foreign language

African American and Diaspora Studies Minor

The minor in African American and Diaspora Studies consists of 21 credit hours:

- 9 credit hours of core course requirements
- 9 credit hours of electives (excludes core courses)
- 3 credit hours of senior thesis seminar (AAST 4975, Capstone)

Thematic tracks in the major or minor are optional:

- History
- Culture & Aesthetics
- Politics & Law
- Rhetoric & English
- Religion & Philosophy
- Media Studies

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

African American and Diaspora Studies (AAST)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000. Introduction to African American Studies. 3. [D◀▶(none)] Surveys African presence in America. Selected teachings are designed to give the student a concise understanding of the heritage of African people in America.

1030. Social Justice in the 21st Century. 3. [I,D◀▶(none)] Appropriate for students interested in diversity and social justice. Topics covered through an interdisciplinary study of people and society range from identity, critical thinking, empowerment, role models, stereotyping, institutional discrimination, and tolerance. The key lynchpin is active participation in the development and maintenance of just communities. Cross listed with NAIS/AMST/WMST/LTST 1030. Enrollment preference will be given to We The People FIG students.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2240. Introduction to African Studies. 3. [WB◀▶COM2] Confronts African stereotypes by exploring the continent's complex history and current affairs, with the help of different disciplinary perspectives, such as economics, political science, and anthropology. Equipped with the basics, students will be primed to tackle more advanced courses on Africa. Cross listed with INST 2240.

2350. Introduction to African American Literature. 3. [WB,D◀▶(none)] Provides an introduction to the major works of the African American literary tradition. Covering a wide range of fiction, poetry, drama and autobiography, the course introduces students to some of the most exciting works of literature ever to appear in America. Cross listed with ENGL 2350. *Prerequisite:* WA/COM1.

2360. African American History. 3. [CH,D◀▶COM2] Surveys African-American history in America, particularly emphasizing issues of identity, class, and progress as well as exploring African-Americans' quest for full participation in American life. Cross listed with HIST 2360.

2450. Traditional African Religion. 3. [CH,G◀▶COM2] Surveys traditional religions of Africa, both ancient and contemporary. Cross listed with RELI 2450.

2990. Topics:_____. 1-3 or 3. Accommodates seminar series and/or course offerings including those by interdisciplinary teams and visiting faculty in African American & Diaspora Studies not covered by program courses.

3000. African American Studies in Music. 3. [(none)◀▶H] Surveys African American music from its origins in Africa to current, popular jazz, rock, soul and rap forms.

3010. The African American Aesthetic. 3. Examines interrelationship of the creative process with cultural and philosophical motifs, as well as the spiritual and the artistic amongst African people on the continent and Diaspora. *Prerequisite:* AAST 1000 or any AAST 2000-level course.

3130. Global Impact of African Cultures. 3. Examines concepts of culture and value systems as applied to Africa and African-derived cultures and the impact on civilizations around the globe. Using the lens of the Diaspora, this course examines aspects of African culture on the African continent along with the traditions, experiences, socialization, and histories that continue for dispersed peoples of African descent. *Prerequisite:* AAST 1000 or any AAST 2000-level course.

3260. African Spirits in the New World. 3. [CH,G◀▶H] Begins with Yoruba roots in Africa travels with the African Diaspora focusing on spirit possession in Haitian Vodou, Cuban Santeria, Jamaican Revival Zion, Jamaican Rastafarianism, Brazilian Candomblé, and "Black Church" in the United States using ethnography and postcolonial theory of religious studies. Cross listed with RELI 3260. *Prerequisites:* AAST 1000 or any AAST 2000 level course or RELI 1000.

3670. African Diaspora. 3. [CS,G◀▶(none)] Examines process through which aspects of African culture have endured in Diaspora. Analyzes social relations between Diaspora Africans and non-African populations in N. and S. America, the Caribbean, Britain, Asia and the Mediterranean. Discusses cultural hybridization as a product of culture contact. Cross listed with HIST 3670. *Prerequisite:* AAST 1000, any AAST 2000-level course, or AAST/HIST 2360.

3933. African Philosophy. 3. [(none)◀▶H] Examines the work of philosophers of Africa, of African descent and others who deal with the African diaspora. Topics include the nature

of African philosophy and the African American struggle, African colonialism, philosophy, political philosophy and gender, traditional African thought. Restricted to junior or senior class standing. Cross listed with INST/PHIL 3933. *Prerequisite:* A prior course in AAST, INST or PHIL.

4000. Black Freedom Movement, 1955–Present. 3. [CH,D◆▸(none)] Presents the struggle of African Americans for self-definition, self-development, and self-determination from the inception of the modern civil rights movements to the contemporary period. Prerequisite: 3 hours of AAST courses.

4020. The Black West. 3. [CH,D◆▸(none)] This course explores the historical experiences and contributions of people of African descent to the American West from their earliest recorded presence in the 16th Century through the present. Cross listed with HIST 4020. *Prerequisites:* AAST 1000, any AAST 2000-level course, junior/senior standing, or three hours of any level of HIST course.

4050. Development, Africa, and Culture. 3. Focuses on the complex and checkered relationships between Western-inspired development and African cultures. Striking a balance among ethnographic case studies, theoretical lenses, and practical implications, understand what Euro-American efforts at foreign development, including contemporary globalization, look like from an African perspective. Provides an understanding of African expectations of development and developers. Dual listed with AAST 5050; cross listed with INST 4050. *Prerequisites:* junior standing and instructor consultation.

4100. African American Religious Culture. 3. [WC,D◆▸COM3] Mid-level writing-intensive seminar. Comparative study of African American religious celebration, primarily in the context of Afro-Christianity, but touching on Islam, Candomble, "Voodoo," Santeria, and Rastafarianism. Cross listed with RELI 4100. *Prerequisite:* WB and one of the following: AAST 1000 or any AAST 2000-level course or RELI 1000.

4160. African American Rhetoric. 3. [CH,D◆▸COM3] African American discourse and its relationship to equality and participation. Through examination of various media, music, speeches, and art this course uses the struggle of African Americans as an instructive exemplar, to come to terms with the philosophical concepts, political issues, moral complexities, and discursive characteristics of African American Rhetoric. Dual listed with AAST 5160; cross listed with COJO 4160. *Prerequisites:* 9 credit hours in AAST or COJO.

4233. Race, Gender, Ethnicity in the Media. 3. [WC,D◆▸COM3] Examine the role mass media plays in the Black community and other racial, ethnic, gendered, and socioeconomic communities. Students will develop a critical understanding of the way the mass media uses stereotypes and prejudice to influence society's views about ethnic minorities and women in in contemporary United States society. Cross-listed with COJO 4233 and WMST 4233; dual-listed with AAST 5233. *Prerequisites:* 3 credit hours in AAST, COJO, or WMST, WB/COM2, and junior standing.

4250 [4200]. The Harlem Renaissance. 3. [D◆▸(none)] Examines the florescence of African American creativity, centered in Harlem, New York, between the end of World War I and the onset of the Great Depression. This movement had a tremendous impact on African American culture in and outside of the U.S., including Africa and the Caribbean. Dual listed with AMST 5250; cross listed with AMST 4200. *Prerequisites:* AAST 1000, AMST 2010, AMST 2110, any AAST 2000-level course, junior or senior standing, or nine credit hours in any level AMST course.

4260. [4985] Rhetoric and Social Justice. 3. [D◆▸COM3] Analyzes concepts of ableism, anti-Semitism, heterosexism, racism, sexism, and socioeconomic class through a critical/social construction framework. It attempts to develop a "working" definition of these concepts by analyzing historical and current conceptualizations and identifying marginalization and disenfranchisement as it is woven in the fabric of American society. Dual listed with AAST 5260; cross listed with COJO 4260. *Prerequisites:* Minimum of 9 credit hours in AAST or COJO and junior standing. (Offered spring semester of even-numbered years)

4450. African American Novel. 3. Considers aesthetic dimension and cultural matrix of novels written by Black Americans. Cross list with ENGL 4450. *Prerequisites:* AAST 1000, any AAST 2000 level course, junior/senior standing, six hours of 2000-level literature courses in ENGL.

4455. Slavery and Freedom. 1-4 (Max. 8). [D◆▸(none)] Students engage in an in-depth study of the literary voices that emerged from the history of enslavement in the Americas from colonial times through the end of Reconstruction in 1877. Dual listed with AAST 5455; cross listed with ENGL 4455. *Prerequisites:* AAST 1000, any AAST 2000-level course, and junior/senior standing, or six credit hours of literature courses in ENGL.

4675. U.S. Women of Color. 3. [D◆▸(none)] Examines in comparative perspective the social conditions that shape the experiences of Chicanas/Latinas in the U.S. Students gain an understanding of how the intersection of race, class, gender, and sexuality shape the lived experiences of U.S. women of color through ideological, economic, and political forces. Cross listed with LTST/WMST 4675. *Prerequisite:* junior standing and/or a combination of 3-6 hours of any level of LTST, WMST, or AAST coursework.

4970. Internship in AAST. 1-12. Designed for students to utilize the knowledge and skills obtained in their program of study to be applied at an organization or institution. Students will provide a job description, sign an internship contract, keep daily work journals, provide work samples, submit a paper, and include a final evaluation by their Internship supervisor. *Prerequisite:* 9 hours in AAST courses.

4975. Independent Research. 1-3 (Max. 6). Independent study in African American Studies. *Prerequisites:* AAST 1000 and consent of instructor.

4990. Topics:_____. 3 (Max. 12). In-depth study of a topic not offered as regular course. *Prerequisite:* COM1.

5050. Development, Africa, and Culture. 3. Focuses on the complex and checkered relationships between Western-inspired development and African cultures. Striking a balance among ethnographic case studies, theoretical lenses, and practical implications, understand what Euro-American efforts at foreign development, including contemporary globalization, look like from an African perspective. Provides an understanding of African expectations of development and developers. Dual listed with AAST 4050; cross listed with INST 5050. *Prerequisites:* junior standing and instructor consultation.

5060. NGOs, Development, and Culture. 3. Non-governmental organizations (NGOs) have grown exponentially in number and are often viewed as the new and best vehicle for international development. By focusing on international non-governmental organizations (INGOs), in the contexts of Western aid to post-colonial societies and the role they play in the international aid system, the course explores INGOs from historical, global, and cultural perspectives. Cross listed with INST 5060. *Prerequisites:* junior standing and instructor permission.

5160. African American Rhetoric. 3. African American discourse and its relationship to equality and participation. Through examination of various media, music, speeches, and art this course uses the struggle of African Americans as an instructive exemplar, to come to terms with the philosophical concepts, political issues, moral complexities, and dis-

cursive characteristics of African American Rhetoric. Dual listed with AAST 4160; cross listed with COJO 5160. *Prerequisites:* 9 credit hours in AAST or COJO.

5190. Dimensions of Racism. 3. Explores the effects of racism on African people in America using an African centered framework. We will look at the ways racism intersects with sexism, classism, and heterosexism/homophobia within the African community both in America and throughout the Diaspora. *Prerequisites:* AAST 1000, any AAST 2000-level course, junior or senior standing, or nine credit hours in any level COJO course.

5250. The Harlem Renaissance. 3. Examines the florescence of African American creativity, centered in Harlem, New York, between the end of World War I and the onset of the Great Depression. This movement had a tremendous impact on African American culture in and outside of the U.S., including Africa and the Caribbean. Dual listed with AMST 4250; cross listed with AMST 4200. *Prerequisites:* AAST 1000, AMST 2010, AMST 2110, any AAST 2000-level course, junior or senior standing, or nine credit hours in any level AMST course.

5233. Race, Gender, Ethnicity in the Media. 3. Examine the role mass media plays in the Black community and other racial, ethnic, gendered, and socioeconomic communities. Students will develop a critical understanding of the way the mass media uses stereotypes and prejudice to influence society's views about ethnic minorities and women in contemporary United States society. Cross-listed with COJO 5233 and WMST 5233; dual-listed with AAST 4233. *Prerequisites:* 3 credit hours in AAST, COJO, or WMST, WB/COM2, and junior standing.

5260. [5985] Rhetoric and Social Justice. 3. Analyzes concepts of ableism, anti-Semitism, heterosexism, racism, sexism, and socioeconomic class through a critical/social construction framework. It attempts to develop a "working" definition of these concepts by analyzing historical and current conceptualizations and identifying marginalization and disenfranchisement as it is woven in the fabric of American society. Dual listed with AAST 4260; cross listed with COJO 5260. *Prerequisites:* graduate standing. (Offered spring semester of even-numbered years)

5455. Slavery and Freedom. 1-4 (Max. 8). Students engage in an in-depth study of the literary voices that emerged from the history of enslavement in the Americas from colonial times through the end of Reconstruction in 1877. Dual listed with AAST 4455; cross listed with ENGL 5455. *Prerequisite:* graduate status or 12 hours of 3000-4000 level work.

5560. Black Popular Culture. 3. Approaches African American popular culture from theoretical perspectives which include black feminist, postcolonial, and poststructuralist analyses. Cross listed with AMST 5560. *Prerequisites:* graduate standing; instructor consent for undergraduate students.

Native American and Indigenous Studies

Main Office: 117 Native American Education, Research and Culture Center, (307) 766-6520
Director's Office: Native American Center, (307) 766-6520
Web site: www.uwyo.edu/nais/
Director: Dr. Christopher Caskey Russell

Professor:
ANGELA JAIME, B.A. California State University, Sacramento; M.A. San Francisco State; Ph.D. Purdue University; Professor of Native American and Indigenous Studies 2019, 2004.

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

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

Adjunct Faculty:
(See Catalog section following name for academic credentials.)
Pamela Innes, Anthropology
Jeffrey Means, History
Christopher Caskey Russell, English

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

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

NAIS Undergraduate Minor

Students graduating with an undergraduate minor degree in NAIS will be able to: 1) Explain the concept of tribal sovereignty and how tribal sovereignty is both restricted and acknowledged by the federal trust relationship and by relationships with states; 2) Understand the development of modern tribal governments and their functions and importance in contemporary society; 3) Understand and appreciate the roles of history, culture, and politics in the development of tribal world views, world views that relate to modern life and contemporary issues of concern for Native American and Indigenous peoples; 4) Identify historical, cultural, and political diversity and significance in Native oral traditions and written literatures; 5) Recognize stereotypes about Native American and Indigenous peoples and explain why these stereotypes were created and why they are sustained in modern society; and 6) Understand from the perspective of American Indian peoples, historical experiences and contemporary issues in North America.

Minor Requirements

The minor in Native American and Indigenous Studies requires 18 credit hours. Twelve credit hours must come from the following courses, three credit hours must be in either NAIS 1001 or 1350.

- NAIS 1001, Foundations in American Indian Studies
- NAIS 1350, American Indians in Contemporary Society
- NAIS 2210, North American Indians
- NAIS 2290, History of North American Indians
- NAIS 2340, Native American Culture and Literature

Plus six hours of NAIS elective courses.

NAIS Undergraduate Major

In addition to the skills acquired by students who earn an undergraduate minor degree in Native American and Indigenous Studies, students working toward a B.A. in Native American and Indigenous Studies (NAIS) will study tribal governance, literature, history, environment and natural resource management, Native ways of knowing, and indigenous languages. Inherent in this degree's

curriculum and related activities is the expectation that students and faculty will assume an active role in working with and for Indigenous communities. NAIS requires it majors to earn a grade of C or better in all courses taken to fulfill the major.

Major Requirements

9 credit hours of Foundation Courses
Choose from the following:
NAIS 1001, 1350, 2210, or
2290 Core Courses
6 credit hours of elective courses
15 credit hours are required beyond the 9 credits of chosen Foundation Courses:
NAIS 3300
NAIS 4100
NAIS 2340, 2345, 3100, or NAIS 4460
NAIS 3000, 4000, or 4466
NAIS 3200 or 4340
NAIS 3400, 4110, 4200, or 4740
Capstone Internship (4 credit hours)
NAIS 4020 - Internship active participation in and service to an Indigenous community in the U.S. or elsewhere. Internship guidelines.
Indigenous Languages (8 credit hours)
NAIS 1000, 2010, 3010, 4020
42 credit hours total

NAIS Graduate Minor

A graduate minor in Native American and Indigenous Studies is comprised of 12 hours with at least 6 hours at the 5000 level. It is expected that each graduate minor student and his/her graduate committee, at least one member of whom will be from NAIS, will determine the specific courses to be taken. It is recommended that one of the four classes selected be a 3 credit NAIS 5000 Independent Study. This class will provide a research experience in the discipline of Native American and Indigenous studies that may support a master's thesis or doctoral dissertation. The research expectation in NAIS can be satisfied by the 3 credit hour Independent Study and/or by the thesis or doctoral dissertation.

Students graduating with a graduate minor degree in Native American and Indigenous studies will be able to: 1) Make apparent in masters'-level research the interdisciplinary connections between Native American and Indigenous studies and the primary field of graduate study; 2) Integrate American Indian studies research methods with the research methods used in the primary field of graduate study; and 3) Demonstrate in writing the ability to understand a variety of subjects from a tribal perspective.

Teachers of American Indian Children (TIAC) (teaching) Endorsement/UW Certification

Through Distance Education, a Teachers of American Indian Children (TAIC) Endorsement / Graduate Certificate can be earned. This non-degree graduate program certifies that those who complete its five specialized courses possess the attitudes, knowledge, and competence necessary to effectively teach American Indian Children. Upon completion, students receive official recognition of their achievement on their transcripts and an official certificate. Visit the Distance Education Degrees and Programs Website www.uwyo.edu/distance/ for more information. All courses are cross-listed with NAIS and EDCI.

An interdepartmental Native American and Indigenous Studies Advisory Committee guides the program's development. The director advises students selecting the NAIS studies major or minor.

Complete information about the Native American and Indigenous Studies undergraduate major, undergraduate minor, and graduate minor is available in the NAIS Program office and on the program Website.

Native American and Indigenous Studies (NAIS)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1001. Foundations in American Indian Studies. 3. [CS,D◀▶(none)] Explains the development of American Indian studies and will show how a variety of disciplines continue to inform this field and interact to facilitate the exploration of its major topics of concern, including Native histories, cultures, and contemporary lives.

1010. Beginning Indigenous Language. 4. Fundamentals of grammar, conversation, composition, and reading. Satisfactory/unsatisfactory only.

1030. Social Justice in the 21st Century. 3. [I,D◀▶(none)] Appropriate for students interested in diversity and social justice. Topics covered through an interdisciplinary study of people and society range from identity, critical thinking, empowerment, role models, stereotyping, institutional discrimination, and tolerance. The key lynchpin is active participation in the development and maintenance of just communities. Cross listed with AAST/AMST/WMST/LTST 1030. Enrollment preference will be given to "We The People" FIG students.

1350. American Indians in Contemporary Society. 3. [CS,D◀▶(none)] Examines social and cultural issues and concerns of American Indians both on and off the reservations. Additionally, the status of American Indian people within the dominant society and culture will be explored. Cross listed with SOC 1350.

2010. Intermediate Indigenous Language. 4. Second level fundamentals of grammar, conversation, composition, and reading. Satisfactory/unsatisfactory only. *Prerequisites:* NAIS 1010.

2060. Topics. 1-4 (Max. 6). Popular and current topics in American Indian studies.

2210. North American Indians. 3. [CS, D◀▶(none)] Comparative consideration of North American Indian culture areas at European contact period. Cross listed with ANTH 2210.

2290. History of North American Indians. 3. [CH,D◀▶(none)] Studies American Indian history through 500 years and across the continent. Considers Indian political, social, and economic continuity and change. Focuses on how Indian peoples experienced and responded to times of dramatic change. Cross listed with HIST 2290.

2340. Native American Culture and Literature. 3. [CH,D◀▶(none)] Broad cultural study of Native Americans, past and present. Emphasizes folklore and literature. Cross listed with ENGL 2340. *Prerequisite:* WA course.

2345. American Indians in Hollywood Film. 3. [CH,D◀▶(none)] Examines the ways Hollywood films have constructed various forms of racial identity for American Indians. Cross listed with ENGL 2345. *Prerequisite:* WA.

3000. Plains Culture and History. 3. [D◀▶(none)] An ethnohistorical study of those Native peoples inhabiting the Plains region of the U.S. from prehistory to the present. Cross listed with HIST 3000. *Prerequisite:* 6 hours of HIST or NAIS.

3010. Proficient Indigenous Language. 4. Emphasizes the development of listening, speaking, reading, and writing so as to help students function effectively in the tribal cultural context of which the language is a part. Satisfactory/unsatisfactory only. *Prerequisite:* NAIS 2010.

3100. Tribal Literatures of the Great Plains. 3. [WC,D◀▶(none)] Familiarizes students with American Indian literatures of the Great Plains. The Great Plains region is the locus of much historical and contemporary significance in regard to American Indian cultures. The literature of Great Plains Indians allows stu-

dents to confront and reexamine the national narratives surrounding American Indians. Cross listed with ENGL 3100. *Prerequisite:* 6 hours of NAIS or ENGL.

3200. Indigenous Peoples and the Environment. 3. Understand the historical, political, and socio-economic forces that have shaped the relationships of Indigenous peoples to their environments, and be able to discern the similarities and dissimilarities of Indigenous issues across international borders. The course may include a study abroad component. *Prerequisites:* 6 hours NAIS credit.

3300. Federal Indian Law. 3. Survey of law that applies to individual Indians and tribal governments. In particular, explores the legal relationships among, and relative jurisdictions of federal, tribal, and state governments. Specific topics include civil and criminal jurisdiction, taxation, family law, hunting and fishing, and gaming regulations. *Prerequisite:* NAIS 1001 or 1350.

3400. Traditional Ecological Knowledge. 3. [CS,D◀▶(none)] Description of the interaction between economy, religion, language and the ecosystem for select Indigenous peoples and discussion of the pedagogical methods for preserving their ecological knowledge. An examination of the conflict between contemporary society's demands and preserving traditional society's heritage. Cross listed with GEOG 3400. *Prerequisite:* one course in American Indian culture.

4000. Indians of Wyoming. 3. [D◀▶(none)] Examines Native American culture in Wyoming from pre-history to the 21st century. Analyzes social, political, and economic developments of Native peoples of Wyoming before, during, and after contact with Europeans. Discusses interaction between these diverse societies and explores the changing relationships between Indians and Euro-Americans through the periods after contact. Cross listed with HIST 4000. *Prerequisite:* 9 hours of HIST or NAIS.

4010. Advanced Indigenous Language. 4. Stresses the usage of language through composition, conversation, oral presentation, and grammar review. Satisfactory/unsatisfactory only. *Prerequisites:* NAIS 3010.

4020. Internship. 1-12 (Max. 12). Requires active participation and service to an Indigenous community or organization in US or elsewhere. A written agreement among the student, the NAIS director or NAIS faculty mentor, and an on-site supervisor is required. NAIS Majors must take at least four credit hours. *Prerequisite:* 9 hours of NAIS courses.

4100. Tribal Government. 3. Examines traditional systems of tribal governance; the establishment of contemporary tribal governments; stakeholders and their goals; factors influencing tribal government operations, including the federal trust relationship, plenary power, tribal federal and tribal-state relations; powers of tribal governments; and the future of tribal governments. *Prerequisite:* 6 hours of NAIS courses, including NAIS 1001, and/or NAIS 1350.

4110. Educational Foundations in American Indian Education. 3. [D◀▶(none)] Examines cultural, geographical, linguistic, spiritual, political, and societal factors before, during, and after colonization of the Americas. Definitions and day-to-day realities of terms like ethnocentrism, cultural relativism, assimilation, acculturation, and institutional racism. Development of insights into positive teacher-pupil-community relationships that honor culture and language differences and enhance achievement. Dual listed with NAIS 5110; cross listed with EDCI 4110. *Prerequisite:* NAIS 1001 and 15 credit hours of NAIS or EDST.

4200. Indigenous Communities Abroad: International Travel. 4. Devoted to study/travel related to Indigenous peoples abroad. The specific topic will be determined each time the class is offered. Two weeks of international travel will follow sixteen hours of on-campus instruction. *Prerequisites:* 6 credits in NAIS.

4340. Natural Resource Management on Western Reservations. 3. Examines natural resource management techniques on western reservations. Focus is on the management and planning of water, grazing, extractive industries, and forestry. Fieldwork on the Wind River Indian Reservation is included. Cross listed with GEOG 4340. *Prerequisite:* 6 hours of 2000-level NAIS courses.

4360. American Indian Women. 3. Explores the lives of American Indian women in a variety of contexts through time. Complexity and diversity of Indian women's experiences throughout history are emphasized. Concerns Indian women's lives within the reality of European American colonization and its consequences for Indian peoples. Dual listed with NAIS 5360; cross listed with WMST/SOC 4360. *Prerequisite:* 6 hours of 2000-level NAIS courses.

4460. American Indian Literature. 3. [WC◀▶(none)] Advanced critical study of the history of American Indian literature, emphasizing the authors' views of social change. Cross listed with ENGL 4460. *Prerequisite:* 6 hours of 2000-level literature courses.

4462. American Indian History to 1783. 3. [(none)◀▶H] Surveys the history of American Indians from the period before contact to the end of the American Revolution. Examines the various contacts between American Indians and Europeans and considers what the American Revolution meant to the continent's Native peoples. Dual listed with NAIS 5462; cross listed with HIST 4462. *Prerequisite:* 9 hours of HIST or NAIS.

4463. American Indian History 1783-1890. 3. [(none)◀▶H] Surveys the history of American Indians during the era of westward expansion. Examines the impact of American westward movement and also the manifold changes that accompanied Indians moving west. Cross listed with HIST 4463. *Prerequisite:* 9 hours of HIST or NAIS.

4464. American Indians in the Twentieth Century. 3. Surveys the history of American Indians during the 20th century. Examines the development of new cultural, social, and political forms that help create an American Indian identity. Dual listed with NAIS 5464; cross listed with HIST 4464. *Prerequisite:* 9 hours of HIST or NAIS.

4466. American Indian Ethnohistory. 3. Surveys ethnohistorical methods and concepts and provides students concrete opportunities to use these methodologies in writing exercises. American Indian ethnohistory explores Native American experiences within their own cultural contexts. Dual listed with NAIS 5466; cross listed with HIST 4466. *Prerequisite:* 9 hours of HIST, NAIS, or ANTH.

4468. American Indians in the North American West. 3. One of the defining features of the North American West is the presence of American Indians. Through the discussion of varied readings and primary document research, the history of American Indians in the West is examined, with particular emphasis on the Great Plains and California. Cross listed with HIST 4468. *Prerequisite:* 9 hours of HIST or NAIS.

4740. Native American Languages and Cultures. 3. Demonstrates the interrelationship of language and culture in several Native American communities. Examines anthropological and linguistic theories regarding language spread and the peopling of North America, narrative performance, translation, and the connection between linguistic structures and cultural features. Cross listed with ANTH 4740. *Prerequisite:* ANTH 2000 or consent of instructor.

4975. Independent Study. 1-4 (Max. 8). Directed, independent study in American Indian issues with American Indian Studies affiliated

faculty. Students must initiate a project with an appropriate faculty member and have it approved by the program director. Prerequisite: consent of instructor and 6 hours of NAIS.

4990. Special Topics. 1-4 (Max. 9). Current research topics presented by regular and visiting faculty. *Prerequisite:* 3 hours of NAIS courses.

5000. Independent Study. 1-4 (Max. 4). Conference course to permit students opportunity for directed and independent study in American Indian issues. *Prerequisite:* graduate standing and consent of instructor.

5110. Foundations of American Indian Education. 3. Examines cultural, geographical, linguistic, spiritual, political, and societal factors before, during, and after colonization of the Americas. Definitions and day-to-day realities of terms like ethnocentrism, cultural relativism, assimilation, acculturation, and institutional racism. Development of insights into positive teacher-pupil-community relationships that honor culture and language differences and enhance achievement. Dual listed with NAIS 4110; cross listed with EDCI 5110. *Prerequisite:* NAIS 1001 and 15 credit hours of NAIS or EDST.

5121. History and Philosophy of American Indian Education. 3. Addresses the history of Indian education in the U.S. and Canada and examines missionary initiatives, government programs, and tribal efforts. Review of documentary accounts of Native education, review autobiographical accounts of Native teachers and children. Develop insight necessary for development of appropriate teaching methods and materials. Cross listed with EDCI 5121. *Prerequisite:* post-Baccalaureate status.

5130. Cultural Foundations of American Indian Education. 3. In-depth study and analysis of the educational experiences of American Indians, focusing on contemporary educational issues and experiences, examining the impacts of cultural orientations, stereotypes, bias, and other issues on the educational attainment of American Indian students. Critique instructional practices and programs developed addressing the needs of American Indian students. Cross Listed with EDCI 5130. *Prerequisite:* post-Baccalaureate status.

5141. Instructional Methods of American Indian Education. 3. Addresses culturally responsive methodologies for teaching American Indian students, reviews documentary accounts of Native education and autobiographical accounts of Native teachers and children, develops appreciation of the complexity and difficulties of Native education. Insight necessary for development of appropriate teaching methods and materials. Cross listed with EDCI 5141. *Prerequisite:* post-Baccalaureate status.

5360. American Indian Women. 3. Explores the lives of American Indian women in a variety of contexts through time. The complexity and diversity of Indian women's experiences throughout history are emphasized. Concerns Indian women's lives within the reality of European American colonization and its consequences for Indian peoples. Dual listed with NAIS 4360; cross-listed with WMST/SOC 5360. *Prerequisite:* 6 hours of 2000-level NAIS courses.

5462. American Indian History to 1783. 3. Surveys the history of American Indians from the period before contact to the end of the American Revolution. Examines the various contacts between American Indians and Europeans and considers what the American Revolution meant to the continent's Native peoples. Dual listed with NAIS 4462; cross listed with HIST 5462. *Prerequisite:* graduate standing.

5464. American Indian History in the 20th Century. 3. Surveys the history of American Indians during the 20th century. Examines the development of new cultural, social, and political forms that help create an American Indian identity. Dual listed with NAIS 4464; cross listed with HIST 5464. *Prerequisite:* graduate standing.

5466. American Indian Ethnohistory. 3. Surveys ethnohistorical methods and concepts and provides students concrete opportunities to use these methodologies in writing exercises. American Indian ethnohistory explores Native American experiences within their own cultural contexts. Dual listed with NAIS 4466. *Prerequisite:* graduate standing.

Gender and Women's Studies

108 Ross Hall, (307) 766-2733
FAX: (307) 766-2555
Web site: www.uwyo.edu/gwst
Director: Jacquelyn Bridgeman

Professors:

CATHERINE CONNOLLY, B.S. State University College at Buffalo 1984; M.A. State University of New York at Buffalo 1989; J.D. 1991; Ph.D. 1992; Professor of Sociology and Women's Studies 2004, 1998, 1992.

COLLEEN DENNEY, B.A. Louisiana State University 1981; M.A. 1983; Ph.D. University of Minnesota 1990; Professor of Art 2005, 1990; Professor of Gender and Women's Studies 2009.

Assistant Professor:

BARBARA ELLEN LOGAN, B.A. Queens College CUNY 1986; Ph.D. University of California Santa Cruz 2002; Assistant Professor of Gender and Women's Studies 2018, 2011.

Assistant Lecturer:

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

Professor Emeriti:

Susan McKay (Distinguished Professor Emeritus in Gender and Women's Studies)

Adjunct Faculty:

(see department section following name for academic credentials)

Ulrich Adelt, African American and Diaspora Studies, American Studies
Stephanie Anderson, Political Science
Judith Antell, Emeritus, Native American and Indigenous Studies
Cecelia Aragon, Latina/o Studies, Theatre and Dance
Christine Boggs, Distance Education
Christin Covello, Gender and Women's Studies
Susan C. Frye, English
Teena Gabrielson, Political Science
Susanna Goodin, Philosophy
Janice Harris, Emeritus, English
Cynthia Hartung, Psychology
Isadora Helfgott, History
Jeanne Holland, English
Angela Jaime, Native American and Indigenous Studies
Michelle Jarman, WIND
Frieda E. Knobloch, American Studies
Renee Laegreid, History
Noah Novogrodsky, Law
Tracey Patton, African American and Diaspora Studies, Communication and Journalism
Tucker Readdy, Kinesiology and Health
Chian Jones Ritten, Agricultural and Applied Economics
Nancy Shea, Gender and Women's Studies
Nathaniel Smith, Gender and Women's Studies
Lilia Soto, American Studies, Latina/o Studies

Grant Walsh-Haines, Gender and Women's Studies
Rachel Watson, Chemistry, Director, Queer Studies

Advisory Committee:
Stephanie Anderson (Political Science)
Cecelia Aragon (Latina/o Studies, Theatre and Dance)
Christine Boggs (Distance Education)
Alison Harkin (Gender and Women's Studies)
Cynthia Hartung (Psychology)
Isadora Helfgott (History)
Angela Jaime (Educational Studies)
Michelle Jarman (WIND)
Renee Laegreid (History)
Chian Jones Ritten (Agricultural and Applied Economics)

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

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

1. conduct interdisciplinary feminist analysis.
2. examine and critique ideological assumptions underlying social institutions and systems of representation, including but not limited to assumptions regarding gender, race, class, nationality, disability, age, and sexual orientation.
3. comprehend the impact of gender on individuals' historical and contemporary agency, and how the ability to express agency has shaped people's lives in various geographical settings.

Major requirements

For the gender and women's studies major, the student must complete 30 credit hours of gender and women's studies courses. All courses must be completed with a grade of "C" or better.

Core Courses (9 credit hours)

1. Introductory Course: (3 credits)
   Choose ONE from:
   a. WMST 1080: Intro to Women's Studies or
   b. WMST 2000: Intro to GLBTQ/NS Studies or
   c. WMST 1900: Women & Leadership
2. Theory/Methods Courses (6 credits)
   a. WMST 3710: Gender & Humanities *or* WMST 2500: Gender & Society *or* WMST 4210: Feminist Research Methods; and
   b. WMST 4700: Feminist Theories

Free Electives: 21 credit hours.

Students may choose from our full complement of courses to complete their major requirements.

We encourage students to take courses that are history-based, global, and those that address sexuality, ethnicity, and identity. Students have the option to do 21 hours in one of the following areas, in one or more areas, or create an independent path under consultation with the advisor. Possible areas of emphasis include:

Culture and Representation; Science, the Body and Sexualities; Social Policy and Social Justice; Independent Path. (see advisor for list of offerings)

As part of their 21 free elective hours students, with a minimum GPA of 3.300, have the option of pursuing internships (WMST 4970).

Gender and Women's Studies with Honors

Honors in Gender and Women's Studies recognizes academically ambitious students who have excelled in their undergraduate careers, and who are ready for graduate school and/or employment in the public or private spheres. Requirements include an overall minimum GPA of 3.500 and the completion of WMST 4965, Senior Honors Project. Students in UW Honors Program, McNair Scholars Program, or other departments that require completion of an independent research project may dovetail their honors work in GWST with those programs.

For students beginning in Fall 2015, Honors in Gender and Women's Studies requires the completion of 3 semesters of foreign language or sign language, or a concentration in quantitative analysis and research methods, including statistics.

Minor Requirements

For the Gender and Women's Studies minor, students must complete 18 hours of WMST course work including one of the following core courses: WMST 1080, 1900, 2000, 3500, 3710, 4210 or 4700. A minimum of 12 hours of credit in the minor must be exclusive of hours earned in the student's major. Nine of the required hours must be 3000-level or above. All classes for the minor must be completed with a grade of "C"or better.

Minor in Queer Studies

The Queer Studies minor requires the completion of 18 hours of classes, including WMST 2000-Intro to LGBTQ/NS and nine or more credits at the 3000-level or above. Each semester, students, in consultation with a queer studies advisor, will choose elective courses. A capstone project or internship is required but can be variable and determined in consultation with an advisor.

An interdisciplinary, independent Queer Studies advisory committee advises the program on curriculum, scheduling and coordination. A faculty advisor is assigned to the student on declaration of the minor.

The advisory board for the minor includes:
Ulrich Adelt, American Studies
Christine Boggs, Outreach School
Cathy Connolly, Gender and Women's Studies
Susanna Goodin, Philosophy
Kirsten Havig, Social Work
Barbara E. Logan, History and Gender and Women's Studies
Noah Novogrodsky, Law
Eric Teman, Professional Studies
Rachel Watson, director, Molecular Biology

Graduate Study

Students interested in a graduate minor in Gender and Women's Studies or Queer Studies should contact the Director of the Program for enrollment.

Minor in Gender and Women's Studies

A total of 12 hours of course work is required, including nine hours at the 5000-level and including WMST 5710, Feminist Theoretical Perspectives. When practical, students should include a GWST faculty member on their thesis, dissertation or Plan B committees. Students in professional programs without a culminating research project (or those whose graduate work is outside of GWST) can meet this requirement through alternative means.

Minor in Queer Studies

A graduate minor in Queer Studies requires the completion of 12 hours, including AMST/WMST 5430, Queer Study, a minimum of 6 hours at the 5000+ level, and a capstone experience or independent study. For committee-based degree programs with QS content it is expected that the student will include one committee member from QS.

Gender and Women's Studies (WMST)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1030. Social Justice in the 21st Century. 3. [I,D◀▶(none)] Appropriate for students interested in diversity and social justice. Topics covered through an interdisciplinary study of people and society range from identity, critical thinking, empowerment, role models, stereotyping, institutional discrimination, and tolerance. The key lynchpin is active participation in the development and maintenance of just communities. Cross listed with LTST/AAST/AMST/NAIS 1030. Enrollment preference will be given to We The People FIG students.

1080. Introduction to Women's Studies. 3. [CH,D◀▶H] Introduction to key issues in women's studies. Topical examination of women's participation in, and relationship to, institutions of society, such as family and school, as well as processes and activities, such as work, art, literature and politics in historical and cross-cultural analysis. Cross listed with ENGL 1080.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

1900 [4510]. Women and Leadership. 3. [O,L◀▶(none)] Students examine theoretical, historical and cultural aspects of leadership, values in leadership, gender differences in leadership styles, and practical applications of leadership skills through oral communication and information literacy. Individual and collaborative work is expected. Cross listed with SOWK 1900.

2000. Introduction to LGBTQ/NS Studies. 2. [C,D◀▶H] Lesbian, Gay, Bisexual, Transgender, Queer and New Sexuality Studies (LGBTQ/NS) explores the interdisciplinary study of sexuality and its importance to the organization of social relations and social institutions. Primary among its concerns is the study of the lives, the politics, and the creative work of sexual minorities.

2060. Topics in Women's Studies. 1-4 (Max. 6). Popular and current topics in women's studies.

2070. Gender and Religion. 3. Aims to help students understand how religion constructs and reinforces gender roles in religion and society. Looks at traditional gender roles in Christianity and the transformation they have undergone in the past century or so. Cross listed with RELI 2070.

2389. History of Women in the American West. 3. [D◀▶(none)] Surveys the roots of society's marginal historical depiction of women in the American West from the colonial period through the twentieth century. From the perspective of race, class, ethnicity, and gender, the course focuses on the development of a multi-dimensional understanding of women's roles using an interdisciplinary approach. Cross listed with HIST 2389.

2420 [2500]. Women and Politics. 3. Describes and compares status and political activity of women in America with those of women in other societies in order to explore causes, methods and results of political involvement by women. Cross listed with POLS 2420. *Prerequisite:* POLS 1000 or consent of instructor.

2500 [3500]. Gender and Society. 3. [WB◀▶COM2] Examines the social construction of gender using interdisciplinary methods of analysis. The readings and assignments emphasize the importance of denaturalizing the gender stereotypes and norms that impact women's and men's lives. Intersections between gender, race, class, age, and sexual orientation are examined within their cultural contexts. This course will prepare students for advanced work in Gender and Women's Studies. *Prerequisite:* WMST 1080 or cross listed equivalent.

2700. Gender and Disability. 3. [D◀▶H] Disability studies draws upon critical theory to investigate disability as a discursive construction. Investigates how intersecting conceptions of disability and gender have shaped cultural meanings and the social positioning of specific groups, especially women with disabilities. Topics include non-normative embodiment, issues of representation and subjectivity, and the politics of health, sexuality, and care. Cross listed with WIND 2700.

3050. Cultures of Nature in the United States. 3. Uses artistic, philosophical, historical and literary material to investigate how ideas about and representations of nature have changed over time in the U.S. Culminates in an examination of a wide range of contemporary environmental ideas within this broad historical and cultural context. Cross listed with ENR/AMST 3050. *Prerequisite:* 2000-level course in one of the following departments: AMST, American history, American literature, or a 2000-level course approved for the ENR program.

3200. Perspectives in Chicana Studies 3. [D◀▶(none)] An interdisciplinary introduction to the study of the history, culture, gender relations, and contemporary political, economic status of Chicanas/Mexican American women. Examines the origins, development of Chicana studies as a major emphasis in Chicano/Chicana studies. Cross listed with LTST 3200. *Prerequisite:* LTST 1100.

3300. Psychology of Gender. 3. In this course, we will examine a variety of psychological theories and research on the experiences and behaviors of men and women. We will study attitudes about gender, theories of gender development, and research about similarities and differences between men and women. Cross listed with PSYC 3300. *Prerequisite:* A grade of C or better in PSYC 1000.

3400. Popular Music and Sexualities. 3. [CH,D◀▶(none)] Looks at ways in which popular music has intersected with sexual and gendered identities as a means and expression of both oppression and liberation. Cross listed with AMST 3400. *Prerequisite:* WA.

3610. Non-Western Women Writers. 3. Examines literature written by women in non-western cultures. The geographical region, time period, and genres of literature may vary by semester. Analyzes representations of such topics as family, marriage, sexuality, community, and colonialism as expressed in fiction, drama, literary non-fiction, and/or poetry. *Prerequisites:* ENGL 1010 or WMST 1080; junior standing.

3710. Gender and Humanities. 3. [CH◀▶COM2] Explores how men and women are imaged differently, studying the influence of representation on gender (including representations in literature, film, art, popular culture, and/or performance). Sharpens students' ability to analyze texts and images and investigate those texts' messages about gender, sexuality, ethnicity and class. Cross listed with ENGL/ART 3710. *Prerequisite:* WMST 1080 or ENGL 1010. (Offered once a year)

3800. Chicanas/os in Contemporary Society. 3. [CS,D◀▶(none)] Focuses on three major movements within the Chicana/o community; labor, nationalism, and feminism. Students will assess these three movements to determine what role they have played in transforming the social conditions and political identity of the Chicana/o and Latina/o population in the US. Cross listed with AMST/LTST 3800. *Prerequisites:* LTST 1100 or WMST 1080 or AMST 2010.

4050. Minority Sexual/Gender Identity Issues in Education. 3. How youth of minority sexual and gender identities have been educated: the challenges they experience in U.S. K-16 schools, the risk factors related to academic success (health, safety, and emotional well being), and strategies to create safe, caring, and inclusive learning environments for all youth. Dual listed with WMST 5050; cross listed with EDCI 4050. *Prerequisites*: completion of WA and WMST 2000 with C or better.

4100. U.S. Latina/o Theater. 3. [CA,D◀▶(none)] Designed to provide an overview of United States Latina/o Theater. Through a variety of delivery methods, students are instructed on the various categories that directly impact U.S. Latina/o Theater such as political theatre, gay/lesbian theatre, border issues, race, class, gender, and sexuality. Cross listed with LTST 4100. Dual listed with WMST 5100. *Prerequisite*: 6 hours of LTST or WMST.

4175 [4940]. Gender, Women, and Health. 3. [CS,G◀▶(none)] Focuses on issues of gender, women and health, including the effects of gender bias in medical research and health care practices and policies. Health care issues of specific concern to women, both nationally and internationally will be examined. Dual listed with WMST 5175; cross listed with INST 4175. *Prerequisite:* upper-division standing, lower division social or psychological science course. (Offered every other year)

4200. Gender and Race in the Economy. 3. [D◀▶(none)] Focuses on the role gender and race play in the economy; specifically the way that gender and race affect economic outcomes for individuals in the United States. Cross listed with AGEC 4200. Dual listed with WMST 5200. *Prerequisites:* AGEC 1020 or equivalent, or SOC 1000, or WMST 1080, and WB.

4210. Feminist Research Methods. 3. Introduces students to feminist methods of research problem formulation, data acquisition, analysis, and presentation of research findings regarding topics related to sex, gender and sexuality. Requires students to participate in research projects. Dual listed with WMST 5210. *Prerequisites*: Nine hours of WMST or permission of the instructor.

4233. Race, Gender, Ethnicity in the Media. 3. [WC,D◀▶COM3] Examine the role mass media plays in the Black community and other racial, ethnic, gendered, and socioeconomic communities. Students will develop a critical understanding of the way the mass media uses stereotypes and prejudice to influence society's views about ethnic minorities and women in in contemporary United States society. Cross-listed with AAST 4233 and COJO 4233; dual-listed with WMST 5233. *Prerequisites:* 3 credit hours in AAST, COJO, or WMST, WB/COM2, and junior standing.

4240. Global Sex Work and Trafficking. 3. [G◀▶(none)] Drawing upon case studies from Africa, Asia, the Americas and Europe, this course explores the gendered intersections of power and privilege through the lens of sex work, broadly defined as the exchange of intimacy for something of value, and trafficking, defined as coerced forms of sex work. Dual listed with WMST 5240; cross listed with INST 4240. *Prerequisite:* 3-6 hours of WMST or INST.

4300. The Politics of Sexuality. 3. Addresses issue of how sexuality has become gendered with different meanings for both males and females as to reproductive behavior, especially how women's bodies are defined in sexual terms. *Prerequisite:* WMST 1080, 3500 or 3710. (Offered every other year)

4330. European Gender and Women's History. 3. The experiences of women and the history of gender from the Renaissance through the 19th century. Focuses on the changing notions of the masculine and the feminine through such historical episodes as the Reformation, the Enlightenment, the French Revolution and the Industrial Revolution. Dual listed with WMST 5330. Cross listed with HIST 4330. *Prerequisite:* HIST 1110 or 2110.

4335. Women and Islam. 3. Examines women's lives in Islamic societies from the seventh century to the present in the Middle East and throughout the world. Themes include women's position in Islamic law, society and culture, Western images of Muslim women, veiling and Islamist movements, theoretical readings on power, gender and agency. Cross listed with HIST 4335 and RELI 4335; dual listed with WMST 5335. *Prerequisite:* 9 hours of HIST, WMST, INST, or RELI.

4360. American Indian Women. 3. Explores the lives of American Indian women in a variety of contexts through time. The complexity and diversity of Indian women's experiences throughout history are emphasized. Much of the class concerns Indian women's lives within the reality of European American colonization and its consequences for Indian peoples. Cross listed with NAIS/SOC 4360. *Prerequisite:* 6 hours of 2000-level NAIS classes.

4430. Queer Theory. 3. [(none)◀▶H] Introduces students to the intellectual lens used to evaluate the messages regarding gender and sexuality of many institutions and the way in which some actual experiences fall out of line with those norms. Dual listed with WMST 5430; cross listed with AMST 4430. *Prerequisite:* Consent of instructor.

4450. Ecofeminism. 3. Focus is on issues of gender, women and ecology. Ecofeminist thinkers argue that there is no liberation for women and no solution to the ecological crisis without a fundamental shift in relationships of domination. Uniting the two movements results in a radical reshaping of modern socioeconomic relations. Dual listed with WMST 5450. *Prerequisite:* 6 hours in WMST, PHIL, and/or ENR.

4500. Special Topics in Women's Studies. 1-4 (Max. 12). Presents current research issues by visiting and regular faculty. *Prerequisite:* WMST 1080, 3500, 3710 or consent of instructor.

4540. Women, Crime and the Law. 3. Addresses status of women as offenders and as victims in society and in the criminal justice system. Considers special role of women as professionals in the criminal justice system. Cross listed with CRMJ 4540. *Prerequisite:* ENGL/WMST 1080, WMST/SOC 3500, or CRMJ/SOC 2400. (Offered every other year)

4580. Gender, Global Change, and Development. 3. [CS,G◀▶(none)] Examines the global intersections of gender and public policy through its analysis of five central themes: [1] international development discourse in practice; [2] feminized labor and migration; [3] women's unequal access to resources (including land ownership and education); [4] agricultural production and sustainability; [5] health, reproduction and mothering. Dual listed with WMST 5580; cross listed with INST 4580. *Prerequisite:* 3-6 hours of WMST or INST courses. (Offered once a year)

4590. Women of India. 3. [G◀▶(none)] Introduces students to concepts that influence the daily lives of contemporary women from India. Organized around two themes: how women have made history in India, and how today's women are performing, confronting and modifying cultural traditions. *Prerequisites:* WA and a CS or CH course.

4650. Women, Gender & Migration. 3. From an international context and perspective, this course examines the gendered transformations immigrant women experience. Gender, theories of international migration, assimilation, race, ethnicity, and identity transformation serve as categories of analysis. From a cross-discipline comparative approach, we focus on women's lives to examine differences and similarities to complicate notions of immigration. Cross listed with AMST/LTST/INST 4650. Dual listed with WMST 5650. *Prerequisites*: Junior standing and 6 hours of AMST, LTST, INST, and/or WMST coursework or instructor approval.

4675. U.S. Women of Color. 3. [D◆▸(none)] Examines in comparative perspective the social conditions that shape the experiences of Chicanas/Latinas in the U.S. Students gain an understanding of how the intersection of race, class, gender, and sexuality shape the lived experiences of U.S. women of color through ideological, economic, and political forces. Cross listed with AAST/LTST 4675. *Prerequisite:* junior standing and/or a combination of 3-6 hours of any level of LTST, WMST, or AAST coursework.

4700. Feminist Theories. 3. [WC◆▸COM3] Surveys contemporary feminist theories and places those theories within the framework of social, literary, and artistic criticism. Uses feminist theories to address questions such as nature of meaning in literature and artistic forms; construction of science; and identity of the individual as these phenomena are affected by gender construction. *Prerequisite:* 12 hours of women's studies. (Offered once a year)

4780. History of Women Artists. 3. Studies documented influence of women as subjects, makers and receivers of art. Emphasizes careers and works of women over a wide range of times and places and under a variety of social circumstances. Greatly emphasizes developments in the twentieth century. Cross listed with ART 4780; dual listed with WMST 5780. *Prerequisites:* ART 2010 or ART 2020 or 3 hours of Women's Studies courses; and WB.

4830. Victorian Women's Lives: Their Art, Literature and Culture. 3. [CA◆▸(none)] An interdisciplinary approach to the study of women's issues in art, using literary, cultural and sociological texts to enlarge the art historical basis. Topics include "domestic goddess," class issues, racial questions, working women, prostitution, education, marriage and divorce. Cross listed with ART/ENGL 4830, dual listed with WMST 5830. *Prerequisite:* Either ART 2020 or WMST/ENGL 1080. (Offered every other year)

4960. Women's Bodies, Women's Minds. 3. [CS◆▸(none)] Explores women's physiologic and psychologic development and the influences of patriarchal society upon the interpretation of what constitutes normalcy across the female life cycle. Historical, cultural and contemporary attitudes of the health care system and women's perspectives on menstruation, childbearing, breastfeeding and menopause will be analyzed. *Prerequisite:* upper division status. (Offered every other year)

4965 [4980]. Senior Honors Project. 3. The student consults with the director/faculty supervisor to identify a topic and (a) produces a 30-40 page research paper or (b) a shorter 15-20 page paper plus a creative or service learning component, showing originality, firm knowledge of the discipline(s), and solid research skills, with a thesis defense as culmination. *Prerequisites:* WMST 4700, or concurrent enrollment with instructor consent, and a 3.500 GPA.

4970 [4000]. Internship. 3 (Max. 12). Students gain practical experience in the application of principles learned in women's studies courses. Students will work with the director of women's studies internships to select a site; will intern approximately ten hours per week in the host organization; and will complete written assignments which reflect the student's work. Offered S/U only. *Prerequisites:* 12 semester hours of WMST coursework, 3.300 GPA and consent of instructor.

4975 [4970]. Independent Studies. 1-4 (Max. 9). Offers the advanced student the opportunity to pursue a topic of interest with the assistance and direction of an instructor in women's studies. *Prerequisite:* 6 hours in women's studies or consent of instructor.

5000. Special Topics. 1-4 (Max. 8). Presents findings from current research and new areas of inquiry into women's studies at the graduate level, by present and visiting faculty. *Prerequisite:* 18 hours of undergraduate women's studies.

5050. Minority Sexual/Gender Identity Issues in Education. 3. How youth of minority sexual and gender identities have been educated: the challenges they experience in U.S. K-16 schools, the risk factors related to academic success (health, safety, and emotional well being), and strategies to create safe, caring, and inclusive learning environments for all youth. Dual listed with WMST 4050; cross listed with EDCI 5050. *Prerequisites*: completion of WA and WMST 2000 with C or better; graduate standing; completion/concurrent enrollment in ADED 5260 or instructor approval.

5100. U.S. Latina/o Theater. 3. [CA,D◆▸(none)] Designed to provide an overview of United States Latina/o Theater. Through a variety of delivery methods, students are instructed on the various categories that directly impact U.S. Latina/o Theater such as political theatre, gay/lesbian theatre, border issues, race, class, gender, and sexuality. Cross listed with LTST 5100. Dual listed with WMST 4100. *Prerequisite*: 6 hours of LTST or WMST.

5175. Gender, Women & Health. 3. Focuses on issues of gender, women and health, including the effects of gender bias in medical research and health care practices and policies. Health care issues of specific concern to women, both nationally and internationally are examined. *Prerequisites:* upper-division standing, lower division social or psychological science course. Dual listed with WMST 4175.

5200. Gender and Race in the Economy. 3. Focuses on the role gender and race play in the economy; specifically the way that gender and race affect economic outcomes for individuals in the United States. Cross listed with AGEC 5200. Dual listed with WMST 4200. *Prerequisites:* AGEC 1020 or equivalent, or SOC 1000, or WMST 1080, and WB.

5210. Feminist Research Methods. 3. Introduces students to feminist methods of research problem formulation, data acquisition, analysis, and presentation of research findings regarding topics related to sex, gender and sexuality. Requires students to participate in research projects. Dual listed with WMST 4210. *Prerequisites*: Nine hours of WMST or permission of the instructor.

5233. Race, Gender, Ethnicity in the Media. 3. Examine the role mass media plays in the Black community and other racial, ethnic, gendered, and socioeconomic communities. Students will develop a critical understanding of the way the mass media uses stereotypes and prejudice to influence society's views about ethnic minorities and women in in contemporary United States society. Cross-listed with AAST 5233 and COJO 5233; dual-listed with WMST 4233. *Prerequisites:* 3 credit hours in AAST, COJO, or WMST, WB/COM2, and junior standing.

5240. Global Sex Work and Trafficking. 3. Drawing upon case studies from Africa, Asia, the Americas and Europe, this course explores the gendered intersections of power and privilege through the lens of sex work, broadly defined as the exchange of intimacy for something of value, and trafficking, defined as coerced forms of sex work. Dual listed with WMST 4240; cross listed with INST 5240. *Prerequisite:* 3-6 hours of WMST or INST.

5330. European Gender History. 3. The experiences of women and the history of gender from the Renaissance through the nineteenth century. Focuses on the changing notions of the masculine and the feminine through such historical episodes as the Reformation, the Enlightenment, the French Revolution and the Industrial Revolution. Dual listed with WMST 4330. *Prerequisite:* HIST 1110 or 2110.

5335. Women and Islam. 3. Examines women's lives in Islamic societies from the seventh century to the present in the Middle East and throughout the world. Themes include women's position in Islamic law, society and culture, Western images of Muslim women, veiling and Islamist movements, theoretical readings on power, gender and agency. Dual listed with WMST 4335. *Prerequisite:* graduate standing.

5360. American Indian Women. 3. Explores the lives of American Indian women in a variety of contexts through time. The complexity and diversity of Indian women's experiences throughout history are emphasized. Much of the class concerns Indian women's lives within the reality of European American colonization and its consequences for Indian peoples. Dual listed with WMST 4360; cross listed with SOC 5360. Prerequisite: 6 hours of NAIS 2000-level classes.

5430. Queer Theory. 3. Introduces students to the intellectual lens used to evaluate the messages regarding gender and sexuality of many institutions and the way in which some actual experiences fall out of line with those norms. Dual listed with WMST 4430; cross listed with AMST 5430. *Prerequisite:* Consent of instructor.

5450. Ecofeminism. 3. Focus is on issues of gender, women and ecology. Ecofeminist thinkers argue that there is no liberation for women and no solution to the ecological crisis without a fundamental shift in relationships of domination. Uniting the two movements results in a radical reshaping of modern socioeconomic relations. Dual listed with WMST 4450. *Prerequisite:* six credits from women's studies, philosophy, and/or ENR.

5500. Readings in Women's Studies. 3. An interdisciplinary course at graduate level focusing on feminist criticism and theory, which draws on current debates in feminist analysis from the general areas of history, literature and social science, to inform students of reformulations of research and unresolved issues. Identical to HIST 5500. *Prerequisite:* graduate standing.

5580. Gender, Global Change, and Development. 3. Examines the global intersections of gender and public policy through its analysis of five central themes: [1] international development discourse in practice; [2] feminized labor and migration; [3] women's unequal access to resources (including land ownership and education); [4] agricultural production and sustainability; [5] health, reproduction and mothering. Dual listed with WMST 4580; cross listed with INST 5580. *Prerequisite:* 3-6 hours of WMST or INST courses. (Offered once a year)

5590. Women of India. 3. Introduces students to concepts that influence the daily lives of contemporary women from India. Organized around two themes: how women have made history in India, and how today's women are performing, confronting and modifying cultural traditions. *Prerequisites:* USP WA class and a CS or CH class.

5650. Women, Gender & Migration. 3. From an international context and perspective, this course examines the gendered transformations immigrant women experience. Gender, theories of international migration, assimilation, race, ethnicity, and identity transformation serve as categories of analysis. From a cross-discipline comparative approach, we focus on women's lives to examine differences and similarities to complicate notions of immigration. Cross listed with AMST/LTST/INST 5650. Dual listed with WMST 4650. *Prerequisites*: Junior standing and 6 hours of AMST, LTST, INST, and/or WMST coursework or instructor approval.

5710. Feminist Theoretical Perspectives. 3. Intensive introduction to the epistemology and application of a wide range of trans-historical, trans-cultural, and trans-national feminist theories. Students will be asked to apply self-selected feminist theories to their own thesis work and graduate fields, as well as to current examples of sex, gender, gender performance, and gendered coding in American media. *Prerequisite*: graduate standing.

5780. History of Women Artists. 3. Studies documented influence of women as subjects, makers and receivers of art. Emphasizes careers and works of women over a wide range of times and places and under a variety of social circumstances. Greatly emphasizes developments in the twentieth century. Dual listed with WMST 4780. *Prerequisites:* ART 2010 or ART 2020 or 3 hours of Women's Studies courses; and WB.

5830. Victorian Women's Lives: Their Art, Literature, and Culture. 3. An interdisciplinary approach to the study of women's issues in art, using literary, cultural and sociological texts to enlarge the art historical basis. Topics include "domestic goddess," class issues, racial questions, working women, prostitution, education, marriage and divorce. Dual listed with WMST 4830; cross listed with ENGL 5830. *Prerequisite:* ART 2020 or ENGL/WMST 1080.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Students are expected to give some lectures and gain classroom experience. *Prerequisite:* graduate standing.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5970. Independent Studies. 1-4 (Max. 8). Allows the graduate student to pursue studies in gender issues with the supervision of an instructor from the Women's Studies faculty. *Prerequisite:* graduate standing.

5990. Internship. 1-12 (Max. 12). *Prerequisite:* graduate standing.

Latina/o Studies

108 Ross Hall, (307) 766-4127
Web site: uwyo.edu/ltst
Director: Dr. Lilia Soto

Professor:
CECILIA ARAGON, B.S. McMurry University Texas 1991; M.A. University of New Mexico 1996; Ph.D. Arizona State University 2003; Professor of Theatre and Dance and Latina/o Studies 2017, 2005.

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

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

Adjunct Faculty:
Jennifer Macias, Adrian Molina, Dewey Gallegos, Estella Soto, Macros Martinez

Faculty and Staff Affiliates:
Jacqueline Shinker, Geography
Mark Guiberson, Communication Disorders
Carolyne Larson, History
Conxita Domènch, Spanish Literature
Joy Landeira, Spanish
Irene Checa-Garcia, Spanish Linguistics
Rachel Sanchez, Office of the Registrar

State-Wide Advisory Board:
Connie Coca
Ana Cuprill
Linda Devine
Floyd Esquibel
Mary Elizabeth Galvan
Chris Novarro
Milton Ontiveros
Ann Redman

The Latina/o Studies program, through an interdisciplinary and comparative approach examines the history, cultures, language and contemporary experiences of Mexicans, Mexican-Americans and other Latinos/as in Wyoming, and the United States.

Learning Outcomes

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

Upon completion of the University of Wyoming Latina/o Studies minor curriculum, students will have an awareness and appreciation for the Latina/o experience. Particularly as the Latina/o experience is expressed in the following concepts and principles of organic insight, relational awareness, historical perspective, power for social change, intersectionality, and aesthetics.

1. *Organic Insight* - The development of a contextual framework for understanding one's own and others' experiences in relation to the Latina/o experience.

2. *Relational Awareness* - The development of a theoretical framework for understanding how institutional social structures impact individuals, families, and communities, and in turn, how individuals, families, and communities impact social structures through resistance, social agency, and change.

3. *Historical Perspective* - The development of a critical historical viewpoint for understanding how struggles around social, economic, and political forces have shaped the traditional and contemporary Latina/o Diaspora.

4. *Power for Social Change* - The development of a critical consciousness, which is necessary for a social praxis that combats oppressive racist ideologies and social structures that perpetuate individual and institutional inequalities.

5. *Intersectionality* - Gaining an awareness of the intersection of race, ethnicity, class, gender, and sexual orientation as it plays out organically, relationally, historically, and politically.

6. *Latina/o Aesthetics* - The development of an appreciation and awareness of the aesthetics evident in Latina/o art, music, theatre, literature, and other artistic expressive forms and styles.

Latina/o Studies Minor

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

Minor Requirements:

3 hours of Foundation Course

LTST 1300 3

3 hours of History or Social Science

LTST 2370 or 3
LTST 2385 or 3
LTST 3800 3

3 hours of Culture, Arts, and Humanities

LTST 2360 or 3
LTST 3560 or 3
LTST 4100 or 3
LTST 4470 3

3 hours of Gender, Race, Class, and Sexuality

LTST 1030 or 3
LTST 3200 or 3
LTST 4650 or 3
LTST 4675 3

6 hours of Electives (or any courses listed above not yet taken)

LTST 2060 or 3
LTST 3080 or 3
LTST 4485 or 3
LTST 4495 or 3
LTST 4496 or 3
LTST 4525 or 3
LTST 4975 or 1-3
LTST 4990 1-3

Latina/o Studies (LTST)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1030 [CHST 1030]. Social Justice in the 21st Century. 3. [I,D◀▶(none)] Appropriate for students interested in diversity and social justice. Topics covered through an interdisciplinary study of people and society range from identity, critical thinking, empowerment, role models, stereotyping, institutional discrimination, and tolerance. The key lynchpin is active participation in the development and maintenance of just communities. Cross listed with WMST/NAIS/AAST/AMST 1030. Enrollment preference will be given to We The People FIG students.

1100 [CHST 1100]. Introduction to Chicano Studies. 3. [CS,D◀▶(none)] Provides a basic understanding of the historical, social, and cultural context of the Mexican American Chicano people. Examines the major theoretical and conceptual frameworks which explain the Mexican American Chicano experience. Examines the comparative relations with other groups and major social and policy issues. Provides an introduction to the conduct of research in field.

1101 [CHST 1101]. First-Year Seminar. 3. [(none)◀▶FYS]

1300 [CHST 1300]. Introduction to Latina/o Studies. 3. [(none)◀▶H] The U.S. Latina/o immigrant experience is a particular focus of this course, including its role in the incorporation of Latinos into U.S. society. Through readings, presentations, class discussion, videos, and other activities, students examine historical and contemporary issues affecting Latinos including but not limited to immigration, language, identity, national origin, education, politics, employment, and economic mobility.

2060 [CHST 2060]. Special Topics in____. 3. Special topics course through which regular or visiting faculty can present progress regarding specialized or new topics.

2360 [CHST 2360]. Mexican American Literature. 3. [CH,D◀▶H] Discusses literary reflections of Chicanismo. Studies literature of the Hispanic Southwest, Mexican American folklore and the Chicano and post-Chicano movement. Cross listed with ENGL 2360. *Prerequisite:* WA.

2370 [CHST 2370]. Chicano History : Origins to 1900. 3. [CS,D◀▶H] General survey that traces the geographic distribution and historical processes that have shaped the life experiences, socio-economic development and cultural contributions of peoples of Mexican descent in the United States from their indigenous and Hispanic origins to the end of the 19th century. Cross list with GEOG 2370/ HIST 2370.

2385 [CHST 2385]. Chicano History: 1900 to Present. 3. [(none)◀▶H] General survey of the history of the Mexican American Chicano people in the United States. Examines the origins and development of Mexican Americans, Chicanos through the major historical processes which have shaped their experience. Major themes include multicultural, multiethnic context, origins; changing identity, comparative relations to other social, ethnic groups, culture, social structure, politics, economy, immigration, and the influence of United States-Mexico relations. Cross listed with HIST 2385.

3080 [CHST 3080]. Spanish Language in the USA. 3. [(none)◀▶H] This course studies the Spanish language in its social context as a language of the United States, through concepts such as: social and individual bilingualism, Spanglish, dialects, language contact, borrowings, code switching, language policy, or language ideology. Cross listed with SPAN 3080. *Prerequisite:* SPAN 3050 or SPAN 3060 or instructor's consent.

3200 [CHST 3200]. Perspectives in Chicana Studies 3. [D◀▶H] An interdisciplinary introduction to the study of the history, culture, gender relations, and contemporary political, economic status of Chicanas/Mexican American women. Examines the origins, development of Chicana studies as a major emphasis in Chicano/Chicana studies. Cross listed with WMST 3200. *Prerequisite:* LTST 1100 or junior standing.

3560 [CHST 3560]. Chicano Community Organizations. 3. Introduction to the origins, development and contemporary status of community organizations and service agencies in the Mexican American community in general and in the Wyoming and Rocky Mountain regions. *Prerequisite:* LTST 1100.

3800 [CHST 3800]. Chicanas/os in Contemporary Society. 3. [CS,D◀▶(none)] Focuses on three major movements within the Chicana/o community; labor, nationalism, and feminism. Students will assess these three movements to determine what role they have played in transforming the social conditions and political identity of the Chicana/o and Latina/o population in the US. Cross listed with AMST/WMST 3800. *Prerequisites:* LTST 1100 or WMST 1080 or AMST 2010.

4100 [CHST 4100]. U.S. Latina/o Theater. 3. [CA,D◀▶(none)] Designed to provide an overview of United States Latina/o Theater. Through a variety of delivery methods, students are instructed on the various categories that directly impact U.S. Latina/o Theater such as political theatre, gay/lesbian theatre, border issues, race, class, gender, and sexuality. Cross listed with WMST 4100. Dual listed with LTST 5100. *Prerequisite*: 6 hours of LTST or WMST.

4470 [CHST 4470]. Studies in Chicano Folklore. 3. [CH,D◀▶H] Provides a survey of the origins, development and contemporary folklore of the Mexican American Chicano people of the United States with comparative relation to Mexico and other groups in the United States. Cross listed with ENGL 4470. *Prerequisites:* LTST 1100 and WA.

4485 [CHST 4485]. U.S. Latino Diaspora. 3. Combines classroom activities and a week-long stay abroad in examining the historical creation and contemporary spread of the Latino Diaspora from the Caribbean to the Yucatan and beyond. U.S. Latina/o history, multiculturalism, pan-Latino identity, assimilation, migration trends and natives responses are stressed. Cross listed with HIST/INST 4485. *Prerequisite:* 9 hours of LTST, HIST, and/or INST related coursework.

4496 [CHST 4496]. History of Mexico. 3. Intensive course in Mexican development. Emphasizes the 20th century, especially the Mexican Revolution of 1910, showing how this nation transformed itself into a modern nation-state. Includes diplomatic relations with the U.S., incorporation of Indians, church-state relations, uses of land and other natural resources, role of the military and growth of Mexican nationalism. Cross listed with HIST 4496. *Prerequisite:* 9 hours of HIST or INST. (Normally offered fall semester)

4650 [CHST 4650]. Women, Gender & Migration. 3. From an international context and perspective, this course examines the gendered transformations immigrant women experience. Gender, theories of international migration, assimilation, race, ethnicity, and identity transformation serve as categories of analysis. From a cross-discipline comparative approach, we focus on women's lives to examine differences and similarities to complicate notions of immigration. Cross listed with AMST/INST/WMST 4650. Dual listed with LTST 5650. *Prerequisites*: Junior standing and 6 hours of AMST, LTST, INST, and/or WMST coursework or instructor approval.

4675 [CHST 4675]. U.S. Women of Color. 3. [D◀▶(none)] Examines in comparative perspective the social conditions that shape the experiences of Chicanas/Latinas in the U.S. Students gain an understanding of how the intersection of race, class, gender, and sexuality shape the lived experiences of U.S. women of color through ideological, economic, and political forces. Cross listed with AAST/WMST 4675. *Prerequisite:* junior standing and/or a combination of 3-6 hours of any level of LTST, WMST, or AAST coursework.

4975 [CHST 4975]. Independent Studies. 1-3 (Max 6). Independent study in Chicano studies research. *Prerequisite*: junior standing.

4990 [CHST 4990]. Topics in Chicano Studies. 1-3 (Max 6). A special topics course through which regular and visiting faculty can explore regarding specialized or new research topics regarding Chicano studies. *Prerequisite:* junior standing.

5100 [CHST 5100]. U.S. Latina/o Theater. 3. [CA,D◀▶(none)] Designed to provide an overview of United States Latina/o Theater. Through a variety of delivery methods, students are instructed on the various categories that directly impact U.S. Latina/o Theater such as political theatre, gay/lesbian theatre, border issues, race, class, gender, and sexuality. Cross listed with WMST 5100. Dual listed with LTST 4100. *Prerequisite*: 6 hours of LTST or WMST.

5650 [CHST 5650]. Women, Gender & Migration. 3. From an international context and perspective, this course examines the gendered transformations immigrant women experience. Gender, theories of international migration, assimilation, race, ethnicity, and identity transformation serve as categories of analysis. From a cross-discipline comparative approach, we focus on women's lives to examine differences and similarities to complicate notions of immigration. Cross listed with AMST/INST/WMST 5650. Dual listed with LTST 4650. *Prerequisites*: Junior standing and 6 hours of AMST, LTST, INST, and/or WMST coursework or instructor approval.

Anthropology

106 Anthropology Building,
(307) 766-5136
FAX: (307) 766-2473
Web site: www.uwyo.edu/anthropology
Department Chair: Todd Surovell

Professors:

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

MICHAEL E. HARKIN, B.A. University of North Carolina 1980; M.A. University of Chicago 1984; Ph.D. 1988; Professor of Anthropology 2003, 1993.

ROBERT L. KELLY, B.A. Cornell University 1978; M.A. University of New Mexico 1980; Ph.D. University of Michigan 1985; Professor of Anthropology 1997.

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

MARY LOU LARSON, B.A. University of Wyoming 1976; M.A. University of California-Santa Barbara 1982; Ph.D. 1990; Professor of Anthropology 2007, 1996.

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

Associate Professors:

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

MELISSA S. MURPHY, B.A. Haverford College 1994; Ph.D. University of Pennsylvania 2004; Associate Professor of Anthropology 2014, 2008.

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

Assistant Professors:
BRIANA DOERING, B.A. Barnard College, Columbia University, 2012; M.A. University of Michigan 2016; Ph.D. 2020, Assistant Professor of Anthropology 2020.
ALEXANDRA KELLY, B.A. University of Chicago 2004; M.A. 2005; Ph.D. Stanford University 2014; Assistant Professor of History and Anthropology 2014.
JESSICA NELSON, B.A. University of Michigan 2006; M.A. University of Arizona 2011; Ph.D. 2018; Assistant Professor of School of Culture, Gender, and Social Justice 2019.

Adjunct Faculty:
Adams, Arksey, Clauter, Janković, Karavanić, Kitchell, Lynch, Malloy, Miller, Nicholson, Olujić, Page, Peterson, Pierce, Raguž, Rapson, Rockwell, Walker, Watson

Academic Professional Research Scientist:
Rick Weathermon

Professors Emeriti:
George C. Frison, George W. Gill, Lin A. Poyer, Charles A. Reher, Audrey C. Shalinsky

The department of Anthropology promotes the understanding of humankind from an integrated, holistic approach which examines past, present and future trends in cultural, biological and linguistic diversity and uniformity. Though the department serves undergraduate and graduate majors who will become professional anthropologists or will pursue other related careers, it also provides information to a large number of non-majors and to the larger community regarding cross-cultural issues. Furthermore, because of its commitment to the four field approach including biological anthropology, archaeology, cultural anthropology and linguistic anthropology, the department fosters among its students an awareness of the interrelatedness of scientific concepts, methods and theories, and the humanistic foundation of scientific inquiry. The Department of Anthropology prepares its students both to understand the cultural resources of Wyoming and to participate as informed citizens in an increasingly complex global community.

Undergraduate Major

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

1. students demonstrate knowledge about the four fields of anthropology and their interrelationship,
2. students participate in a research experience and understand its process, and
3. students demonstrate ability to analyze and synthesize in relation to anthropological issues or theories.

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

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

Undergraduate Minors

The Anthropology undergraduate minor has the following learning outcomes:

1. students learn sufficient subfield information to complement a variety of disciplines,
2. students learn basic methods of the discipline, and
3. students learn basic theories/ types of subfield explanation.

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

Teacher Education

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

Graduate Study

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

Program Specific Admission Requirements

Master's Program

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

1. students will be able to explain the content of the "four fields" of anthropology and their interrelationship in written and oral formats,
2. students will have experience in original research, and
3. students will develop skills which foster professionalism as related to their chosen field.

Deadline for application is February 15 for the following fall.

See graduate admission requirements.

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

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

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

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

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

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

Doctoral Program

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

1. students will have professional and specialized training so they can move into careers in academic or non-academic tracks,
2. students will have a dissertation research experience that results in professional publication(s), thereby contributing to the expansion of knowledge, and
3. students will have practical experience that will promote their movement into professional careers in a reasonable amount of time.

Deadline for application is December 1 for the following fall.

See graduate admission requirements.

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

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

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

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

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

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

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

Program Specific Graduate Assistantships

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

Assistantships are awarded through a departmental application process. An application form, cover letter, and resume are required.

Information and deadlines may be obtained in the department office.

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

Program Specific Degree Requirements

Master's Program Plan A (thesis)

See university minimum requirements.

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

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

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

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

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

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

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

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

Plan B (non-thesis)

See university minimum requirements.

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

Doctoral Program

See university minimum requirements.

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

A minimum of six content courses (18 hours) chosen by the student in conjunction with the student's committee. These courses are normally completed in the first two years of the Ph.D. program. In addition to anthropology courses, the other 4000/5000-level courses outside of the department may be required by the committee or chosen by the student in consultation with their committee.

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

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

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

Committee meeting and successful completion of a dissertation proposal.

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

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

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

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

Anthropology (ANTH)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1100. Introduction to Biological Anthropology. 4. [SB◀▶PN] Basic concepts relating to the origin, evolution and biological nature of the human species.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

1200. Introduction to Cultural Anthropology. 3. [CS,G◀▶H] Introduction to foreign, especially non-western, cultures through anthropological concepts, films and ethnographies.

1300. Introduction to Archaeology. 3. [CS,G◀▶PN] Explores ways in which prehistoric material remains can provide an understanding of the cultural way of life. General background in archaeological method and theory is used to examine case studies from throughout the world, based on themes such as ceramic technology and artistry development, growth of early civilizations and North American prehistory.

1450. World Archaeology. 3. [CS,G◀▶H] World Prehistory. Recommended for non-majors. A survey of the archaeology of Africa, Asia, Europe, Australia, and the Americas from the evolution of humans to the origins of agriculture to the rise of civilizations such as that of Egypt, China, and Mexico.

2000. Introduction to Linguistic Anthropology. 3. [L◀▶COM2] Demonstrates the interrelationship of language, human biology, and culture at the introductory level. Linguistic anthropological methods and theories are used to examine linguistic behaviors used throughout the world. *Prerequisite:* ANTH 1100, 1200 or 1300.

2200. World Culture. 3. [CS,G◀▶(none)] Provides an understanding of cultural behavior of people in various geographical areas of the world. Students read ethnographies, cultural descriptions of societies, written by cultural anthropologists. (Normally offered at least once a year)

2210. North American Indians. 3. [CS,D◀▶(none)] Comparative consideration of North American Indian culture areas at European contact period. Cross listed with NAIS 2210. (Offered based on sufficient demand and resources)

2600. Forgotten Africa: Intro to African Civilizations. 3. [(none)◀▶H] This survey course introduces students to African states and empires, dating from classical to modern times. The course challenges depictions of Africa as timeless and underdeveloped within contemporary narratives by highlighting the continent's vibrant cultures, sophisticated technologies, dynamic and complex political systems and participation in long-distance trade. Cross listed with HIST 2600.

2700. Introduction to Museology. 3. [CH◀▶(none)] Explores the historical, cultural, and contemporary roles of museums and preservation institutions in society. Introduces students to the museum professions, collection and exhibition installation strategies, and ethical problems of governance and collection. Field trips to regional collections are included. Cross listed with AMST/ART/HIST 2700.

3015 [2015]. Introduction to the Music of the World's Peoples. 3. [WB,G◀▶(none)] Introduces music of the world's peoples. Students actively study and document living musical traditions and hear, research and study music from a wide variety of geographical areas of the world. Cross listed with MUSC 3015. *Prerequisite:* MUSC 1000.

3300. Ethnographic Methods in Anthropology. 3. [WB◀▶COM3] Introduces anthropology majors to ethnographic fieldwork, the fundamental method in cultural anthropology. Students conduct fieldwork and discuss research problems including ethics and the role of the researcher. Open to students in related fields of humanities and social sciences. *Prerequisite:* ANTH 1200. (Normally offered fall semester)

3310. Introduction to Anthropology Research Methods. 3. Introduces anthropology majors to use of the discipline's scientific method through problem formation, research data acquisition and research techniques used by anthropologists. *Prerequisite:* ANTH 1100, 1200, and 1300. (Normally offered spring semester)

3400. Hunters and Gatherers. 3. [(none)◀▶H] Describes cultural adaptation of hunter-gatherer societies using both the ethnographic and archaeological record from the Arctic to tropical jungles. *Prerequisite:* ANTH 1100, 1200, or 1300. (Offered based on sufficient demand and resources)

3410. Maya, Aztec, and Inca Cultures. 3. An exploration of the early states and empires of the New World through the archaeological record. Compares and contrasts the Aztec,

Maya, and Inca cultures with emphasis placed on origins, political and social organization, ritual beliefs, and reasons for collapse. *Prerequisite:* ANTH 1300.

3420. The Anthropology of Global Issues. 3. Using anthropology's long-term, holistic and comparative approaches, the course examines key global issues, e.g., poverty, war, disease, environmental degradation, and terrorism from an anthropological perspective. Cross listed with INST 3420. *Prerequisite:* ANTH 1200.

4000. Conference. 1-4 (Max. 4). Guided independent study. *Prerequisites:* senior standing and 15 hours in anthropology. (Offered based on sufficient demand and resources)

4010. History of Anthropological Thought. 3. [WC◀▶(none)] Designed as the capstone course for senior majors. Surveys anthropological theory development. Explores major trends and their relationships. *Prerequisites:* ANTH 1100, 1200, 1300, 3300, and 3310. (Normally taken in student's final semester)

4015. Archaeological Theory and Method. 3. Introduces the students to past and present archaeological theories through a literature survey of significant topics. Addresses questions, such as: How do archaeologists identify and solve problems? What do they perceive to be problems? What is the logic of archaeological arguments? Dual listed with ANTH 5015. *Prerequisites:* ANTH 1200, 1300, 3310, and at least one 4000 regional course.

4020. Seminar. 3-6 (Max. 6). Considers current topics of anthropological interest. May be repeated for a maximum of 6 hours credit when the subject matter of the seminar is different. *Prerequisite:* ANTH 1100, 1200, or 1300. (Offered based on sufficient demand and resources)

4021. Seminar in Archaeology. 3. Considers current topics of archaeological interest. *Prerequisite:* ANTH 1300.

4022. Seminar in Biological Anthropology. 3. Considers current topics of interest within biological anthropology. *Prerequisite:* ANTH 1100.

4023. Seminar in Cultural Anthropology. 3. Considers current topics of interest within cultural anthropology. *Prerequisite:* ANTH 1200.

4024. Seminar in Linguistic Anthropology. 3. Considers current topics of interest within linguistic anthropology. *Prerequisite:* ANTH 2000.

4110. Zooarchaeology I. 3. Introductory level seminar in the archaeological analysis of faunal materials. Emphasis is on identification and curation of bones from archaeological and Late Pleistocene paleontological contexts, including their use in the interpretation of prehistoric and historic human behavior, the investigation of paleoenvironmental conditions and paleoecological relationships and problem-oriented taphonomic research. Dual listed with ANTH 5110. *Prerequisite:* ANTH 1300.

4115. Lithic Analysis. 3. An overview of the analysis of stone tools and waste flakes from archaeological sites. Emphasizes appropriate use of typology and methods of debitage analysis. Dual listed with ANTH 5115. *Prerequisites:* ANTH 1300 and 9 additional hours in anthropology.

4120. North American Archaeology. 3. Studies North American prehistory from the earliest evidence to historic times. Dual listed with ANTH 5120. *Prerequisite:* ANTH 1300. (Normally offered every third semester)

4125 [4100]. Northwestern Plains Prehistory. 3. Northwestern Plains archaeology from the Paleoindian period to historic contact. A review of important sites and artifact types, ongoing UW research projects, regional and other expressions of ideology, Native American ethnohistory and contemporary perspectives, and historic preservation issues. Dual listed with ANTH 5125. *Prerequisite:* ANTH 1300. (Normally offered every third semester)

4130. Old World Archaeology. 3. Surveys major archaeological sequences of the Old World. Dual listed with ANTH 5130. *Prerequisite:* ANTH 1300. (Normally offered every third semester)

4135. Quantitative Methods in Anthropology. 3. A consideration of the use of quantitative methods in anthropological research, including descriptive and inferential statistics, pattern search, mathematical modeling and computer simulation. Dual listed with ANTH 5135. *Prerequisite:* STAT 2070 or equivalent.

4140. Archeological Field School. 2-6 (Max. 6). Summarizes a regional prehistory and gives practical and theoretical training in archaeological field methods. Field projects are located specific areas of the world (e.g., Wyoming, Croatia, Peru). *Prerequisite:* ANTH 1300 or 4120 or 4125 or 4130 or 4150. (Normally offered summer session)

4145. Origins of the State. 3. This course takes a comparative approach to the study of the origins of the archaic states. Focus is given to themes in complexity such as emergence of social economic inequality, private property, power, ideology, and urbanism. Comparative civilizations/regions include China, Mesopotamia, Egypt, Central Mexico, and Peru. Dual listed with ANTH 5145. *Prerequisite:* ANTH 1300.

4150. Seminar in Prehistory. 1-3 (Max. 9). Covers the prehistory of a specified region or time period within that region. Emphasizes learning prehistoric sequences, material culture, and research questions associated with the topic. Topics include, but are not limited to, Paleoindian, Archaic, Siberian, Northern Plains, Great Basin, Rocky Mountain, or Southwestern Archaeology. Dual listed with ANTH 5150. *Prerequisite:* ANTH 1300.

4155. Computer Programming for Archaeologists. 3. Introduces the application of computer programming to the collection, management, and analysis (hypothesis testing) of archaeological data. Develop models and simulations of complex prehistoric systems. Begins with an introduction to Microsoft Excel (Visual Basic for Applications), programming structure, and applications to archaeology. Specific assignments in writing programs relevant to typical archaeological problems. Dual listed with ANTH 5155. *Prerequisites*: ANTH 1300 or consent of instructor.

4160. GIS in Anthropology. 4. Introduction to how and why geographic information systems (GIS) are used in anthropology. Considers: 1) background, definitions, and concepts of geographic data and GIS; 2) Anthropological and archaeological approaches to GIS; and 3) hands-on-experience with GIS applications in archaeology through demonstrations, lectures, and structured inquiries. Dual listed with ANTH 5160. *Prerequisites:* ANTH 1200, or 1300.

4170. Geoarchaeology. 3. Introduces students to theory and method in geoarchaeological research. Emphasis is placed upon geomorphical processes of archaeological site formation and paleoenvironmental reconstruction. Dual listed with ANTH 5170. *Prerequisite:* ANTH 1300.

4175. South American Prehistory. 3. Intensive study of the archaeology of South America covering its entire prehistory from first peopling at perhaps 14,000 years ago, to the colonial period. The course focuses not only on the well known Andean cultures, but also on the archaeology of the entire continent. Dual listed with ANTH 5175. *Prerequisite:* ANTH 1300.

4190. Public Archaeology. 3. A consideration of archaeological legislation, policies and regulations; compliance, heritage, and avocational archaeology, cultural resource management; curation; and professional archaeological ethics. Dual listed with 5190.

4210. Human Osteology. 3. Provides a detailed study of the human skeleton. Dual listed with ANTH 5210. *Prerequisite:* ANTH 1100, LIFE 2022. (Normally offered spring semester)

4215 [4200]. Hominin Evolution. 3. Surveys hominin fossil record in context of evolutionary process, stressing structure-function and the dynamics of adaptive responses. Dual listed with ANTH 5215. *Prerequisite:* ANTH 1100. (Normally offered every third semester)

4220. Human Variation. 3. Studies human biological variation as viewed from the anthropological perspective. Focuses on populational variation among humans in terms of genetic, morphological, and acclimatized characteristics with particular focus on the interaction of biology and culture in shaping these variations. Dual listed with ANTH 5220. *Prerequisite:* ANTH 1100. (Normally offered every third semester)

4230. Forensic Anthropology. 3. Introduces methods and purposes of physical anthropology as applied in human identification for law enforcement agencies. Cross listed with CRMJ 4230. *Prerequisite:* ANTH 1100. (Normally offered fall semester of odd-numbered years)

4240. Forensic Anthropology Laboratory. 2. Studies details of advanced osteometric procedures, particularly as applied to problems of human skeletal identification. Dual listed with ANTH 5240. *Prerequisite:* ANTH 4210. (Offered based on sufficient demand and resources)

4255. Bioarchaeology. 3. Study of the human skeleton in archaeological context to reveal the biological and cultural pasts of individuals and communities. Using case studies, covers the history of the field, ethics of working with human remains, theoretical and methodological approaches to mortuary archaeology. Gain hands-on experience by working with specimens from the UWyoming Human Remains Repository. Dual listed with ANTH 5255. *Prerequisites*: ANTH 1100 or 1300.

4260. Anthropology of Food, Culture, and Nutrition. 3. Offers a biocultural perspective to the study of diet, nutrition, subsistence, and food systems. Study includes basic nutritional principles and diet seen in evolutionary, cross-cultural, ethnographic, and historical perspective; method and theory in nutritional anthropology; and contemporary issues in nutrition, cuisine, and foodways. Dual Listed with ANTH 5260. *Prerequisites*: ANTH 1100 or 1200.

4300. Anthropology of Religion. 3. Provides a comparative anthropological study of religious systems, emphasizing analysis of symbolism, myth and ritual. *Prerequisite:* ANTH 1200. (Normally offered every third semester)

4310. Environmental Anthropology. 3. Addresses how human societies interact with their surroundings, emphasizing cultural understandings of the environment. Introduces variety of theoretical and methodological approaches to topics ranging from problems of the American West to global environmental change. Cross listed with ENR 4310. Dual listed with ANTH 5310. *Prerequisite:* ANTH 1200. (Normally offered every third semester)

4320. Political Anthropology. 3. Encompasses theories and descriptions of relationships between power and society in both less formal tribal contexts and more highly structured political institutions. Dual listed with ANTH 5320. *Prerequisite:* ANTH 1200. (Normally offered every third semester)

4325. Symbolic Anthropology. 3. Teaches several anthropological approaches to symbolic and cultural analysis, while reading ethnographic examples of how symbolic analysis can be used to understand different cultures. Coursework assumes a basic knowledge of social science concepts. *Prerequisite:* ANTH 1200 or SOC 1000.

4330. Social Organization. 3. Provides theories of social organization, interrelations of social institutions, and current anthropological methods of interpretation. *Prerequisite:* ANTH 1200. (Normally offered every third semester)

4340. Culture Change. 3. Examines representative theories of change, factors involved, dynamics of modernization and applied anthropology. Dual listed with ANTH 5340. *Prerequisite:* ANTH 1200. (Normally offered every third semester)

4350. Medical Anthropology. 3. Understandings of health and illness vary widely. Taking a comparative historical approach, examines how an individual's interactions with sociocultural and physical environments influence the experiences of health and illness. Topics include symbolic healing, biomedicine as a cultural system, disease and international development, global politics of AIDS and other pandemics. Dual listed with ANTH 5350. *Prerequisite:* ANTH 1200 or SOC 1000.

4380. Visual Anthropology. 3. Offers anthropological interpretation of visual representations and media, including analysis of the development of ethnographic films and their contemporary use. Visual representations of many cultures as well as mainstream United States examples are analyzed. *Prerequisite:* ANTH 1200.

4740. Native American Languages and Cultures. 3. Demonstrates the interrelationship of language and culture in several Native American communities. Examines anthropological and linguistic theories regarding language spread and the peopling of North America, narrative performance, translation, and the connection between linguistic structures and cultural features. Dual listed with ANTH 5740; cross listed with NAIS 4740. *Prerequisite:* ANTH 2000 or consent of instructor.

4765. Language Humor and Games. 3. This course examines various forms of language play and the role of language characterisitics (ambiguity, phonology, homophony, etc.) in creating humorous utterances and texts. Anthropological understandings of humor and its use also will be explored. Students will construct and analyze forms of humor throughout the course. Dual listed with ANTH 5765. *Prerequisite:* ANTH 2000 or consent of the instructor.

4775. Language and Gender. 3. Investigates the relationship between language use, linguistic categories, and gender categories. Examines the linguistic practices involved in the formulation, discussion, and performance of gender categories in a number of different cultures. Dual listed with ANTH 5775. *Prerequisite:* ANTH 1200, 2000.

4785. Language and Racism. 3. Explores the ways in which racist ideology and socially-based racial categories are reinforced and changed through language and linguistic usage. The forms of language used in the construction of covertly and overtly racist communication, and the media through which racism is communicated also will be investigated. Dual listed with ANTH 5785. *Prerequisite:* ANTH 1200 or 2000.

4795. Language Change. 3. Considers how languages change over time, due to both internal and external forces. The effects of language contact, borrowing, and structural change are discussed. The use of linguistic data for questions of migration and cultural contact are also explored. Dual listed with ANTH 5795. *Prerequisite:* ANTH 2000.

4970. Internship 1-12 (Max. 12). Allows students to gain hands-on experience, bridging the gap between anthropology as an academic discipline and anthropology as practiced in museums, public archaeology agencies, non-governmental organizations, and private consulting companies. Involves a required academic component in addition to work experience. Internship credit cannot fulfill requirements of the major. *Prerequisites:* anthropology major of junior/senior standing and consent of internship director and/or department head.

4975. Undergraduate Practicum in Anthropology. 1-4 (Max. 6). Affords students the opportunity to extend research projects in field or lab locations and receive additional

credit for their work. Students sign up for these hours only in conjunction with another course and with the instructor's consent. *Prerequisites:* 9 hours in anthropology, consent of instructor.

5000. Special Problems. 1-4 (Max. 12). Conference course to allow graduate students opportunity for both guided and independent research. *Prerequisite:* graduate standing and consent of instructor.

5005. Graduate Seminar in Anthropology. 3 (Max. 6). *Prerequisite:* graduate standing or consent of instructor.

5010. 20th Century Anthropology Theory. 3. Examines major thinkers and schools of thought in anthropology of the 20th century. Emphasis is on cultural theory within the context of the four-field approach. *Prerequisite:* graduate standing in anthropology.

5015. Archaeological Theory and Method. 3. Introduces the students to past and present archaeological theories through a literature survey of most significant topics. Addresses questions, such as: How do archaeologists go about identifying and solving problems? What do they perceive to be problems? What is the logic of archaeological arguments? Dual listed with ANTH 4015. *Prerequisite:* ANTH 1200, 1300, 3310, and at least one 4000 regional course.

5020. Biological Anthropology. 3. Offers a graduate level overview of biological anthropology. Beginning with the history of relevant areas of human biology, provides extensive discussion of such areas as paleoanthropology, primatology, and human variation. Also includes detailed theoretical examinations of topics within hominid evolution, the concept of race and sociobiology. *Prerequisite:* first year anthropology graduate student standing.

5030. Linguistic Anthropology. 3. Demonstrates interrelationships between language, human biology, and culture. In particular, the relevance of the study of language to biological anthropology, archaeology, and cultural anthropology is emphasized. Examines classic approaches in anthropological linguistics and recent controversies such as the origin of language in human evolution.

5110. Zooarchaeology I. 3. An introductory level seminar in the archaeological analysis of faunal materials. Emphasis is on the identification and curation of bones from archaeological and Late Pleistocene paleontological contexts, including their use in the interpretation of prehistoric and historic human behavior, the investigation of paleoenvironmental conditions and paleoecological relationships and problem-oriented taphonomic research. Dual listed with ANTH 4110. *Prerequisite:* ANTH 1300.

5115. Lithic Analysis. 3. An overview of the analysis of stone tools and waste flakes from archaeological sites. Emphasizes appropriate use of typology and methods of debitage analysis. Dual listed with ANTH 4115. *Prerequisite:* ANTH 1300 and 9 additional hours in anthropology.

5120. North American Archaeology. 3. Studies North American prehistory from the earliest evidence to historical times. Dual listed with ANTH 4120. *Prerequisite:* ANTH 1300 or consent of instructor.

5125. Northwestern Plains Prehistory. 3. Covers the Northwestern Plains from the Paleo-Indian to historic contact, including relationships to surrounding areas. Dual listed with ANTH 4125. *Prerequisite:* ANTH 1300.

5130. Old World Archaeology. 3. Survey of the major archaeological sequences of the Old World. Dual listed with ANTH 4130. *Prerequisite:* ANTH 1300.

5135. Quantitative Methods in Anthropology. 3. A consideration of the use of quantitative methods in anthropological research, including descriptive and inferential statistics, pattern search, mathematical modeling and computer simulation. Dual listed with ANTH 4135. *Prerequisite:* STAT 2070 or comparable course.

5145. Origins of the State. 3. This course takes a comparative approach to the study of the origins of the archaic states. Focus is given to themes in complexity such as emergence of social economic inequality, private property, power, ideology, and urbanism. Comparative civilizations/regions include China, Mesopotamia, Egypt, Central Mexico, and Peru. Dual listed with ANTH 4145. *Prerequisite:* ANTH 1300.

5150. Seminar in Prehistory. 1-3 (Max 9). Covers the prehistory of a specified region or time period within that region. emphasizes learning prehistoric sequences, material culture, and research questions associated with the topic. Topics include, but are not limited to, Paleoindian, Archaic, Siberian, Northern Plains, Great Basin, Rocky Mountain, or Southwestern Archaeology. Dual listed with ANTH 4150. *Prerequisite:* ANTH 1300.

5155. Computer Programming for Archaeologists. 3. Introduces the application of computer programming to the collection, management, and analysis (hypothesis testing) of archaeological data. Develop models and simulations of complex prehistoric systems. Begins with an introduction to Microsoft Excel (Visual Basic for Applications), programming structure, and applications to archaeology. Specific assignments in writing programs relevant to typical archaeological problems. Dual listed with ANTH 4155. *Prerequisites*: ANTH 1300 or consent of instructor.

5160. GIS in Anthropology. 4. Introduction to how and why geographic information systems (GIS) are used in anthropology. Considers: 1) Background, definitions, and concepts of geographic data and GIS; 2) Anthropological and archaeological approaches to GIS; and 3) Hands-on experience with GIS applications in archaeology through demonstrations, lectures, and structured inquires. Dual listed with ANTH 4160. *Prerequisite:* ANTH 1200 or 1300.

5165. Advanced Archaeological Research. 3-6 (Max. 6). Intended for graduate students in archeology which will cover a wide range of topics in advanced research techniques. *Prerequisite:* graduate standing.

5170. Geoarchaeology. 3. Introduces students to theory and method in geoarchaeological research. Emphasis is placed upon geomorphological processes of archaelogical site formation and paleoenvironmental reconstruction. Dual listed with ANTH 4170. Prerequisite: ANTH 1300 or consent of instructor.

5175. South American Prehistory. 3. Intensive study of the archaeology of South America covering its entire prehistory from first peopling at perhaps 14,000 years ago, to the colonial period. The course focuses not only on the well known Andean cultures, but also on the archaeology of the entire continent. Dual listed with ANTH 4175. *Prerequisite:* ANTH 1300.

5180. Advanced Archaeological Field Studies. 6. Covers the entire archaeological process from project planning and budgeting to professional presentation of the results with an emphasis on field methods. Up to date field techniques with electronic data collection and analysis are introduced. Interdisciplinary philosophy is emphasized with lectures, demonstrations and hand-on experience. *Prerequisite:* graduate level students or upper level undergraduates with field school experience and consent of instructor.

5190. Public Archaeology. 3. A consideration of archaeological legislation, policies, and regulations; compliance, heritage, and avocational archaeology; cultural resource management; curation; and professional archaeological ethics. Dual listed with ANTH 4190. *Prerequisites:* ANTH 1300.

5210. Human Osteology. 3. Provides a detailed study of the human skeleton. Dual listed with ANTH 4210. *Prerequisite:* ANTH 1100, LIFE 2022. (Normally offered spring semester)

5215 [5200]. Hominin Evolution. 3. Surveys hominin fossil record in context of evolutionary process, stressing structure-function and

the dynamics of adaptive responses. Dual listed with ANTH 4215. *Prerequisite:* ANTH 1100. (Normally offered every third semester)

5220. Human Variation. 3. Studies human biological variation as viewed from the anthropological perspective. Focuses on populational variation among humans in terms of genetic, morphological, and acclimatized characteristics with particular focus on the interaction of biology and culture in shaping these variations. Dual listed with ANTH 4220. *Prerequisite:* ANTH 1100.

5240. Forensic Anthropology Laboratory. 2. Studies details of advanced osteometric procedures, particularly as applied to problems of human skeletal identification. Dual listed with ANTH 4240. *Prerequisite:* ANTH 4210.

5255. Bioarchaeology. 3. Study of the human skeleton in archaeological context to reveal the biological and cultural pasts of individuals and communities. Using case studies, covers the history of the field, ethics of working with human remains, theoretical and methodological approaches to mortuary archaeology. Gain hands-on experience by working with specimens from the UWyoming Human Remains Repository. Dual listed with ANTH 4255. *Prerequisites*: ANTH 1100 or 1300.

5260. Anthropology of Food, Culture, and Nutrition. 3. Offers a biocultural perspective to the study of diet, nutrition, subsistence, and food systems. Study includes basic nutritional principles and diet seen in evolutionary, cross-cultural, ethnographic, and historical perspective; method and theory in nutritional anthropology; and contemporary issues in nutrition, cuisine, and foodways. Dual Listed with ANTH 4260. *Prerequisites*: ANTH 1100 or 1200.

5310. Environmental Anthropology. 3. Addresses how human societies interact with their surroundings, emphasizing cultural understandings of the environment. Introduces variety of theoretical and methodological approaches to topics ranging from problems of the American West to global environmental change. Cross listed with ENR 5310. Dual listed with ANTH 4310. *Prerequisite:* ANTH 1200.

5320. Political Anthropology. 3. Encompasses theories and descriptions of relationships between power and society in both less formal tribal contexts and more highly structured political institutions.

5340. Culture Change. 3. Examines representative theories of change, factors involved, dynamics of modernization and applied anthropology. Dual listed with ANTH 4340. *Prerequisite:* ANTH 1200.

5350. Medical Anthropology. 3. Understandings of health and illness vary widely. Taking a comparative historical approach, this class examines how an individual's interactions with sociocultural and physical environments influence the experiences of health and illness. Topics include symbolic healing, biomedicine as a cultural system, disease and international development, and the global politics of AIDS and other pandemics. Dual listed with ANTH 4350. *Prerequisites:* ANTH 1200 or SOC 1000.

5730. Field Techniques. 3. Students work directly with the speaker of an unwritten non-Indo-European language to learn techniques for eliciting the data requisite to begin a description of the language's structure. Identical to LANG 5310. *Prerequisite:* ANTH 5100 or LANG 5300.

5740. Native American Languages and Cultures. 3. Demonstrates the interrelationship of language and culture in several Native American communities. Examines anthropological and linguistic theories regarding language spread and the peopling of North America, narrative performance, translation, and the connection between linguistic structures and cultural features. Dual listed with ANTH 4740; cross listed with NAIS 4740. *Prerequisite:* ANTH 5030 or consent of instructor.

5765. Language Humor and Games. 3. This course examines various forms of language play and the role of language characterisitics (ambiguity, phonology, homophony, etc.) in creating humorous utterances and texts. Anthropological understandings of humor and its use also will be explored. Students will construct and analyze forms of humor throughout the course. Dual listed with ANTH 4765. *Prerequisite:* ANTH 5030 or consent of instructor.

5775. Language and Gender. 3. Investigates the relationship between language use, linguistic categories, and gender categories. Examines the linguistic practices involved in the formulation, discussion, and performance of gender categories in a number of different cultures. Dual listed with ANTH 4775. *Prerequisite:* ANTH 5010, 5030, or consent of instructor.

5785. Language and Racism. 3. Explores the ways in which racist ideology and socially-based racial categories are reinforced and changed through language and linguistic usage. The forms of language used in the construction of covertly and overtly racist communication, and the media through which racism is communicated also will be investigated. Dual listed with ANTH 4785. *Prerequisite:* ANTH 5030 or consent of the instructor.

5795. Language Change. 3. Considers how languages change over time, due to both internal and external forces. The effects of language contact, borrowing, and structural change will be discussed. The use of linguistic data for questions of migration and cultural contact also will be explored. Dual listed with ANTH 4795. *Prerequisites:* ANTH 5030 or consent of instructor.

5875. Graduate Practicum. 1-4 (Max. 6). Affords graduate students the opportunity to extend research projects in field or lab locations and receive additional credit for their work. Students sign up for these hours only in conjunction with another course and with the instructor's consent. *Prerequisite:* graduate standing and consent of instructor.

5880. Professionalism. 3. Provides an opportunity for the integration of graduate training and career choice. Examines issues of professionalism in the discipline ranging from ethical conduct to the research process and publication. *Prerequisite:* admission to the doctoral program in anthropology.

5890. Teaching Anthropology. 3. Anthropology is increasingly relevant to many audiences. Provides practical insight and examination of controversial anthropological concepts – race, evolution, culture, etc., and how these may be taught to college or public audience. Also examines the teaching culture of anthropology as a discipline. *Prerequisite:* admission to the doctoral program in anthropology.

5900. Practicum in College Teaching. 1-3. (Max 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate status.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies:. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: Credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisites:* enrolled in a graduate degree program.

5980. Dissertation Research. 1-12 (Max. 48). Designed for students who are involved in research for their dissertation project. Also used for students whose coursework is complete and are writing their dissertation. *Prerequisite:* enrolled in a graduate level degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Visual and Literary Arts

Art and Art History

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

Professors:
ASHLEY HOPE CARLISLE, B.F.A. University of Southern Mississippi 1997; M.F.A. University of Georgia 2002; Professor of Art 2019, 2003.
LEAH HARDY, B.F.A. Kansas University 1987; M.F.A. Indiana University 1990; Professor of Art 2014, 2002.
MARGARET HAYDON, B.A. Oberlin College 1977; M.F.A. San Francisco State University 1989; Professor of Art 2015, 2002.
RICKI KLAGES, B.F.A. University of Arizona 1984; M.A. University of New Mexico 1991; M.F.A. 1993; Professor of Art 2012, 1996.
MARK RITCHIE, B.F.A. University of Kansas 1986; M.F.A. Indiana University 1990; Professor of Art 2007, 1995.
DOUG RUSSELL, B.F.A. Columbia College 1990; M.A. University of Iowa 1995; M.F.A. 1996; Professor of Art 2019, 2005.

Associate Professors:
DIANA BAUMBACH, B.F.A. Washington University in St. Louis 2003; M.F.A. Southern Illinois University 2007; Associate Professor of Art 2015, 2009.
PETER FINE, B.A. California State University, Chico 1993; M.F.A. University of Arizona 2004; Associate Professor of Art 2017, 2013.
RACHEL SAILOR, B.A. Oregon State University 1992; M.A. University of Oregon 1994; Ph.D. University of Iowa 2007; Associate Professor of Art 2015, 2011.
SHELBY SHADWELL, B.F.A. Washington University in St. Louis 2003; M.F.A. Southern Illinois University 2007; Associate Professor of Art 2015, 2009.

Assistant Professors:
BRANDON GELLIS, B.A. University of California at Santa Cruz 2002; M.F.A. University of Denver 2015; Assistant Professor of Art 2015.
KATHLEEN FRYE, B.F.A. University of Colorado at Denver 1987; M.F.A. Colorado State University 1995; M.A. City College, New York; Assistant Professor of Art 2018.

Senior Lecturer:
PATRICK KIKUT, B.F.A. University of Colorado 1990; M.F.A. University of Montana 1994; Senior Lecturer 2019, 2014.

Associate Academic Professional Lecturer:
BAILEY RUSSELL, B.A. Princeton University 2001; M.A. New York University 2004.

Associate Academic Professional Research Scientist:
DAVID L. JONES Jr., B.F.A. University of Georgia 2000; M.F.A. University of Tennessee 2004.

Assistant Academic Professional Lecturer:
RANI ROBISON, B.A. University of Utah 1999; M.F.A. University of Oregon 2008.

Professors Emeriti: Deaderick, Edwards, Evans, Flach, Forrest, Reif, Russin (Distinguished Professor of Art), Schaefer

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

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

Department Policy

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

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

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

Scholarships

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

Academic and Career Advisement

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

Undergraduate Majors

The University of Wyoming Department of Visual and Literary Arts offers five degrees within the Art and Art History Program:

- Bachelor of Arts in Studio Art
- Bachelor of Fine Arts in Studio Art
- Bachelor of Arts in Art History
- Bachelor of Arts with a Concentration in Graphic Design
- Bachelor of Arts in Art Education

Transfer Residency

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

Studio Art and Art Education Majors – General Requirements

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

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

Studio Art and Art Education majors must submit a portfolio for evaluation before proceeding to intermediate and advanced studios beyond the required studio core. Any student whose

portfolio is assessed as deficient must address the deficiencies before receiving permission to advance in the major.

Please note: Studio Art and Art Education students who do not pass the portfolio review will be able to resubmit the following semester. However, if students fail more than once, they will be unable to progress in the Department of Visual and Literary Arts and may be asked to transfer to another department or UW college or complete an art minor. Portfolio evaluation will occur once in each of the fall, spring, and summer semesters.

Art and Art History Program Degrees

B.A. in Studio Art Degree. The B.A. in Studio Art degree is available to students who are preparing for further studies or careers in the arts and arts-related fields, such as art education, graphic design, art therapy, illustration, botanical illustration and forensic illustration. Students work with their academic advisers to select courses from the USP and elective offerings to complement art studies in their areas of interest. Students must earn a grade of C or better in all courses taken to satisfy department requirements. Courses in the major must be taken for a letter grade. In addition to the university requirement that degree candidates hold a minimum cumulative grade point average of 2.000, degree candidates for the B.A. in Studio Art degree in the Department of Visual and Literary Arts also must have a minimum 2.500 overall cumulative grade point average and a 2.500 grade point average within all major courses at the time of graduation.

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

Based on their goals and career plans, students in consultation with a faculty adviser select the appropriate degree plan. Students major in studio art with areas of study in one or more of the following:

- Drawing
- Painting
- Photography
- Printmaking
- Ceramics
- Sculpture
- Metalsmithing
- Graphic Design

Minimum Course Requirements for B.A. in Studio Art

Foundation Core 15 Hrs.

ART 1005 Drawing I 3
ART 1110 Foundation: Two Dimensional 3
ART 1120 Foundation: Three Dimensional 3
ART 1130 Foundation: Color Theory....3
ART 2000 Portfolio Review....1
ART 2305 Metal/Plaster 1
ART 1115 Digital Media....1

Studio Core 12 Hrs.

12 credits chosen from the below. At least one core course must be from 2D and one from 3D.

ART 2005 Drawing II 3
ART 2210 Painting I 3
ART 2112 Graphic Design I....3
ART 2255 or 2265 Photo 3
ART 3510 Printmaking I....3
ART 2310 Sculptural Practices I....3
ART 2350 Metalsmithing I....3
ART 2410 or 2420 Ceramics I or II 3

Upper Division Studio Electives 12 Hrs.

12 credits of any upper division studio art classes

Art History Core 6 Hrs.

ART 2010 Survey I....3
ART 2020 Survey II....3

Art History Electives 6 Hrs.

6 credits beyond ART 2010 and ART 2020, with at least 3 units at upper division level

Foreign Language 8 Hrs.

Language 1010 4
Language 1020 4

University Studies Program (USP)

Freshman Seminar 3
Com I 3
Com II 3
Com III 3
Human Culture 6
WYO History and Constitutions....3
Q Math 3
PN 6

USP Upper Division Requirement

42 Overall Upper Division total credits required (3000-4000 level anywhere)

Arts and Sciences Core

60 Outside Major credits required total

Diversity 3
Global 3

B.A. in Studio Art with Graphic Design Concentration. Graphic designers explore a variety of communication issues that deal with diverse messages and audiences. Students interested in pursuing a career in graphic design and visual communication may declare the B.A. in Studio Art with a Concentration in Graphic Design. Students planning to graduate in four years must begin the sequence in the second semester of the freshman year.

Students must earn a grade of C or better in all courses taken to satisfy department requirements. Courses in the major must be taken for a letter grade. In addition to the university requirement that degree candidates hold a minimum cumulative grade point average of 2.000, degree candidates for the B.A. in Studio Art degree in the Department of Visual and Literary Arts also must have a minimum 2.500 overall cumulative grade point average and a 2.500 grade point average within all major courses at the time of graduation.

The graphic design/visual communication area provides students with a "human centered" approach to learning that challenges and nurtures them to think conceptually and prepares them to be flexible in an international community that is continually being influenced by new ideas, tools and technology. The visual communications center is a facility for undergraduate research that functions as a classroom, studio and high-end technology space and incorporates industry standard tools for graphic design, computer graphics and digital art exploration.

Minimum Course Requirements for B.A. in Studio Art with Graphic Design Concentration

Foundation Core 15 Hrs.

ART 1005 Drawing I 3
ART 1110 Foundation: Two Dimensional 3
ART 1120 Foundation: Three Dimensional.. 3
ART 1130 Foundation: Color Theory....3
ART 2000 Portfolio Review....1
ART 2305 Metal/Plaster 1
ART 1115 Digital Media....1

Studio Core 12 Hrs.

12 credits chosen from the below. At least one course must be from 2D and one from 3D.

ART 2005 Drawing II 3
ART 2210 Painting I 3
ART 2112 Graphic Design I....3
ART 2255 or 2265 Photo 3
ART 3510 Printmaking I....3
ART 2310 Sculptural Practices I....3
ART 2350 Metalsmithing I....3
ART 2410 or 2420 Ceramics I or II 3

Graphic Design Concentration 21 Hrs.

ART 2112 Graphic Design I....3
ART 2122 Computer Graphics I 3
ART 2030 History of Graphic Design 3
ART 3120 Graphic Design II....3
ART 3150 / or 4060 Computer Graphics II or Computer Graphics III 3
ART 3112 Type, Text, Image & Narrative 3
ART 4120 Senior Portfolio....3
ART 4425 and/or 4400 Graphics Internship and/or Internship 6*

*ART 4425 - Graphics Internship/ART 4400 - Internship. Each graphic design concentration student is responsible to take at least 6-credit hours of Graphics Internship and/or Internship, and may take up to 9-credit hours maximum.

Upper Division Studio Electives 12 Hrs.
12 credits of any upper division studio art classes

Art or Art History Electives 3 Hrs.
3 credits of any art or art history course at any level

Art History Core 6 Hrs.
ART 2010 Survey I.....3
ART 2020 Survey II.....3

Art History Electives 6 Hrs.
6 credits beyond ART 2010 and ART 2020, with at least 3 units at upper division level

Foreign Language 8 Hrs.
Language 1010 4
Language 1020 4

University Studies Program (USP)
Freshman Seminar 3
Com I 3
Com II 3
Com III 3
Human Culture 6
WYO History and Constitutions.....3
Q Math 3
PN 6

USP Upper Division Requirement
42 Overall Upper Division total credits required (3000-4000 level anywhere)

Arts and Sciences Core
60 Outside Major credits required total
Diversity 3
Global 3

B.F.A. in Studio Art Degree. The B.F.A. in Studio Art degree is offered to outstanding students who are prepared for art studies, careers and professional activity beyond the undergraduate level. The B.F.A. degree requires 122 hours of credits with up to seventy-eight (78) semester hours focused in studio and art history course work. All B.F.A. in Studio Art students are required to participate in the B.F.A. exhibition upon graduation.

Application

Formal application is made to the program for acceptance into the B.F.A. in Studio Art degree program. Application must be submitted at least three semesters prior to the applicant's anticipated graduation. Favorable faculty review of the application materials are required before a student is declared a candidate for the B.F.A. in Studio Art degree. Applicants must have achieved the following at the time of application to the B.F.A. in Studio Art:

- C or better in all major classes
- 3.25 GPA or above within major classes
- 3.00 or above overall UW total institutional GPA

Undergraduate majors proceed with meeting the USP requirements for the B.A. in Studio Art and balance with foundation, art history, and studio core requirements in the major until formally accepted as a B.F.A. in Studio Art candidate. Application does not automatically guarantee acceptance into the B.F.A. in Studio Art program.

Final Year

During their final year and in conjunction with the spring B.F.A. exhibition, students enroll in two sequential capstone courses: BFA Capstone I (fall) and II (spring). The courses outline the deadline and requirements for the B.F.A. exhibition as well as coordinating mentoring of B.F.A. candidates. If faculty deem their work insufficient, they reserve the right to exclude the work from the exhibition and withhold the B.F.A. degree. Students transferring to the Department of Visual and Literary Arts who have completed their foundation core and successfully passed portfolio review are eligible to apply for a B.F.A. in Studio Art after one semester in Art and Art History Program.

Minimum Course Requirements for B.F.A. in Studio Art

Foundation Core 15 Hrs.
ART 1005 Drawing I 3
ART 1110 Foundation: Two Dimensional 3
ART 1120 Foundation: Three Dimensional.. 3
ART 1130 Foundation: Color Theory.....3
ART 2000 Portfolio Review.....1
ART 2305 Wood/Art Preparation.....1
ART 1115 Digital Media.....1

Studio Core 12 Hrs.
12 credits chosen from the below. At least one core course must be from 2D and one from 3D.
ART 2005 Drawing II 3
ART 2210 Painting I.....3
ART 2112 Graphic Design I.....3
ART 2255 or 2265 Photo 3
ART 3510 Printmaking I.....3
ART 2310 Sculptural Practices I.....3
ART 2350 Metalsmithing I.....3
ART 2410 or 2420 Ceramics I or II 3

BFA Core 12 Hrs.
ART 4600 Professional Practices and Strategies 3
ART 4010 Contemporary Art Theory and Practice 3
ART 4800 BFA Capstone I.....3
ART 4810 BFA Capstone II 3

Upper Division Studio Electives 21 Hrs.
21 credits of any upper division studio art classes

Art or Art History Electives 3 Hrs.
3 credits of any art or art history course at any level

Art History Core 6 Hrs.
ART 2010 Survey I.....3
ART 2020 Survey II.....3

Upper Division Art History Electives 9 Hrs.
9 credits of any upper art history classes

Foreign Language 8 Hrs.
Language 10104
Language 1020 4

University Studies Program (USP)
Freshman Seminar 3
Com I 3
Com II 3
Com III 3
Human Culture 6
WYO History and Constitutions.....3
Q Math 3
PN 6

USP Upper Division Requirement
42 Overall Upper Division total credits required (3000-4000 level anywhere)

Arts and Sciences Core
Diversity 3
Global 3

Outside Major Requirement
Any level outside of art.....9

B.A. in Art History Degree. The B.A. in Art History major offers students with a course of study that will provide depth and breadth in the history of art. Students will develop a broad understanding of world art, study the art of western and other global cultures in-depth, and explore the historiography and professional practices related to the field. Closely linked to the Museum Studies minor curriculum, the B.A. in Art History has a strong vocational application. This degree provides preparation for entry into graduate school or for students who want to enter the work force after their undergraduate education. Students will have the experience and training to enter into the cultural sector (arts or archival management, non-profit work in the arts and humanities, etc.).

Degree Requirements

Requirements of the degree include:

- 121 hours, including 51 hours within the major
- All Art courses must be passed with a letter grade of C or better
- 2.50 GPA within major required
- 2.50 or above overall UW total institutional GPA
- UW Transfer Art Residency Requirement for transfer of 12 or more art credit hours into department: 26 upper division hours of UW Art courses

Minimum Course Requirements for B.A. in Art History

Foundation Core 6 Hrs.
6 credits chosen from the below
ART 1005 Drawing I 3

ART 1110 Foundation: Two Dimensional 3
ART 1120 Foundation: Three Dimensional.. 3
ART 1130 Foundation: Color Theory.....3

Studio Core 3 Hrs.
3 credits chosen from the below.
ART 2005 Drawing II 3
ART 2210 Painting I 3
ART 2112 Graphic Design I.....3
ART 2255 or 2265 Photo 3
ART 3510 Printmaking I.....3
ART 2310 Sculptural Practices I.....3
ART 2350 Metalsmithing I.....3
ART 2410 or 2420 Ceramics I or II 3

Art History Core 6 Hrs.
Art 2010 Survey I 3
Art 2020 Survey II 3

Art History Core Electives 3 Hrs.
3 units chosen from the below
ART 2700 Introduction to Museology 3
ART 2030 History of Graphic Design 3

Upper Division Art History Electives 18 Hrs.
18 units chose from the below – with the following stipulations:
6-9 hours 3000 or 4000 level Art History Courses*
6-9 hours of ART 4790, Art Seminar – required (fulfills USP COM 3 requirement)
3-9 hours Other Historical Traditions (Examples include but are not limited to: Medieval Islamic, Japanese Art and Culture, Meso-American) – required

*6 hours of upper division art history may be taken in other departments with cross listed courses (that may have pre-requisites other than Art History).

* Cross-listed and applicable courses: Intro to Museology, HIST/ANTH/ART 2700; Victorian Women's Lives, ART/ENGL/WMST 3710, Gender & Humanities (fulfills the USP COM 2 requirement), ART/ENGL/WMST 4830; History of Women Artists (fulfills the G requirement for the A&S Core), ART/WMST 4780; History of Architecture, ARE 3030; The Harlem Renaissance, AMST 4250; Art and Ecology, AMST/ART 4640; Special Topics in American Studies including travel courses (as appropriate); Special topics in Classical and Modern Languages-including travel courses (as appropriate); History of the Book, HIST 4070, 75, 76, 77

Foreign Language 16 Hrs.
LANG 1010 4
LANG 1020 4
LANG 2030 4
LANG 2040 4

University Studies Program (USP)
Freshman Seminar 3
Com I 3
Com II 3
Com III 3
Human Culture 6
WYO History and Constitutions.....3
Q Math 3
PN 6

USP Upper Division Requirement
42 Overall Upper Division total credits required (3000-4000 level anywhere)

Arts and Sciences Core
60 Outside Major credits required total
Diversity 3
Global 3

B.A. in Art Education Degree. The Art Education degree supports students' development as reflective, innovative and engaged K-12 art educators. The curriculum encompasses extensive Studio Art competencies as well as studies in Art History and Professional Education. Art Education courses cover a variety of teaching practices and methods of curriculum development that include interdisciplinary, multicultural approaches to teaching and emphasize relevance to the lives of K-12 students and the realities of our contemporary world. In-class learning is augmented with firsthand teaching experiences in local and regional schools and includes teaching people of all ages in community-based arts settings. Upon graduation from our program, students earn Wyoming licensure for teaching K-12 Art.

Application

Students must fulfill the requirements listed in the *Application for the Art Education Program Checklist:*

- Completion of *Portfolio Review* with a C or above
- C or above in all Education Courses
- C or above in all Art Content Courses
- Junior Standing (60+ credits)
- 2.75 or above overall UW total institutional GPA
- Completed background check

Minimum Course Requirements for B.A. in Art Education

Minimum course requirements for Art Education Majors follow the curriculum plan for the B.A. Degree: University and College requirements, Foundations Core, Art History Core, Studio Core and Upper Division Studio Electives. The exception that there is no Foreign Language requirement. Students are required to apply for a Wyoming Substitute Teaching Certificate in the fall of their first semester in the program.

Foundation Core 15 Hrs.
ART 1005 Drawing I 3
ART 1110 Foundation: Two Dimensional 3
ART 1120 Foundation: Three Dimensional 3
ART 1130 Foundation: Color Theory.....3
ART 2000 Portfolio Review.....1
ART 2305 Metal/Plaster 1
ART 1115 Digital Media.....1

Studio Core 12 Hrs.
12 credits chosen from the below. At least one core course must be from 2D and one from 3D.
ART 2005 Drawing II 3
ART 2210 Painting I 3
ART 2112 Graphic Design I.....3
ART 2255 or 2265 Photo 3
ART 3510 Printmaking I.....3
ART 2310 Sculptural Practices I.....3
ART 2350 Metalsmithing I.....3
ART 2410 or 2420 Ceramics I or II 3

Upper Division Studio Electives 12 Hrs.
12 credits of any upper division studio art classes

Art History Core 6 Hrs.
ART 2010 Survey I.....3
ART 2020 Survey II.....3

Art History Electives 6 Hrs.
6 credits beyond ART 2010 and ART 2020, with at least 3 units at upper division level

Professional Education Courses 10 Hrs.
EDST 2450 Foundations of Development...3
EDST 2480 Diversity and Politics of Schools 4
EDEX 2484 Introduction to Special Education 3

Interrelated Arts 3 Hrs.

Art Education Courses 27 Hrs.
ART 3430 Methods I – Art Education Studio 3
ART 3490 Philosophy, Theory, Issues.....3
ART 3550 Art Education Practicum 3
ART 4440 Methods II – Artistic Growth 3
ART 4460 Curriculum Design.....3
ART 4810 Residency for Elementary 3
ART 4820 Residency for Secondary 3

University Studies Program (USP)
Freshman Seminar 3
Com I 3
Com II 3
Com III 3
Human Culture 6
WYO History and Constitutions.....3
Q Math 3
PN 6

USP Upper Division Requirement
42 Overall Upper Division total credits required (3000-4000 level anywhere)

Arts and Sciences Core
Diversity 3
Global 3

Undergraduate Minors

Minors are offered in the following areas:

- Painting
- Drawing
- Metalsmithing

- Sculpture
- Photography
- Printmaking
- Ceramics
- Graphic Design
- Museum Studies
- Art History

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

Please note: B.A. in Studio Art, B.F.A. in Studio Art, and B.A. in Art Education degree students cannot have a minor in a specific studio discipline. B.A. in Art History students may have a minor in studio disciplines, and B.A. in Studio Art, B.F.A. in Studio Art, and B.A. in Art Education degree students may have a minor in Art History.

Ceramics Minor 24 Hrs.

Required Courses (9)

ART 1005 3
ART 1120 3
ART 2350 or ART 2310 3

Studio Courses in Ceramics (12)

ART 2410 3
ART 2420 3
ART 3410 3
ART 3420 3

Art History Survey Elective (3)

ART 2010 or ART 2020 3

Drawing Minor 18 Hrs.

Required Courses (12)

ART 1005 3
ART 1110 3
ART 2005 3
ART 3052 3

Studio Elective Courses in Drawing (3)

Choose 3 credits from below

ART 3005 3
ART 4005 3
ART 4052 3
ART 4975 3

Art History Survey Elective (3)

ART 2010 or ART 2020 3

Graphic Design Minor 25 Hrs.

Required Courses (19)

ART 1005 3
ART 1110 3
ART 1115 1
ART 2112 3
ART 2122 3
ART 3112 3
ART 2030 3

Studio Art Elective (3)

Choose 3 credits from below

ART 3120 3
ART 3150 3
ART 4060 3
ART 2255 3
ART 2265 3
MKT 3210 3

Art History Survey Elective (3)

ART 2010 or ART 2020 3

Painting Minor 24 Hrs.

Required Courses (12)

ART 1005 3
ART 1110 3
ART 1130 3
ART 2210 3

Studio Electives Courses in Painting (9)

Choose nine credits from 3000/4000-level painting courses including but not limited to:

ART 3210 3
ART 4210 3
ART 4220 3
ART 3250 3
ART 4250 3
ART 4655 3
ART 3260 3
ART 4260 3

Art History Survey Elective (3)

ART 2010 or ART 2020 3

Photography Minor 24 Hrs.

Required Courses (15)

ART 1110 3
ART 1130 3
ART 3510 or ART 2112 3
ART 2265 3
ART 2255 3

Studio Elective Courses in Photography (6)

Choose from 3000/4000-level photography courses

Art History Survey Elective (3)

ART 2010 or ART 2020 3

Metalsmithing Minor 24 Hrs.

Required Courses (15)

ART 1110 3
ART 1130 or ART 1005 3
ART 1120 3
ART 2350 3
ART 3350 3

Studio Courses in Metalsmithing (6)

ART 3120 3
ART 4630 3

Art History Survey Elective (3)

ART 2010 or ART 2020

PRINTMAKING MINOR 24 Hrs.

Required Courses (12)

ART 1005 3
ART 1110 or ART 1130 3
ART 3510 3
A drawing course beyond ART 1005 3

Studio Elective Courses in Printmaking (9)

Choose from 3000/4000-level printmaking courses

Art History Survey Elective (3)

ART 2010 or ART 2020

SCULPTURE MINOR 21 Hrs.

Required Courses (12)

ART 1005 3
ART 1120 3
ART 1130 3
ART 2310 3

Studio Elective Courses in Sculpture (9)

Choose nine credits from the below

ART 3310 3
ART 3320 3
ART 3330 3
ART 3345 3

Art History Survey Elective (3)

ART 2010 or ART 2020

ART HISTORY MINOR 21 Hrs.

Art History Sequence (6)

ART 2010 3
ART 2020 3

Lower Division Requirement (3)

3 credits from the below

ART 2700 or ART 2030

Other Traditions (3)

3 credits from the below

ART 3720, including but not limited to Art & Architecture of Medieval Islam, Japanese Art History, Meso-American Art History

Art History Electives at the 3000/4000-level (9)

Including additional Other Traditions

MUSEUM STUDIES MINOR 24-33 Hrs.

Museum Studies Core (9)

ART 2700 (3)

Choose 3 credits from below

ENGL 4075, MKT 3210, or FCSC 4117

Internship (3)

Choose 3 credits from below

ART 4400, ANTH 4970, HIST 4400, or corresponding number in student's major department

Methods Core (6)

Choose 6 credits from below

AMST 2400, AMST 4300, AMST 4900, ANTH 3300, ANTH 3310, ANTH 4020, ANTH 4190, ART 4790, ENTO 4684, GEOL 2080, GEOL 4717, GEOL 4113; HIST 2050, HIST 3020, HIST 4030,HIST 4050, HIST 4055

Elective Courses (6)

Choose 6 credits from below

Students will choose course from the elective list in conjunction with their advisor, based on their area(s) of interest. Additional courses listed in the museum studies and methods cores can be chosen as electives. For a list of electives, go to www.uwyo.edu/museumstudies

Cultural Experience (3-12)

Choose one of the following:

Study Abroad/International Field School - students may enroll or participate in an approved study abroad course or program (credit hours vary)

Foreign or Indigenous Language - students may enroll in 12 hours of a foreign

language. 8 of the 12 hours must be in the same language. American Sign Language does not qualify.

Art (ART)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1005. Drawing I. 3. [CA◀▶(none)] A foundation level drawing course introducing fundamentals of observation, artistic invention, and basic principles of perspective and composition through problems in still life, landscape, and live model. Lectures, drawing sessions, and critiques develop formal, conceptual, and technical understanding of the drawing process.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

1110. Foundation: Two Dimensional. 3. First in a sequence of three foundation courses that investigate the fundamentals of design. Basic aesthetic/formal concepts and conceptual approaches are covered through a variety of two-dimensional mediums. Structured critiques are employed to provide students the experience of assessing formal, conceptual, and technical aspects of art.

1115. Digital Media. 1. An introductory level course designed to investigate the role of digital media in visual literacy. Students gain practice with basic graphics software, explore using the Internet in informing the development of art work, and discuss how application of these skills are used in classroom, studio, and commercial art fields.

1120. Foundation: Three Dimensional. 3. Second in a sequence of three foundation courses that investigate the fundamentals of design. Basic aesthetic/formal concepts and conceptual approaches are covered through a variety of three-dimensional mediums. Structural form is emphasized in various contextual settings. Structured critiques are employed to provide students in the experience of assessing formal, conceptual, and technical aspects of art.

1130. Foundation: Color Theory. 3. Third in a sequence of three foundation courses that investigate the fundamentals of design. Explores color theories based on the color wheel/light spectrum including hue, value, chroma, and aesthetic color relationships. Optical color, emotional/psychological color, and color symbolism are also covered. Structured critiques are employed to provide students the experience of assessing formal, conceptual, and technical aspects of art.

2000. Portfolio Review. 1. One-semester course in which work is created for a portfolio review at midterm based on the content and principles learned in the foundation core classes. Art majors may only attempt successful completion of this course once. *Prerequisites:* successful completion of ART 1005, 1110, 1120, and 1130, and a UW GPA of 2.500 or above.

2002. Special Topics In:. 3 (Max. 6). Permits utilization of unusual faculty expertise and provides highly-specialized and particularly pertinent, timely subject matter. *Prerequisite:* ART 1005; ART 1130; sophomore standing.

2005. Drawing II. 3. An intermediate level drawing course building upon fundamentals of observation, artistic invention, perspective and composition through problems in still life, landscape, explorations in wet and dry media, and color with pastels. Lectures, drawing sessions, and critiques develop formal, conceptual, expressive and technical understanding. *Prerequisite:* ART 1005.

2010. Art History I. 3. [CA◀▶H] First semester of a one-year survey. Studies ancient, medieval, renaissance and modern art with special reference to various social, economic and historic factors which motivated and conditioned the aesthetic forms. Includes ancient, medieval and early renaissance periods. ART 2010 and 2020 are required of all art majors and should be taken in sequence.

2020. Art History II. 3. [CA◀▶H] Second semester of a one-year survey. Studies European/American Art from the Renaissance through Contemporary with special emphasis and historical factors which motivated and conditioned the aesthetic forms. Covers Renaissance, Baroque, Rococo, 18th Century, 19th Century, Early Modernism and Contemporary Art. ART 2010 and 2020 are required of art majors and should be taken in sequence.

2030. History of Graphic Design. 3. History of graphic language and evolution of graphic communication. Includes an extensive examination of the social forces that shaped the design profession and how in turn design has shaped society. The theories that moved designers to act to remake society are also considered.

2112 [2120]. Graphic Design I. 3 (Max. 6). Explores techniques of graphic design preparation from concept through paste-up to the printed page, both on as a field that engages both the verbal and the visual is stressed. Problems include a variety of experimental and practical approaches that engage historical and contemporary formal and conceptual exercises. *Prerequisites:* ART 1110 and ART 1115. (Offered fall semester)

2122 [3110]. Computer Graphics I: Coding. 3 (Max. 9). Explores digital art principles in Web spaces through the understanding and use of design tools and techniques. Creative approaches consist of informed planning, thoughtful concepting, strategic wireframe development and creative execution. Projects include explorations of HTML, CSS, and Processing, and time-based media and image manipulation. *Prerequisite:* ART 1110 and ART 1115. (Normally offered spring semester)

2210. Painting I. 3. Introduces problems in painting, developing skill, techniques and concepts. *Prerequisite:* ART 1005, 1110, and 1130; ART 1120 may be taken concurrently.

2255. Introduction to Photography, Digital. 3. Fundamentals of Digital and Color photography. Students will learn how to use their digital cameras, how to input images to Photoshop and out put them to prints. The class will begin with an investigation of techniques before moving throuh a series of assignments designed to develop the understanding of how to compose a body of work around a specific theme or concept. Lectures will work through the concepts and history of color photography and regular critiques will guide students towards creating a final portfolio of images. *Prerequisites:* ART 1110, ART 1130.

2265. Introduction to Photography, Black and White. 3. Fundamentals of Black and White film photography, including use of SLR cameras, how to correctly expose film, process it and create prints in the darkroom. The class will begin with an investigation of techniques before moving through a series of assignments designed to develop the understanding of how to compose a body of work around a specific theme or concept. Lectures will work through the concepts and history of Black and White photography and regular critiques will guide students towards creating a final portfolio of images. *Prerequisites:* ART 1110, ART 1130.

2305. Techniques: Wood/Art Preparation. 1. Art Tech 2305 covers two curricular unites, one in which students are introduced to the processes, equipment, hand tools, materials, and necessary safety procedures related to the art department woodshop. In the other unit in this course, students are taught art preparation techniques which they will encounter both as a student and professional. Offered satisfactory/unsatisfactory only.

2310 [1310]. Sculptural Practices I. 3. This beginning sculptural practices course introduces fundamentals in traditional and contemporary sculpture. Students are asked to explore various mediums, techniques, and equipment including: wood and metal fabrication, casting with plaster, and mixed media and digital technology processes. Assigned projects, extensive sketchbook work, artist research, and critique participation is expected.

2350. Metalsmithing I. 3. Introduces basic technical approaches to fabricating small scale, non-ferrous metals (silver, copper, brass, nickel) including sawing, soldering, filing, drilling, form raising/pressing, texturing, and finishing processes. Investigation into the rich history of metalsmithing as well as innovative contemporary applications will manifest in both sculptural objects and jewelry. Individual studio projects and critical discussion will address aesthetic, conceptual and technical aspects of metalsmithing. *Prerequisite:* ART 1120.

2410. Ceramics I. 3. Introduces ceramic form through traditional hand processes, simple mold making and slip casting. Includes underglaze decoration, glaze application, image transfer, low and high firing processes. Emphasizes formal and conceptual understanding, the development of a strong foundation in ceramic process and the formation of a personal voice in the medium.

2420. Ceramics II. 3. Introduces ceramic form through wheel throwing technique. Includes underglaze decoration, glaze application, image

transfer, and high temperature surfaces. Emphasizes formal and conceptual understanding, the development of a strong foundation in ceramic process, and the formation of a personal voice in the medium.

2700. Introduction to Museology. 3. [CH◀▶(none)] Explores the historical, cultural, and contemporary roles of museums and preservation institutions in society. Introduces students to the museum professions, collection and exhibition installation strategies, and ethical problems of governance and collection. Field trips to regional collections are included. Cross listed with AMST/ANTH/HIST 2700.

3002. Special Topics In:. 3 (Max. 9). Courses of broad general appeal will be offered from time to time under this title. Permits utilization of unusual faculty expertise and provides highly-specialized and particularly pertinent, timely subject matter. See current class schedule for topics. *Prerequisites*: ART 2010, Art History I and ART 2020, Art History II.

3005. Drawing III. 3. An advanced drawing course applying the fundamentals of drawing to creative individual problems in figure, still life, and/or landscape composition. Structured yet open assignments, lectures and critiques develop formal, conceptual, expressive, and technical understanding. Course may be repeated for a maximum of 6 credit hours. *Prerequisite:* ART 2000 and 2005. (Offered spring semester).

3030. History of Architecture. 3. [(none)◀▶H] A survey of the history of architecture and its allied fields, focusing on the formal, aesthetic, cultural and socio-political dimensions, from prehistory to the present. Cross listed with ARE 3030. *Prerequisite:* WA or COM1.

3052. Life Drawing I. 3. An advanced drawing course working from a life model with an emphasis on composition, monocromatic media, drawing techniques and the skeletal and muscular construction as related to action and proportion in the human figure. Lectures, drawing sessions, and critiques develop formal, conceptual, and technical understanding. *Prerequisite:* ART 2000 and 2005. (Normally offered fall semester)

3112 [2110]. Type: Text, Image and Negative. 3. Examines the experimental use of type, its history, structure and background in reference to visual expression, data visualization, messaging, representative power, and time-based and site specific explorations. Advanced explorations in type as concept and critical expression will explore the fields of graphic design and computer visualization. *Prerequisites:* ART 2000 and ART 2112. (Offered spring semester)

3120. Graphic Design II. 3. Studies advanced graphic design preparation, idea generation, conceptualization, and critical thinking. Sustainable design problems include print and package design and an exploration of historical impact of design for reproduction through analog and digital means. Contemporary socio-cultural issues will be emphasized along with design as an agent for positive change. *Prerequisite:* ART 2000 and 2112. (Offered fall semester)

3150 [4140]. Computer Graphics II: Video Experiments. 3. Explores digital video, sound and site-specific experiments. Students learn and use experimental digital design tools and techniques to develop site-specific time-based individual and collaborative works. Students also collaborate and install works on campus, town and other venues. Projects include video and sound design and editing, graphic arts, computer graphics and digital art history. *Prerequisites:* ART 2000, and ART 2112 or ART 2122.

3180. Graphic Design III. 3. Studies specialized and advanced graphic design preparation, idea generation, conceptualization, collaboration and critical thinking, from paste-up through production. All work is executed both on and off the computer. Design problems include print and packaging design. History of graphic design and advanced production methods are discussed. *Prerequisites:* ART 2000, ART 2112, and ART 3120.

3210. Painting II. 3 (Max. 6). Investigates various painting techniques to create individual work. Emphasizes contemporary and classical treatment of formal, aesthetic and conceptual creative expression. *Prerequisite:* ART 2000 and 2210.

3250. Watercolor Painting I. 3. Investigates watercolor techniques in the development of creative work. Discussion, application and criticism of contemporary ideas about structure, form and color constitute the main activity. *Prerequisites:* ART 1130, 2000 and ART 2210. (Offered based on sufficient demand and resources)

3260. Illustration I. 3. This is an introductory Illustration course. This primary class objective is to develop conceptual skills through a variety of media traditionally used in fine art illustration and a variety of illustration problems and projects. This class is designed to further your interest in illustration and initiate portfolio development. *Prerequisite:* ART 2000.

3265. Intermediate Photography. 3. Focuses on the production of a fully realized portfolio of images. Students will be guided with a set of conceptual projects towards exploring technical boundaries and potential of photography. Research and readings will lead towards the production of a finished and installed body of work. *Prerequisites:* ART 2255 and ART 2265.

3310. Sculptural Practices: Cast Form I. 3 (Max. 6). This intermediate sculptural practices course explores a wide variety of mold-making and processes including cold-casting (paper/fabric/resin casting) and both non-ferrous (bronze and aluminum) and ferrous metal (cast iron) casting techniques. Assigned projects will allow students to engage in the production of finished cast sculpture. Extensive sketchbook, artist research, and critique participation is required. *Prerequisite:* ART 2310 and 2000. (Offered fall semester)

3320. Sculptural Practices: Mixed Media I. 3 (Max. 6). This intermediate course explores mixed media processes in sculptural practices including soft sculpture fabrication with fabric and fiber, found object manipulation, and digital processes involving 3D printing and laser rutting. Assigned projects will engage students in the production of artwork related to the topic. Extensive sketchbook, artist research, and critique participation is expected. *Prerequisite:* 2310 and 2000. (Normally offered fall semester of every other year)

3330. Sculptural Practices: Assembled Form I. 3 (Max. 6). Investigates constructed and assembled form as an essential means of sculptural expression. Emphasizes wood construction, assembled metals and mixed media. Utilizes general carpentry techniques, a variety of welding methods (oxyacetylene, arc, M.I.G. and T.I.G.) and other means of assembling materials. Includes investigation of concepts in assemblage and exposure to classic and contemporary forms of assembled sculpture. *Prerequisite:* ART 2310 and 2000. (Offered spring semester)

3345. Sculptural Practices: Special Topics. 3 (Max. 9). This course addresses specific areas of contemporary sculptural practices such as: Installation, Video/Sound manipulation, kinetic sculpture, and figure modeling. Assigned projects will engage the students in production of artwork related to the topic. Extensive sketchbook work, artist research, and critique participation is expected. *Prerequisite:* ART 2310 and 2000.

3350. Metalsmithing II. 3. Introduces intermediate approaches to fabricating small scale, nonferrous metals through hammer-raised forming, lost-wax casting, enameling and hardware fabrication. Historical and innovative contemporary applications are fostered through sculptural objects and jewelry-based pieces. Individual studio projects, critical discussion and presentations address aesthetic, conceptual, and technical aspects of metalsmithing. *Prerequisites:* ART 2000 and 2350.

3410. Ceramics III/I. 3. Studies development of ceramic form through multiple construction methods. Problems are designed to develop fluidity and versatility in the different processes introduced in the beginning class. Glaze exploration and development are introduced. Emphasizes design, conceptual development, and professional practices. *Prerequisite:* completion of Foundation Core, ART 2000, ART 2410, ART 2420 and consent of instructor based on portfolio review. (Offered based on sufficient demand and resources)

3420. Ceramics III/II. 3. A second semester continuation of the development of ceramic form through multiple construction methods. Problems are designed to develop fluidity and versatility in the different processes introduced in the beginning classes. Glaze exploration and development are introduced. Emphasizes design, conceptual development, and professional practices. *Prerequisites:* completion of Foundation Core, ART 2000, 2410, 2420, and consent of instructor based on portfolio review. (Offered based on sufficient demand and resources)

3430. Methods I - Art Education Studio. 3. Students investigate ways to translate art making practices and media into K-12 arts curricula and develop effective approaches to teaching these to the K-12 learner. Students create and teach lesson plans based on what they learn through their explorations; they also create their own artwork inspired by their studio investigations. Restricted to junior class standing. *Prerequisite:* ART 2000.

3490. Philosophy, Theory and Issues. 3. [(none)◆▸COM3] Students explore the foundational elements involved in the history and philosophies of Art Education and the key issues that shape contemporary approaches to teaching in the field. These investigations are undertaken to support students' developing teaching philosophies and inform the connections between their teaching and creative practices. Restricted to junior class standing. *Prerequisite:* ART 2000.

3500. Book Arts. 3. Introduction to the history of the book as an object and the traditional crafts associated with book construction through the exploration of the book as a vehicle for artistic expression. A basic knowledge of technical processes pertaining to book construction, a general familiarity with the history of the book and a conceptual exploration of image making will be gained through demonstrations, hands-on studio work, slide lectures, visits to the museum and archives and through assigned readings. *Prerequisite:* ART 2000 and completion of WB or junior standing.

3510. Printmaking I. 3. Investigates and experiments with processes and properties of print media, including intaglio, lithography and relief. Explores ideas and works of traditional and contemporary printmaking. *Prerequisite:* ART 1005 and ART 1110 and 1130 or concurrent registration in ART 1130.

3550. Art Education Practicum. 1-3 (Max. 3). Practicums are integral to an art education student's development as a teacher. They offer opportunities for immersion and hands-on teaching experiences in art classrooms guided by experienced teachers in the field and the UW faculty. Students develop skills and teaching strategies that complement classroom learning and strengthen their teaching practices. Satisfactory/Unsatisfactory only. *Prerequisites:* ART 3430 and ART 3490.

3710. Gender: Humanities Focus. 3. [CH◆▸COM2] Explores how men and women are imaged differently, studying the influence of representation on gender (including representations in literature, film, art, popular culture, and/or performance). Sharpens students' ability to analyze texts and images and investigate those texts' messages about gender, sexuality, ethnicity and class. Cross listed with ENGL/WMST 3710. *Prerequisite:* WMST 1080 or ENGL 1010. (Offered once a year)

3720 [2720] Art and Architecture of Medieval Islam. 3. Studies the art and architecture produced by Islamic societies from the time of the Prophet Mohammed to the time of the Crusades (7th-14th centuries CE), and the geographic scope surrounds the Mediterranean Sea, including the Near Middle East, northern Africa, and Spain. *Prerequisites:* USP WA and WB courses.

3760. American Art History. 3. Addresses American art within the continental United States from first European encounters with the New World to 1900. Will investigate painting, sculpture, and architecture, but will also include some photography, prints, and the decorative arts. *Prerequisites*: ART 2020.

4000. Post Baccalaureate Seminar. 1. Enhance and formalize the Post Baccalaureate experience while creating a creative community across artistic disciplines. Students will read and respond to relevent text, discuss pedagogical concerns, critique their creative research, and develop a professional dossier in support of their future career goals. *Prerequisites:* Completion of all BA/BFA degree requirements and acceptance into the Department of Art Post Baccalaureate program.

4005. Drawing IV. 3. An advanced drawing course exploring conceptual, expressive, personal and technical limits of process and media. Individually proposed projects lead to a coherent body of work. Open discussion and structured critiques develop personal and technical understanding. Repeatable for a maximum of 9 credit hours. *Prerequisite:* ART 2000 and 3005.

4010 [4610]. Contemporary Art: Theory and Practice. 3 (Max. 6). [(none)◆▸COM3] Taught from the perspective of a studio artist, this course enables students to situate their art within a theoretical context. Students examine how issues in contemporary art relate to philosophical concerns through reading, discussion, and critique. Emphasis is placed on an interdisciplinary framework through which students can discuss their work. *Prerequisites:* ART 2000, junior standing.

4052. Life Drawing II. 3. An advanced drawing course building upon figure construction fundamentals with heavy emphasis on composition, personal expression, wet and dry media, and color with pastels. Lectures, drawing sessions and critiques develop formal, conceptual, expressive and technical understanding. May be repeated for a maximum 9 credit hours. *Prerequisite:* ART 2000 and 3052 (Normally offered spring semester)

4060. Computer Graphics III: 3D Modeling. Explores digital art in 2.5D and 3D spaces, through the experimental use of digital design tools and techniques developing and building digital structures and forms. Projects include explorations in graphic design, 3D modeling and printing, multi-media manipulation and image manipulation. *Prerequisites:* ART 2000 and ART 2112 or ART 2122.

4110. Computer Graphics II. 3. Advanced work on current computer graphic design software. Presents graphic design problems to augment working knowledge of the programs. Lab/lecture. Second course in a two semester sequence. *Prerequisite:* ART 2000 and 3120. (Normally offered spring semester)

4120. Senior Portfolio. 3 (Max. 6). Specialized research for the advanced graphic design student who will develop a mature voice and sense of design. Problems include print, packaging, and multimedia design, sustainability and design for social good while also incorporating preparation techniques for job applications and professional skills. *Prerequisite:* ART 2000, ART 2112, ART 2122. (Normally offered fall semester)

4210. Painting III. 3 (Max. 6). Students will engage the contemporary and classical treatment of the formal, aesthetic, and conceptual approach to their creative expression. Students work from a proposed course of study and will be self-directed and participate in group presentations and critiques. *Prerequisites:* ART 2000 and ART 3210.

4220 Painting Topics. 6. This is an advanced painting course that will cover specific painting approaches for an entire semester. Examples of topics can include Abstraction and color field, figuration, narrative painting, experimental painting media and surfaces, etc. This course will enable students to experience a more comprehensive and targeted set of painting problems for the semester. Topics will vary based on the instructor. *Prerequisite:* ART 2000, 2210, 3210.

4250. Watercolor Painting II. 3. Advanced investigation of watercolor techniques in the development of creative work. Discussion, application and criticism of contemporary ideas about structure, form and color constitute the main activity. *Prerequisite:* ART 2000 and 3250. (Offered based on sufficient demand and resources)

4260. Illustration II. 3. This is the second level Illustration course for students who have had ART 3350. Students will continue to develop conceptual skill in creating narrative illustrations for a variety of projects. The majority of the semester will be dedicated to developing a single project: Graphic Novelization or book illustrations. Students will be focusing on character development, narrative arc, and compelling imagery using materials appropriate for their project. *Prerequisite:* ART 2000 and ART 3260.

4265. Photography III. 3. An advanced photography class focusing on the production of a fully realized portfolio of images. Students interests will help shape a course dedicated to providing them with additional technical tools (traditional printing techniques, high level photoshop tools) and readings and discussions designed to push them beyond the comfortable boundaries of their photographic world. *Prerequisite:* ART 2000.

4310 [5310]. Sculptural Practices: Cast Form II. 3 (Max. 6). This course is an advanced investigation in mold making, cold casting, and metal casting as an essential means of sculptural expression. Emphasis is placed on personal expression and portfolio building at this level. Extensive sketchbook work, artist research, and critique participation is required. *Prerequisites:* ART 2000, ART 2310, ART 3310, and portfolio review by instructor. (Offered based on sufficient demand and resources)

4330. Sculptural Practices: Assembled Form II. 3 (Max. 6). This course is an advanced investigation in assemblage including wood and metal fabrication as an essential means of sculptural expression. Emphasis is placed on personal expression and portfolio building as this level. Extensive sketchbook work, artis research, and critique participation is expected. *Prerequisites:* ART 2000, ART 2310, ART 3310, and portfolio review by instructor.

4355. Metalsmithing III. 3 (Max. 6). Introduces advanced fabrication and surface techniques which build on skills developed in Metalsmithing I and II. Students propose a body of work for the semester based on individual aesthetic, conceptual and technical interests. Professional practices including resume writing, documenting, presenting and exhibiting artwork are addressed at this advanced level. *Prerequisite:* ART 2000 and 3350.

4360. Metalsmithing: Special Topics. 3 (Max 9). Focuses on a specific technique in the field of Metalsmithing for an in-depth exploration into topics such as lost-wax casting, chasing and repoussé, enameling, etc. Individual projects and critical discussion will address the special topic aesthetically, technically and conceptually. *Prerequisites:* ART 2000 and 2350.

4400. Internship. 1-3 (Max. 9). Allows students to bridge the gap between theoretical problems solved in the classroom and the real work world. Students are placed in a setting where they perform duties similar to a working environment. Specific arrangements are made through the major area adviser. Students are evaluated at mid-term and finals. Minimum of three contact hours of internship per week for a semester equals an hour course credit. *Prerequisite:* ART 2000 and 12 hours in the major area.

4410. Ceramics IV/I. 3. Studies and develops traditional and experimental forms. Applies wide range of three-dimensional decorative and conceptual approaches. Continuation of technical and glaze research and professional practices. Introduces kiln operation. Given studio problems accompany individually directed exploration. *Prerequisite:* ART 2000, 3320, 3410, and consent of instructor based on portfolio review. (Offered based on sufficient demand and resources)

4420. Ceramics IV/II. 3. A second semester continuation of the development of traditional and experimental forms. Applies wide range of three-dimensional formal and conceptual approaches. Continuation of technical and glaze research. Introduces kiln operation. Given studio problems accompany individual directed exploration. *Prerequisites:* ART 2000, 3320, 3410, and consent of instructor based on portfolio review. (Offered based on sufficient demand and resources)

4425. Graphics Internship. 3. This course allows graphic design students to better understand real-world design practices, learn about industry standards, and discuss career opportunities and preparedness. Students will be expected to secure internships and meet with an intern advisor regularly, to gain a strong understanding of the graphic design industry. *Prerequisites:* ART 2000, ART 2112, and ART 2122.

4440. Methods II - Artistic Growth. 3. Students incorporate their understanding of the stages of artistic development with essential components of curriculum design to create lesson plans that engage the K-12 student in student-directed, holistic learning in the visual arts. Another component of the course is professional practice that includes classroom management and preparing professional portfolios. Restricted to senior class standing. *Prerequisites:* ART 3430 and ART 3490.

4460. Curriculum Design. 3. Students develop a thorough knowledge of all the components of curriculum design in Art Education and will create a unit of instruction that includes a focus on enduring understandings, clarity of learning objective, assessment for the visual arts, instructional strategies, differentiation, and alignment with standards. Restricted to senior class standing. *Prerequisites:* ART 3430 and ART 3490.

4510. Printmaking II. 3 (Max. 6). Continues development of printmaking skills gained in introductory printmaking and focuses in particular on the relationship between process and image. Through demonstrations and studio work, slide lectures, visits to the museum and archives, and readings and discussions, technical processes will be refined, print history will be further explored and image making will continue to be developed. *Prerequisite:* completion of Foundation Core, ART 2000 and 3510.

4520. Advanced Printmaking II : Exhibition and Professional Preparation. 3 (Max. 6). Preparation to continue as exhibiting artists. Students further develop their work as artist-printmakers in preparation for a solo or two-person exhibition at the completion of the semester. Presentation and execution of slides, resume, artist statement, locating opportunities and correspondence will be developed throughout the term. *Prerequisites:* ART 2000, 4510 and portfolio approval from instructor.

4600. Professional Practices and Strategies. 3 (Max. 6). [(none)◆▸COM3] This course offers information to junior/senior level art majors in regards to: finding jobs in art, finding/applying for exhibition opportunities, applying/finding grant opportunities, furthering education including finding/applying for a Masters in art, and overall life possibilities after the completion of an undergraduate art degree. Writing is expected in the form of cover letters, resumes, artist statements, and project proposals. *Prerequisites*: ART 2000, junior or senior standing.

4620. Problems in Art. 1-3 (Max. 6). Special, current studio problems for advanced students. *Prerequisite:* ART 2000 and 6 hours in art. (Offered based on sufficient demand and resources)

4635. Preparation for International Study in Art. 1. An introductory course to international study in art. Specifically focusing on various issues of culture, language, history, art and archeology the student may encounter while traveling abroad. Also provides time for the coordination of practical issues of travel, necessary documentation and insurance. Issues specific to the country of travel will also be addressed. *Prerequisites*: 6 hours in Art, WA, junior standing.

4650. International Study of Art. 3. [G◆▸(none)] Students will respond creatively to the historical, cultural and aesthetic experience in the country of travel and will use journaling, drawing, and collection of visual material to continue a more in-depth response upon return. Course sections will vary regarding structure/context. All sections will include studio and/or art historical curriculum. *Prerequisite:* ART 4635.

4655. Outdoor Studio. 3 (Max. 6). The emphasis in this course will be on the expressive nature of outdoor creative work. Students will need to be responsive to the natural environment through a variety of media, including watercolor, oil sticks, drawing, sculpture, photography, video, etc. This course involves travel and day trips to a variety of sites throughout the county and state. *Prerequisite:* ART 2000.

4670. Completion International Study in Art. 1. A completion course to international study in art. Students will compile and complete their response to their experiences encountered in the culture, language, history, art and archeology while traveling abroad. Concise structured critiques will provide time for discussion and digestion of their individual and shared experiences. When possible an exhibition of creative work will be included as a culmination of the program. *Prerequisite:* ART 4650.

4720. 15th Century Renaissance Art. 3. Explores artistic developments of the 15th century, primarily in Italy, in order to appreciate the relationships between artistic production and innovation and other aspects of the social and cultural environment. *Prerequisite:* ART 2010, 2020. (Normally offered spring semester)

4730. 19th Century European Art. 3. Studies 19th-century European painting, prints, and literature, covering Neoclassicism, Romanticism, Realism, Impressionism, and Post-Impressionism. Artists include Elisabeth Vigee-Lebrun, court portraitist; Mary Cassatt and Edgar Degas, famed Impressionists; Edouard Manet, controversial and troubled; Honore Daumier, jailed for incendiary political cartooning; and the eccentric Paul Gauguin and Vincent Van Gogh. *Prerequisite:* ART 2020. (Normally offered fall semester)

4740. 20th Century European Art. 3. Studies 20th-century European art from 1900 to 1945. Covers the 2-D and 3-D art of Expressionism, Cubism, the Bauhaus, Dada and Surrealism, and other important movements in the first half of the 20th century. *Prerequisites*: ART 2010 and 2020. (Normally offered spring semester)

4770. Contemporary Arts Seminar. 3 (Max. 9). Studies the major movements in the visual arts from 1945 to the present. Investigate major theories, stylistic movements, and key artists since WWII with a special focus on the increasing glo-

balization of art during this era. *Prerequisites*: ART 2010 and 2020. (Normally offered fall semester of every other year)

4780. History of Women Artists. 3. Studies documented influence of women as subjects, makers and receivers of art. Emphasizes careers and works of women over a wide range of times and places and under a variety of social circumstances. Greatly emphasizes developments in the 20th century. Cross listed with WMST 4780. *Prerequisite:* ART 2010 or ART 2020 or 3 hours of WMST courses; and WB. (Normally offered fall semester)

4790. Art Seminar. 1-3 (Max. 9). [(none)◀▶COM3] Special topic in art history and criticism for advanced students. *Prerequisite:* 6 hours in art history. (Offered based on sufficient demand and resources)

4800. BFA Capstone I. 3. BFA Capstone I course is designed to allow students time to participate in group critiques with their BFA cohort group, to refine their writing and docmentation process, to learn from visiting artists and various professors in the art department, and to strengthen their studio practice by creating work for their BFA exhibition. *Prerequisites:* Art 2300 and 6 credits of a studio beyond Art 2300; 3.0 overall gpa; 3.25 gpa in Art/Art History; major acceptance into BFA Program.

4810. BFA Capstone II. 3. BFA Capstone II course is designed to allow students time to participate in group critiques with their BFA cohort group, to refine their writing and docmentation process, to learn from visiting artists and various professors in the art department, and to strengthen their studio practice by creating work for their BFA exhibition and defending it once artwork is complete. *Prerequisites:* Art 2300 and completion of Art 4800; 3.0 overall gpa; 3.25 gpa in Art/Art History; major acceptance into BFA Program.

4810. Residency for Elementary. 6. This is an eight-week residency for teaching art full time at the elementary level. Students team-teach with an experienced mentor teacher, taking on considerable responsibility for all aspects of teaching art. Upon successful completion of this course and ART 4820, students are certified in Wyoming to teach K-12 Art. Satisfactory/Unsatisfactory only. *Prerequisites:* ART 4440 and ART 4460.

4820. Residency for Secondary. 6. This is an eight-week residency for teaching art full time at the secondary level. Students team-teach with an experienced mentor teacher, taking on considerable responsibility for all aspects of teaching art. Upon successful completion of this course and ART 4810, students are certified in Wyoming to teach K-12 Art. Satisfactory/Unsatisfactory only. *Prerequisites:* ART 4440 and ART 4460.

4830. Victorian Women's Lives: Their Art, Literature and Culture. [CA◀▶(none)] Interdisciplinary approach to study of women's issues in art. Uses literary/cultural texts to reinforce/contradict and/or expand/enlarge the art historical basis. Topics include domestic goddess, working women, prostitution, education, marriage and divorce. Cross listed with ENGL/WMST 4830. *Prerequisite:* Either ART 2020 or WMST/ENGL 1080. (Normally offered every sixth semester)

4975. Independent Study and Research. 1-3 (Max. 6). Research options in all creative areas. Students work independently and provide demonstrated ability and background knowledge to carry out self-directed research or creative activity in the research area. Arrangements regarding curricular obligations and meeting times are made with the instructor in advance. *Prerequisites:* ART 2000 and 12 hours of art in research area and prior consent of instructor.

5430. Lo-Tech Ceramics. 3. Exploration of elementary forming, decorating, firing processes developed by various pottery cultures. Examination of basic geology, clay prospecting, kiln design and construction. Includes historical overview and contemporary survey. *Prerequisite:* 12 hours of humanities/GED/USP.

5650. Art and Ideas. 3. Students in this seminar explore the literatures of art. Each seminar has a reading list and a thematic structure. Major critical papers are written during the course of the seminar. Required for M.A. and M.A.T. program Plan B option. *Prerequisite:* 30 hours in art.

5670. Term Creative Project. 1-5 (Max. 15). For M.F.A. candidates only; professional creative achievement in painting, drawing, printmaking, ceramics, or sculpture, leading to presentation of graduate exhibition. Typically, student will consult a single professor in major area for crediting this course. *Prerequisite:* admission to candidacy for M.F.A. degree and consent of instructor.

5710. Medieval Art. 3. Studies the unique qualities of art of this intriguing era of transition between classical and renaissance times. *Prerequisite:* ART 1010, 2010.

5740. 20th Century European Art. 3. Studies European art from 1900 to present. Dual listed with ART 4740. *Prerequisite:* ART 2010 and 2020, consent of instructor.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate status.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrolled in a graduate degree program.

Creative Writing

201 Hoyt Hall, (307) 766-6453
FAX: (307) 766-3189
Web site: www.uwyo.edu/creativewriting/
Program Director: Andrew Fitch

Professors:

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

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

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

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

BRAD WATSON, B.A. Mississippi State University 1978; MFA University of Alabama 1985. Professor of Creative Writing 2017, 2005.

Associate Professors:

ANDREW FITCH, B.A. University of Wisconsin, Madison 1997; Ph.D. Graduate Center of the City University of New York 2009; Associate Professor of English and Creative Writing 2015, 2009.

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

Senior Lecturer:

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

Associate Lecturers:

PAUL BERGSTRAESSER, B.A. Oberlin College 1989; M.A. Northern Michigan University 2000; Ph.D. University of Illinois, Chicago 2007; Associate Lecturer in English and Creative Writing 2013, 2007.

VAL PEXTON, B.A. Humboldt State University 1986; B.A. University of Wyoming 1998; M.A. 2001; M.F.A. 2008; Associate Lecturer in English and Creative Writing 2013, 2009.

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

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

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

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

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

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

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

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

Undergraduate Minor

Minor in Creative Writing. The creative writing minor consists of six courses (18 hours) in creative writing and literature. Four of these courses will be in creative writing (12 hours) and must adhere to the following sequence: CW 1040 Intro to Creative Writing, two Lower Division Creative Writing courses (at the 2000-level), and an Upper Division course (4050). In addition, two courses will be in literature (6 hours). All courses must be completed with grades of C or better.

This minor is intended to be used with any major and must be designed in conjunction with a creative writing advisor. Each course must be passed with a grade of C or better.

Graduate Study

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

Program Specific Admission Requirements

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

Program Specific Graduate Assistantships

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

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

Program Specific Degree Requirements

Master of Fine Arts in Creative Writing

M.F.A. students follow the guidelines for a Plan A thesis. Only those courses in which a grade of B or better has been earned may be applied to the graduate program of study. All courses must be taken for a grade unless offered for S/U only. No graduate credit is allowed for grades S and U.

The cumulative GPA must be at least 3.000 to receive a degree. Courses below 4000-level will not count toward the degree nor will they be figured in the GPA, although they will appear on the transcript.

A minimum of four Workshops (CW 5560) and/or Creative Writing Seminars (CW 5540) must be taken. These may be in any combination to reach the four-course total, typically for a total of 12-16 credit hours. We require a cross-genre component in that mix of courses.

Elective courses (typically taken for a total of 18 credit hours)
ENGL 5900, taken in semesters teaching 1010, 1 credit per semester
ENGL 5010, taken in the first semester teaching 1010, 3-4 credits (can be waived if a student has taken a comparable graduate-level course in a prior program)
Other electives: free to be taken in any UW program or department across campus
Thesis Hours (5960): 4 credit hours

Total credit hours must be a minimum of 36.

Creative Writing (CW)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1040. Intellectual Community: Introduction to Creative Writing. 3. Focus on critical learning skills as they relate to creative writing. Read from a variety of genres, attend literary events on campus, acquire research skills, and produce creative writing. Will produce portfolios of creative work in these areas, along with a self-reflective essay applying the critical skills learned throughout the semester.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2050. Introduction to Fiction. 3 (Max. 6). Analyzes forms of fiction and the practice of creative writing at an introductory level. *Prerequisite:* WA/COM1.

2060. Introduction to Nonfiction. 3 (Max. 6). The new nonfiction course will be described according to the emphasis the individual professor chooses to impart. In general, the course will teach students to research, organize, and express themselves in a nonfiction genre, such as essay, memoir, article, biography, autobiography, etc. *Prerequisite:* WA/COM1.

2070. Creative Autobiographical Writing. 3. Students read and explore autobiographical writing in various forms, potentially including: brief bio for publicity and job application purposes, memoir, personal essay, confession and fictional monologue. What you can reveal about yourself, when and how and for whom. *Prerequisite:* completion of WA/COM1.

2080. Introduction to Poetry. 3 (Max 6). Analyzes forms of poetry and practice of creative writing at introductory level. *Prerequisite:* WA/COM1.

2125. Writing in Popular Genres. 3. [WB◆(none)] Analyze and write in a variety of popular fiction and non-fiction genres. Study publishers' descriptions and read examples and critical analysis of the genres. Finally, produce a rhetorical description and an original text work in one chosen genre. *Prerequisite:* ENGL 1010.

4050. Writer's Workshop. 3 (Max. 6 at undergraduate, Max. 12 for graduate). Students submit manuscripts in the short story, poetry, drama, etc. Includes class and conference criticism and consultation. Considers different types of creative writing in various semesters, as announced in class schedule. *Prerequisites:* 3 hours of a 2000-level creative writing class in the appropriate genre and consent of instructor.

5540. Seminar in Creative Writing. 1-4. Includes form and theory classes, publication workshops, and readings courses. Depending on the particulars, students review important texts about writing, review literary magazines and publishing houses, discuss publishing procedures with faculty and guests, participate in close readings of original texts, and produce an independent writing project. *Prerequisite:* graduate standing or consent of instructor.

5550. Independent Study in Creative Writing. 1-3 (Max. 6). Guided independent writing of poetry or imaginative prose at an advanced level. Limited enrollment. No more than 9 hours of ENGL 4050 and ENGL 5550 combined may be counted toward the M.A. in English. *Prerequisite:* consent of instructor and graduate status or 6 hours of ENGL 4050.

5560. Graduate Writing Workshop. 1-4 (Max. 28). Graduate level workshop that emphasizes reading as well as writing in a specific genre (poetry, nonfiction, fiction) or in relation to a theme that combines genres, at the discretion of the instructor. *Prerequisite:* 12 hours of 4000-level creative writing or graduate status or consent of instructor.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students who coursework is complete and are writing their thesis. Offered Satisfactory/Unsatisfactory only. *Prerequisite:* Enrollment in a graduate degree program.

5990. M.F.A. Internship. 1-12 (Max. 24). Internship. Offered Satisfactory/Unsatisfactory only. *Prerequisite:* Enrollment in a graduate degree program.

Astronomy and Astrophysics

The Bachelor of Science degree in astronomy and astrophysics is administered by the Dept. of Physics and Astronomy faculty. Please see the Physics and Astronomy listing for information.

Biology

Biology Degree

The Bachelor of Science degree in Biology is designed to provide a thorough foundation in biology and other supporting areas of science and mathematics, while providing maximum flexibility and student choice. The degree program is administered by the Department of Botany. Upon completion of the core requirements for the major (see list at www.uwyo.edu/biology), specific courses to complete the major will vary according to a student's interests and career plans and may be selected from a variety of departments on campus in consultation with a student's faculty adviser.

Department of Botany, 3165
114 Aven Nelson Building, 766-2380
FAX: (307) 766-2851
Web site: www.uwyo.edu/botany

Freshman and Sophomore Years

Students take introductory courses in biology, chemistry, physics, and mathematics. These courses provide the foundation for more advanced work in upper division biology courses and contribute to a more comprehensive understanding of biological processes.

Junior Year

Students take courses in genetics, ecology, evolution and statistics. Students should consult the biology degree web site for the list of requirements (www.uwyo.edu/biology) and meet with their adviser regularly to assess progress toward meeting all degree requirements.

Senior Year

In consultation with their advisers, students select advanced courses in the biological sciences that they find particularly interesting. Advisers maintain lists of suggested courses that include offerings from a variety of departments at UW.

Undergraduate Minor

A minor in biology is offered. For details, consult the web site www.uwyo.edu/biology.

Teacher Education

Students who plan to teach in secondary schools should consult the College of Education section.

Botany

114 Aven Nelson Building, (307) 766-2380
FAX: (307) 766-2851
Web site: www.uwyo.edu/botany
Department Head: Naomi Ward

Professors:

GREGORY K. BROWN, B.S. Colorado State University 1973; M.S. Arizona State University 1978; Ph.D. 1980; Professor of Botany 1997, 1985.

ALEX BUERKLE, B.A. (Hons.) University of Missouri 1990; Ph.D. Indiana University 1997; Professor of Botany 2016, 2004.

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

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

NAOMI WARD, B.Sc. (Hons.) University of Queensland 1993; Ph.D. University of Warwick 1997; Professor of Molecular Biology and Botany 2019, 2007.

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

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

Associate Professors:

ELLEN D. CURRANO, B.Sc. (Hons.) University of Chicago 2003; Ph.D. Pennsylvania State University 2008; Associate Professor of Botany 2017, 2014.

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

Assistant Professors:

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

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

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

Senior Lecturer:

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

Assistant Lecturers:
JAMIE CRAIT, B.Sc. Oregon State University 1999; M.S. University of Wyoming 2005; Ph.D. 2013; Assistant Lecturer in Botany 2018.
CHRISTOPHER NORTH, B.S. Virginia Polytechnic Institute and State University 2002; M.S. Eastern Illinois University 2005; Ph.D. University of Wyoming 2017; Assistant Lecturer in Botany 2014.

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

Professors Emeriti:
Dennis H. Knight, Stephen T. Jackson, William A. Reiners

Associate Professor Emeriti:
Daniel B. Tinker

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

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

Undergraduate Degrees

Biology

The Biology major is designed for students interested in obtaining a broad education in biological sciences. It enables students to combine courses in biology, botany, zoology, physiology, and other biological sciences to meet the requirements of the major. On completion of the core requirements for the major, specific courses selected to complete the major may vary according to students' interests and are worked out by consultations between student and adviser. The requirements for a bachelor of science degree in biology are as follows:

FRESHMAN YEAR: Fall		**Hrs.**
LIFE	1010*	4
First-Year Seminar (FY)*		3
MATH	1400	3
CHEM 1020 ro CHEM 1000		4
	Total Hrs.	***14***

FRESHMAN YEAR: Spring		**Hrs.**
One of the following:		
LIFE 2022, LIFE 2023 or MICR/MOLB 2021		4
ENGL	1010*	3
MATH	1405	3
COSC	1010	3
A&S Core Global		3
	Total Hrs.	***16***

SOPHOMORE YEAR: Fall		**Hrs.**
One of the following:		
LIFE 2022, LIFE 2023 or MICR/MOLB 2021		4
MATH	2200	4
PHYS	1110	4
Human Culture (H)		3
	Total Hrs.	***15***

SOPHOMORE YEAR: Spring		**Hrs.**
LIFE	3050	4
LIFE 2100 or STAT 2050		4
PHYS	1120	4
Human Culture (H)		3
	Total Hrs.	***15***

JUNIOR YEAR: Fall		**Hrs.**
CHEM	2300	4
Communication II (COM2)*		3
LIFE	3400	3
US and WY Constitutions (V)		3
	Total Hrs.	***13***

JUNIOR YEAR: Spring		**Hrs.**
MOLB	3610	4
A&S Core US Diversity		3
LIFE	3500	3
Upper Division Electives		6
	Total Hrs.	***16***

SENIOR YEAR: Fall		**Hrs.**
LIFE	3600	4
BOT	4100* (COM3)	2
BOT	4101* (COM3)	1
Upper Division Electives		8
	Total Hrs.	***15***

SENIOR YEAR: Spring		**Hrs.**
Upper Division Electives		16
	Total Hrs.	***16***

*Course must be completed with a grade of C or better.

Botany

Students majoring in botany may pursue a B.S. degree and are required to take the following:

FRESHMAN YEAR: Fall		**Hrs.**
LIFE	1010	4
First-Year Seminar (FY)*		3
MATH	1400	3
CHEM 1020 or CHEM 1000		4
	Total Hrs.	***14***

FRESHMAN YEAR: Spring		**Hrs.**
LIFE	2022	4
ENGL	1010	3
MATH	1405	3
CHEM	1030	4
A&S Core Global		3
	Total Hrs.	***17***

SOPHOMORE YEAR: Fall		**Hrs.**
LIFE	2023	4
LIFE 2100 or MATH 2200 or STAT 2050		4
PHYS	1110	4
Human Culture (H)		3
	Total Hrs.	***15***

SOPHOMORE YEAR: Spring		**Hrs.**
MICR/MOLB 2021		4
BOT	3000	4
PHYS	1120	4
Human Culture (H)		3
	Total Hrs.	***15***

JUNIOR YEAR: Fall		**Hrs.**
BOT	3600	4
CHEM	2300	4
Communication II (COM2)		3
LIFE	3400	3
LIFE	3410	2
	Total Hrs.	***16***

JUNIOR YEAR: Spring		**Hrs.**
MOLB	3610	4
A&S Core US Diversity		3
LIFE	3050	4
Elective		3
	Total Hrs.	***14***

SENIOR YEAR: Fall		**Hrs.**
BOT	4700	4
BOT	4100* (COM3)	2
BOT	4101* (COM3)	1
Upper Division Elective (BOT)		4
Elective		3
	Total Hrs.	***14***

SENIOR YEAR: Spring		**Hrs.**
BOT	4730	4
US and WY Constitutions (V)		3
Upper Division Electives		8
	Total Hrs.	***15***

*Course must be completed with a grade of C or better.

Ecology and Evolution Concentration

The Department of Botany offers the Ecology and Evolution Concentration for Biology majors. This concentration will prepare students for a career or further graduate study. Students will receive the academic training to become park naturalists, environmental consultants, restoration ecologists, natural resource managers, conservation scientists, environmental educators, and research technicians in academic or government agencies. In addition to core concepts and theories, this

concentration will teach students important skills that are required in the workforce, including organism identification, quantitative reasoning, data analysis, and scientific communication. Students also will have opportunities to participate in faculty research projects, which will train them for graduate research, careers in scientific discovery, or any endeavor where critical thinking and problem solving are essential components of the vocation.

To fulfill the requirements of the concentration, students will select five courses that meet a minimum of 15 credit hours in addition to what is required for the Biology Major. These will be selected from a variety of upper-division (3000-4000) courses that satisfy their individual interests (listed below).

Students must select

1. one course in organismal biology (A),
2. one course in ecology (B),
3. one course in evolution (C),
4. any one additional course from these three categories,
5. and one fourth-year capstone course (D).

Students who concentrate in Ecology and Evolution should plan to take Evolutionary Biology (LIFE 3500) in their third year to be able to take an additional evolution course before graduating. All courses listed below will count toward this concentration. However, there are many other excellent courses offered across campus that are relevant to this concentration. Students can obtain approval to take other courses that are not included on the list below to satisfy the requirements of the concentration.

List of potential courses

A. Organismal biology

Plant diversity and systematics (BOT3600; 4 cr)
Ornithology (ZOO4350; 3 cr)
Mammalogy (ZOO4370; 3 cr)
Mushrooms of the Rocky Mountains (BOT4360; 3 cr)
Microbial diversity and ecology (SOIL4540; 4 cr)
Invertebrate zoology (ZOO4540; 4 cr)
Symbiosis (BOT4395; 3 cr)

B. Ecology

Vegetation ecology (BOT4700; 4 cr)
Behavioral ecology (ZOO4415; 3 cr)
Tropical field ecology (ZOO4650; 4 cr)
Paleobotany (BOT/GEOL4280; 4 cr)
Biogeochemistry (BOT4780; 3 cr)
Marine biology (BOT4235; 3 cr)
Plant-microbe interactions (BOT4200; 3 cr)

C. Evolution

Special Topic: Macroevolution (BOT4790; 3 cr)
Special Topic: Evolution of development (BOT4790; 3 cr)
Special Topic: Evolution seminar (BOT4790; 3 cr)
Fundamental concepts in evolution (BOT/ZOO5060; 3 cr)

D. Senior capstone course

Undergraduate research (BOT4965; 3 cr)

Undergraduate Minors

The Department of Botany offers an undergraduate minor in Botany and a minor in Biology.

Requirements for Botany Minor

Required Courses (11-12 credit hours): BOT 3000, and BOT 4640 or BOT 4680, and BOT 4700 or BOT 4775

Elective Courses (minimum 7 credit hours). Choose from the following: BOT 3100, BOT 3150, BOT 4111, BOT 4130, BOT 4330, BOT 4420, BOT 4550, BOT 4730, BOT 4745, BOT 4780

Total credit hours for botany minor: 18

Requirements for Biology Minor

Students who are majoring in Biology may not declare a Minor in Biology. Elective credit hours used towards the BIOL minor must be in courses not being counted towards a student's major. A grade of "C" or better is required in all courses. At least 25% of credit hours for the BIOL minor must be earned in upper division courses.

Required Courses (12 credit hours): LIFE 1010, and select two of the following: LIFE 2021, LIFE 2022, LIFE 2023

Elective Courses (9-12 credit hours): Select one different course from each of three of the following subject areas. One of the three courses must have a laboratory component.

- *Molecular/Genetics/Cell Biology:* LIFE 3050, LIFE 3600, MOLB 3000, ZOO 4425
- *Morphology/Physiology:* BOT 3000, BOT 4395, BOT 4730, ZOO 4190, ZOO 4330, ZOO 4350, ZOO 4370, ZOO 4540, ZOO 4380
- *Evolution:* LIFE 3500, LIFE 3600, BOT 4280
- *Ecology:* LIFE 3400, BOT 4280, BOT 4700, BOT 4730, BOT 4745, BOT 4775, MOLB 4540, ZOO 4415, ZOO 4420, ZOO 4440, ZOO 4400

Credit in other courses with different prefixes in the biological sciences area may be applied to the minor in Biology at the discretion of a student's minor advisor.

Teacher Education

Botany collaborates with the College of Education in offering the Natural Sciences Program, which provides training in science and mathematics for prospective K-12 teachers.

Graduate Study

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

Program Specific Admission Requirements

A minimum GPA of 3.000 on previous coursework is required.

Program Specific Degree Requirements

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

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

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

Master's Program

Requirements for this degree are 26 semester hours of courses approved by the student's committee plus four hours of BOT 5960, Thesis Research.

Doctoral Program

In addition to the minimum requirements set forth in this Catalog, the Department of Botany may require that a student demonstrate skills in two peripheral areas. This decision is made for individual cases by the major professor and graduate committee. These could include foreign languages, statistics, or computer science. In some cases, additional skills may be required.

Botany (BOT)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1101. First-Year Seminar. 3. [(none)◀▶FYS]

3000. Plant Ecophysiology/Plant Form and Function. 4. Integration of basic vascular plant anatomy, morphology, physiology within the contexts of modern evolutionary and ecological theory. Students receive in depth exposure to fluid flow, energetics, development, growth, general metabolism, and structure, and functions for plant cells, tissue and organs. Cross listed with: REWM 3000. *Prerequisite:* LIFE 2022 or LIFE 2023.

3100. Plants and Civilization. 3. [L◀▶(none)] Overview of past and current roles plants have in human civilizations and culture. Socioeconomic impacts of agriculture, famine, deforestation, wealth allocation, politics and technology will be discussed in relation to specific plants and plant products. Examples include plant fibers, stimulants, drugs and medicinals, foods, spices and other plant-derived resources. *Prerequisite:* COM1 or equivalent writing course.

3600. Plant Diversity and Systematics. 4. A broad introduction to modern vascular plant systematics, with emphasis on identification, classification, nomenclature, speciation, adaptation, convergence, and phylogenetic methods. Lab emphasizes learning major flowering plant families and genera, major invasive species, use of keys and manuals, and plant collection, with a Wyoming and Rocky Mountain focus. *Prerequisite*: LIFE 2023, or equivalent.

4001. Modeling the Earth System. 4. Takes a modeling approach to demonstrate how the Earth is integrated into an interconnected system through exchanges of energy and matter, and how Earth system functioning is susceptible to human alteration. Unifying concepts focus on quantitative interactions between the Earth and the Sun, and between the Earth's lithosphere, hydrosphere, biosphere and atmosphere. Cross listed with ATSC/ESS/GEOL. *Prerequisites:* MATH 2205 or equivalent and [ESS 2000 or GEOL 2000].

4040 [G&R 4040]. Conservation of Natural Resources. 3. [CS◀▶(none)] Geographically analyzes conservation of natural and human resources, as well as political, social and ethical ramifications of our environmental policy. Cross listed with ENR/GEOG 4040. *Prerequisite:* 6 hours of geography or ENR.

4100. Scientific Communication. 2. [WC,L◀▶COM3] This course is designed to provide intensive instruction in written, oral, and digital communication for zoology and physiology, biology, and botany majors. The course teaches students to communicate and execute research using practices common in the biological sciences. Cross listed with ZOO 4100. *Prerequisites:* COM1, COM2, and concurrent or prior upper division BOT, ZOO, or LIFE course. Preference given to seniors.

4101. Scientific Communication Lab. 1. This course is designed to provide intensive instruction in written, oral, and digital communication for zoology and physiology, biology, and botany majors. The course teaches students to communicate and execute research using practices common in the biological sciences. Cross listed with ZOO 4101. *Prerequisites:* COM1, COM2, and concurrent or prior upper division BOT, ZOO, or LIFE course. Preference given to seniors.

4200. Plant-Microbe Interactions. 3. This course is designed to improve content knowledge in Microbiology, with a specific focus on plant-microbe interactions and their application to ecology, conservation, agriculture, and rangeland management, and to enhance oral presentation skills. Dual listed with BOT 5200. *Prerequisites:* LIFE 1010 and LIFE 2021.

4235. Marine Biology. 3. This course explore major topics of physical oceanography, marine biodiversity and ecology, and human impacts on the ocean. Emphasis is placed on reading, evaluating, and synthesizing primary literature. Dual listed with BOT 5235. Cross listed with ZOO 4235. *Prerequisite:* LIFE 3400 with a grade of C or better.

4280. Paleobotany. 4. An examination of the ecology and evloution of land plants throughout Earth history that emphasizes the profound impact plants have had on Earth's surface and atmosphere. Through a combination of lecture, discussion, and laboratory, the course will explore fossilized plant communities, their ecological properties, and effects of major environmental upheavals. Dual listed with BOT 5280. Cross listed with GEOL 4280. *Prerequisite:* a grade of C or better in LIFE 1010 or GEOL 1100.

4360. Mushrooms of the Rocky Mountains. 3. A broad introduction to the biology of mushrooms, with emphasis on identification, ecology, and safety for consumption. Lab emphasizes learning major mushroom families and genera and their features, use of keys and manuals, and mushroom collections with a Wyoming and Rocky Mountain focus. *Prerequisites:* LIFE 2023 or equivalent.

4395. Symbiosis. 3. Symbiosis, the living together of unlike organisms, encompasses mutually beneficial to reciprocally detrimental interactions. The course examines conditions required for establishment and maintenance of important symbioses including mycorrhizae, lichens, endophytes, nitrogen-fixing and endosymbiotic bacteria, fungal/insect interactions, and fungal pathogens. Symbioses in forest ecosystems will be emphasized. Dual listed with BOT 5395. *Prerequisites:* LIFE 2022 or LIFE 2023, and LIFE 3400.

4420. Conservation Biology. 3. Addresses the broadest environmental issues facing society (habitat loss, invasion, overexploitation) and the mechanisms driving them, with particular attention to the Intermountain West. Through computer exercises, students also learn how to evaluate conservation efforts and make management recommendations. Cross listed with ENR/ZOO 4420. *Prerequisites:* LIFE 3400 and one of the following: ENR 3500, STAT 2050, or STAT 2070.

4550. Computational Biology. 4. Introduces concepts and skills that are generally applicable to computational analysis of biological questions. Content is motivated by applied projects that require basic computer programming for analysis. Two computer languages are introduced and utilized. Dual listed with BOT 5550. *Prerequisite:* MATH 2200 or STAT 2050 or equivalent; LIFE 1010 or equivalent.

4640. Flora of the Rocky Mountains. 3. Field course. Acquaints students with the flora of the surrounding region. Emphasizes field identification and collection from plant communities encompassing a wide range of environments, such as grasslands, forests and alpine tundra. *Prerequisite:* LIFE 2023. (Normally offered summer session)

4664. Special Topics in Evolution. 1-4 (Max. 6). Advanced topics in evolutionary biology are engaged by studying primary research and topical synthesis in the current literature. Dual listed with BOT 5664. *Prerequisite:* LIFE 3500 or equivalent.

4680. Taxonomy of Vascular Plants. 4. A study of classification principles, nomenclature rules and systematic botany literature. Plants of the Rocky Mountain region are used primarily as examples, but the course gives a comprehensive view of the characteristics and relationships of the principal plants families. *Prerequisite:* LIFE 2023. (Normally offered spring semester)

4700. Vegetation Ecology. 4. Reviews the ecology of major vegetation types, emphasizing patterns of vegetation distribution, vegetation-environment relationships, succession, the effect of fire and management decisions, and methods of vegetation analysis. Dual listed with BOT 5700. *Prerequisite:* LIFE 3400. (Normally offered fall semester)

4730. Plant Physiological Ecology. 4. Acquaints advanced students with environmental factors which affect the establishment and growth of plants. Emphasizes adaptive mechanisms. Dual listed with BOT 5730; cross listed with RNEW 4730. *Prerequisites:* one course in physiology and one course in ecology. (Normally offered spring semester)

4745. Terrestrial Ecosystem Ecology. 3. Advanced course examines fundamental ecosystem functions and their relationship to ecosystem structure using a systems approach. We study cycles of carbon, water and nutrients through ecosystem components with an emphasis on interactions among plants, soil, and the atmosphere. Current readings focus on responses of terrestrial ecosystems to global climate change and human disturbance. Dual listed with BOT 5745; cross listed with ECOL 5745. *Prerequisite:* 1 course in ecology.

4775. Forest Ecology. 4. Integrative study of the structure, function, and ecological diversity of forested ecosystems, and the physical factors that influence this diversity, including emergent properties of energy flow and nutrient cycling. Special emphasis is given to understanding forest disturbances and succession, and implications for impacts of management and sustainability are discussed throughout. Dual listed with BOT 5775; cross listed with RNEW 4775. *Prerequisite:* LIFE 3400. (Normally offered fall semester of odd-numbered years)

4780. Biogeochemistry. 3. A comprehensive treatment of biogeochemistry with emphasis on biogenic elements and biological processes. Reviews occurrence of elements, their behavior in the biosphere, and how their cycles are affected by humans. Dual listed with BOT 5780. Cross listed with ESS 4780. *Prerequisite*: Consent of instructor.

4790 [4710]. Special Topics in Ecology. 1-3 (Max. 6). Acquaints students with various topics not covered in regular courses. Emphasizes recent developments appearing in journal literature. Dual listed with BOT 5790. *Prerequisite:* two courses in ecology.

4965. Undergraduate Research in Botany. 1-10 (Max. 10). Undergraduate research or study in botany done under the guidance of a Botany Faculty Member. Encouraged to present their research at local, regional, or national scientific meetings, and, when appropriate, submit a manuscript for publication. *Prerequisites*: LIFE 2023, undergraduate status in good academic standing; consent of a botany faculty research mentor.

4970. Internship. 1-12 (Max. 12). Provides undergraduate students with academic credit for approved work experiences in the fields of botany and biology. Must be arranged in consultation with a botany faculty member and the work supervisor. Offered S/U only. *Prerequisites:* junior or senior standing, 3.000 GPA, declared major in botany or biology, and approval by a botany faculty member and work supervisor.

5000. Graduate Seminar. 1-3 (Max. 6). Selected topics on current research in the botanical sciences. Offered satisfactory/unsatisfactory only. *Prerequisite:* 15 hours of botany or biology.

5060. Fundamental Concepts in Evolution. 3. Explores fundamental concepts in evolutionary biology including evolutionary ecology, population genetics, and speciation with an emphasis on both theoretical frameworks and practical applications. Discussion included. Cross listed with ECOL/ZOO 5060. *Prerequisite:* graduate student in good standing.

5150. Research in Remote Sensing. 1-6 (Max. 6). Independent research into problems on the remote sensing of vegetation using satellite technology. *Prerequisite:* graduate standing and consent of instructor.

5200. Plant-Microbe Interactions. 3. This course is designed to improve content knowledge in Microbiology, with a specific focus on plant-microbe interactions and their application to ecology, conservation, agriculture, and rangeland management, and to enhance oral presentation skills. Dual listed with BOT 4200.

5235. Marine Biology. 3. This course explore major topics of physical oceanography, marine biodiversity and ecology, and human impacts on the ocean. Emphasis is placed on reading, evaluating, and synthesizing primary literature. Dual listed with BOT 4235. Cross listed with ZOO 5235. *Prerequisite:* graduate standing.

5280. Paleobotany. 4. An examination of the ecology and evloution of land plants throughout Earth history that emphasizes the profound impact plants have had on Earth's surface and atmosphere. Through a combination of lecture, discussion, and laboratory, the course will explore fossilized plant communities, their ecological properties, and effects of major environmental upheavals. Dual listed with BOT 4280. Cross listed with GEOL 5280. *Prerequisite:* graduate standing.

5320. Research in Mycology. 1-3 (Max. 6). *Prerequisite:* graduate standing or consent of instructor.

5395. Symbiosis. 3. Symbiosis, the living together of unlike organisms, encompasses mutually beneficial to reciprocally detrimental interactions. The course examines conditions required for establishment and maintenance of important symbioses including mycorrhizae, lichens, endophytes, nitrogen-fixing and endosymbiotic bacteria, fungal/insect interactions, and fungal pathogens. Symbioses in forest ecosystems will be emphasized. Dual listed with BOT 4395. *Prerequisites:* LIFE 2022 or LIFE 2023, and LIFE 3400.

5420. Research in Physiology. 1-6 (Max. 6). *Prerequisite:* graduate standing and consent of instructor.

5480. Spatial Information Sciences Seminar. 1. There are many earth science technologies, remote sensing, GIS and GPS. Synergism among these technologies increase the range of solutions for research and management. This course is a forum for presentation of these solutions or questions requiring solutions. Cross listed with GEOL 5480. *Prerequisite:* a course in remote sensing, GIS, GPS, and graduate standing.

5550. Computational Biology. 4. Introduces concepts and skills that are generally applicable to computational analysis of biological questions. Content is motivated by applied projects that require basic computer programming for analysis. Two computer languages are introduced and utilized. Dual listed with BOT 4550. *Prerequisites:* MATH 2200 or STAT 2050 or equivalent; LIFE 1010 or equivalent.

5555. Computational Biol Practicum. 3. Students will perform computational analysis of data to address contemporary biology questions for clients. Teams of students will work together, with consultation and direction from the instructor, to perform analyses, answer scientific questions, and report findings to a client, using best practices in report generation and reproducible research. *Prerequisite:* BOT 4550/5550.

5600. Ecological Modeling. 3. Course will immerse students in the most important and fundamental statistical modeling techniques for data analysis. Each class will include theoretical content delivered through a brief lecture and the immediate application of the theory through activities using R software. *Prerequisite:* STAT 2050, STAT 3050, or an equivalent course.

5610. Research in the Taxonomy of Vascular Plants. 1-6 (Max. 6). The University of Wyoming is especially well equipped for research on the classification of native plants. The Rocky Mountain Herbarium offers an abundance of material for study and the library is especially rich in taxonomic literature. Monographic work may be done on an assigned genus or on the plants of a limited area. Cytological, anatomical, and biochemical techniques may be employed in the solution of certain problems. *Prerequisite:* graduate standing and consent of instructor.

5650. Readings in Plant Systematics. 1 (Max. 6). Centered on readings involving selected topics in the current plant systematics literature. *Prerequisite:* BOT 4680.

5664. Topics: Evolution. 1-4 (Max. 12). Advanced topics in evolutionary biology are engaged by studying primary research and topical syntheses in the current literature. Dual listed with BOT 4664. *Prerequisite:* LIFE 3500 or equivalent.

5665. Research in Evolutionary Biology. 1-6 (Max. 6). *Prerequisites:* graduate standing and consent of instructor.

5690. Special Topics in Systematics. 1-4 (Max. 12). Designed to acquaint students with various topics not covered in regular courses. Emphasis is placed on recent developments in the journal literature. *Prerequisite:* BOT 4680 or 5680 or equivalent.

5700. Vegetation Ecology. 4. The ecology of major vegetation types, with emphasis on patterns of vegetation distribution, vegetation-environment relationships, succession, the effect of fire and management decisions, and methods of vegetation analysis. Dual listed with BOT 4700. *Prerequisite:* LIFE 3400.

5710. Research in Ecology. 1-6 (Max. 6). *Prerequisite:* graduate standing and consent of instructor.

5720. Research in Physiological Ecology. 1-6 (Max. 6). *Prerequisite:* graduate standing and consent of instructor.

5730. Plant Physiological Ecology. 4. Acquaints advanced students with environmental factors which affect the establishment and growth of plants. Emphasizes adaptive mechanisms. Lecture with inclusive hands-on laboratory. Dual listed with BOT 4730; cross listed with RNEW 5730. *Prerequisite:* one course in ecology and one in physiology.

5745. Terrestrial Ecosystem Ecology. 3. Advanced course examines fundamental ecosystem functions and their relationship to ecosystem structure using a systems approach. Study cycles of carbon, water and nutrients through ecosystem components with an emphasis on interactions among plants, soil, and the atmosphere. Current readings focus on responses of terrestrial ecosystems to global climate change an human disturbance. Dual listed with BOT 4745. *Prerequisite:* one course in ecology.

5750. Seminar in Ecophysiology. 1-3 (Max. 8). *Prerequisite:* 1 course in physiology and 1 course in ecology.

5775. Forest Ecology. 4. Integrative study of the structure, function, and ecological diversity of forested ecosystems, and the physical factors that influence this diversity, including emergent properties of energy flow and nutrient cycling. Special emphasis is given to understanding forest disturbances and succession, and implications for impacts of management and sustainability are discussed throughout. Dual listed with BOT 4775; cross listed with ECOL/RNEW 5775. *Prerequisites:* LIFE 3400.

5780. Biogeochemistry. 3. A comprehensive treatment of biogeochemistry with emphasis on biogenic elements and biological processes. Reviews occurrence of elements, their behavior in the biosphere, and how their cycles are affected by humans. Dual listed with BOT 4780. Cross listed with ESS 5780. *Prerequisite*: Consent of instructor.

5790. Special Topics in Ecology. 1-3 (Max. 6). Designed to acquaint advanced students with various topics not covered in other courses. Emphasis is placed on recent developments appearing in the journal literature. Dual listed with BOT 4790. *Prerequisite:* two courses in ecology.

5900. Practicum in College Teaching. 1 - 3. (Max 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate status.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrolled in a graduate degree program.

5980. Dissertation Research. 1-12 (Max. 48). Graduate level course designed for students who are involved in research for their dissertation project. Also used for students whose coursework is complete and are writing their dissertation. *Prerequisite:* enrolled in a graduate level degree program.

Chemistry

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FAX: (307) 766-2807
Web site: www.uwyo.edu/chemistry
Department Head: Debashis Dutta

Professors:

DAVID T. ANDERSON, B.S. George Washington University 1987; Ph.D. Dartmouth College 1993; Professor of Chemistry 2012, 2000.

FRANCO BASILE, B.S. University of Wisconsin-Eau Claire 1986; Ph.D. Purdue University 1992; Associate Professor of Chemistry 2009, 2003.

EDWARD L. CLENNAN, B.S. University of Wisconsin-River Falls 1973; Ph.D. University of Wisconsin-Madison 1977; Professor of Chemistry 1989, 1979.

DEBASHIS DUTTA, B. Tech Indian Institute of Technology 1998; Ph.D. University of Notre Dame 2003; Professor of Chemistry 2017, 2006.

BRUCE A. PARKINSON, B.S. Iowa State University 1972; Ph.D. California Institute of Technology 1977; Professor of Chemistry 2008.

Associate Professors:

JOHN O. HOBERG, B.A. Jamestown College 1984; Ph.D. Montana State University 1990; Associate Professor of Chemistry 2004.

ELLIOTT HULLEY, B.S. Ursinus College 2005; Ph.D. Cornell University 2011; Assistant Professor of Chemistry 2014.

TERESA LEHMANN DELLA VOLPE, B.S. Universidad Central de Venezuela 1987; Ph.D. University of Minnesota 1997; Associate Professor of Chemistry 2014, 2008.

BRIAN M. LEONARD, B.S. University of Nebraska at Kearney 2003; Ph.D. Texas A&M 2008; Associate Professor of Chemistry 2016, 2010.

JING ZHOU, B.S. Xiamen University 1997; Ph.D. University of South Carolina 2004; Associate Professor of Chemistry 2013, 2007.

Assistant Professors:

CALEB M. HILL, B.S. Jacksonville State University 2009; Ph.D. University of Alabama 2014; Assistant Professor of Chemistry 2016.

LAURA RITA DE SOUSA OLIVEIRA, B.S. New Mexico Institute of Mining and Technology 2010; Ph.D. University of California, Riverside 2017; Assistant Professor of Chemistry 2020.

MICHAEL T. TAYLOR, B.S. Salisbury University 2006; Ph.D. University of Delaware 2013; Assistant Professor of Chemistry 2017.

Research Faculty:

NAVAMONEY ARULSAMY, B.Sc. Madurai-Kamaraj University, India 1982; M.Sc. 1986; Ph.D. University of Hyderabad, India 1991; Senior Research Scientist 2013, 2005.

ALEXANDER GORONCY, B.S. University of Bremen; Ph.D. University of South Carolina; Research Scientist 2015.

Adjunct Professors:

YURI DAHNOVSKY, Ph.D. Institute of Chemical Physics, Moscow 1983; Adjunct Professor of Chemistry 2001.

MAOHONG FAN, Ph.D. Osaka University 2003; Professor in SER and CEAS; Adjunct Professor in Chemistry 2009.

Senior Lecturer:

CARLA DEE BECKETT, B.S. University of Wyoming 1991; M.S. 2007; Senior Lecturer of Chemistry 2012, 2011.

RACHEL WATSON, Senior Lecturer in Chemistry.

Assistant Lecturers:
KUI CHEN, B.Sc. Xiamen University 1997; Ph.D. University of South Carolina 2004; Assistant Lecturer of Chemistry 2019.
GINKA S. KUBELKA, M.S. University of Wuerzburg, Germany 2010; Ph.D. University of Wyoming 2015. Assistant Lecturer of Chemistry 2016.

Professors Emeritus:
Vernon Archer, Daniel A. Buttry, Keith T. Carron, Robert Corcoran, Clyde Edmiston, Anthony Guzzo, Suzanne Harris, Robert Hurtubise, David Jaeger, John Maurer, E.G. Meyer, David A. Nelson, Dean M. Roddick

Senior Lecturer Emeritus:
Patricia A. Goodson

Chemistry is one of the fundamental physical sciences dealing with the structure and properties of matter, along with changes that matter undergoes. Chemistry's scope encompasses all substances, living and non-living. Its study and practice include (1) the theoretical and experimental aspects of chemical bonding and structure using computational, spectroscopic, and diffraction techniques; (2) the laboratory synthesis from simple starting materials of desirable compounds in the inorganic, organic and biological classes; and (3) the total analysis of complex mixtures using modern spectroscopic and electrochemical methods. Since we live in a material world, applications of chemical knowledge influence most areas of human endeavor: scientific, economic, political and social. Many of the advances in the areas of new materials, medicines, biotechnology, food production, new energy sources and semiconductor technology associated with the "computer revolution" are based on chemistry and chemical principles. Some understanding of these chemical principles should be part of every educated person's knowledge.

Because of the broad scope of this discipline, the Department of Chemistry offers a variety of courses and programs. These programs meet the needs of students planning professional careers in chemistry and those wishing to major in chemistry for other objectives. In particular, chemistry is a traditional preprofessional major for students interested in medicine and dentistry. Specific courses are offered to serve other major areas and as part of University Studies and A&S core requirements.

Students who have taken an AP examination and have received a score of 4 or 5 may receive credit for CHEM 1020 and 1030.

Undergraduate Major

The department offers **both,** B.A. and B.S. degree programs. The B.A. degree includes a minimum of 32 hours of chemistry. The Plan 1 B.S. degree requires at least 38 hours. The Plan 2 B.S. requires 46 hours of chemistry courses. Since the chemistry required in the first two years of all programs is the same, students interested in pursuing a chemistry major can elect any program initially. Discussions with a departmental adviser will allow students to choose the most appropriate major for their career objectives. In general, students planning graduate work in chemistry should elect one of the B.S. programs. The B.A. program has a more liberal content with additional electives. It would support careers in business, law and advanced study in areas needing a strong chemistry background such as toxicology or forensic science.

A B.A. is suitable for students in the College of Education who wish to obtain an A&S degree, and may also be appropriate for some premedical tracks. The Plan 2 (CACS) program is designed to meet standards set by the American Chemical Society (ACS). A student who completes the Plan 2 B.S. program will be certified by the Department of Chemistry to the ACS as having met the specific ACS requirements for undergraduate professional training in chemistry. Students must obtain a grade of C- of higher in each of the chemistry, physics or math courses specifically required for their degree.

Plan 1 B.A. in Chemistry

(32 hours of chemistry)

Course Requirements	Hrs.
Basic chemistry	**26**
1050 and 1060 (or 1020 and 1030), 2230, 2420 and 2440, 3550 or 4507, and 4110	
Additional upper-level chemistry	**6**
(including one of the following: 4100, 4230, or 4530)	
MATH 2200 and 2205	8
PHYS	**8**
1310 and 1320 (or 1110 and 1120 or 1210 and 1220)	
Additional USP requirements	**21**
Additional A&S core requirements	**6**
Electives	**45**
Minimum Total Hrs.	***120***

Plan 1 B.S. in Chemistry

(38 hours of chemistry)

Course Requirements	Hrs.
Basic chemistry	**34**
1050 and 1060 (or 1020 and 1030), 2230, 2420 and 2440, 4000 (1 hour), 4100, 4110, 4507, 4508, 4525 and 4530	
CHEM 4930	2
Additional upper-level chemistry	3
MATH 2200, 2205 and 2210	12
PHYS	**8**
1310 and 1320 (or 1210 and 1220)	
Additional USP requirements	**21**
Additional A&S core requirements	**6**
Electives	**34**
Minimum Total Hrs.	***120***

Plan 2 B.S. in Chemistry (CACS)

(46 hours of chemistry)

Course Requirements	Hrs.
Basic chemistry	**41-42**
1050 and 1060 (or 1020 and 1030), 2230, 2420 and 2440, 4400 (or MOLB 3610 or 4600), 4000 (1 hour), 4100, 4110, 4230, 4507, 4508, 4525 and 4530	
CHEM 4930	3
Additional upper-division chemistry	2-3
MATH 2200, 2205 and 2210	12
PHYS 1310 and 1320	**8**
(or 1210 and 1220)	
Computer science	**3**
(STAT 2050, CHEM 4515, COSC 1010)	
Additional USP requirements	**21**
Additional A & S core requirements	**6**
Program supporting courses	**18**
A group of courses selected to further the career objectives of the individual student. These are chosen after consultation with the departmental adviser and must subsequently be approved by the departmental Undergraduate Studies Committee. A grade of C- or higher is required for all program supporting courses.	
Electives	**4-6**
Minimum Total Hrs.	***120***

Suggested Program for a Bachelor's Degree in Chemistry

(Freshman and Sophomore Years)
Suggested Course Sequence

FRESHMAN YEAR: Fall		Hrs.
CHEM	1050 or 1020	4
ENGL	1010	3
MATH	2200	4
A&S Core or University Studies Requirements		3-4
	Total Hrs.	***14-15***

FRESHMAN YEAR: Spring		Hrs.
CHEM	1060 or 1030	4
MATH	2205	4
A&S core or University Studies requirements		6-8
	Total Hrs.	***14-16***

SOPHOMORE YEAR: Fall		Hrs.
CHEM	2420	4
MATH	2210 (B.S. requirement)	4
PHYS	1310 or 1210 or 1110	4
A&S core or University Studies requirements		3-4
	Total Hrs.	***15-16***

SOPHOMORE YEAR: Spring		Hrs.
CHEM	2440	4
CHEM	2230	5
PHYS	1320 or 1220 or 1120	4
A&S core or University Studies requirements		3-4
	Total Hrs.	***15-16***

Undergraduate Minor

A minor is offered in the Department of Chemistry. Further information may be found at the web site www.uwyo.edu/chemistry.

Teacher Education

Teacher certification requirements are available through the College of Education. Students preparing to teach chemistry in the secondary schools are advised to take a major in chemistry or a major composed of carefully selected courses in chemistry and related sciences.

A special interdisciplinary curriculum in chemistry and a related area may be arranged. (See department head for information).

Graduate Study

The Department of Chemistry offers programs leading to the degrees of master of science and doctor of philosophy chemistry. The master's degree is offered mainly under Plan A with Plan B reserved for special circumstances.

The department also participates in the preparation of students for the degrees of master of science in natural science and master of science in teaching (M.S.T.), which are designed to improve the competence of those engaged in science teaching.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of Chemistry requires that a student have taken the following undergraduate courses: one year of general chemistry; one semester/quarter of quantitative analysis; one year of organic chemistry plus laboratory; one year of physical chemistry plus laboratory; one year of physics; and mathematics through multivariable calculus. As appropriate, one or more of these course requirements may be waived at the discretion of the department.

Program Specific Degree Requirements

Master's Program Plan A (thesis)

In addition to fulfilling the minimum university requirements, a student must take one 3 hour course in each of three of the four areas (inorganic, analytical, organic, and physical), excluding special topics and research courses. These courses must be graduate courses, 5000 and above.

A student may also take 9 credits of any combination of CHEM 5190, 5290, 5390, 5590, or 5790.

One departmental seminar is required to be presented on the thesis research.

Doctoral Program

In addition to fulfilling the minimum university requirements, a student must take one 3 hour graduate course (5000 and above) in each of the four areas (inorganic, analytical, organic, and physical), excluding special topics, tool courses 5130, 5320, 5760, and research courses.

A student may also take 12 credits of any combination of CHEM 5190, 5290, 5390, 5590, or 5790.

In the area selected as a major, the student will take the following as a minimum:

1. Analytical - 5250 plus 9 hours of graduate level analytical courses;
2. Inorganic - 12 hours of graduate level inorganic courses;
3. Organic - 5320, 5330, 5340 and 5350;
4. Physical - any three graduate level physical chemistry courses;

Students must obtain satisfactory performance on a series of written major field cumulative examinations, including special topics.

Students must obtain satisfactory performance on a preliminary examination, part written and part oral.

Students must present a seminar based on the dissertation research. Students must also obtain two additional credits of CHEM 5000 by presenting a divisional or departmental seminar or an oral presentation at a regional or national research meeting.

Chemistry (CHEM)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000. Introductory Chemistry. 4. [SP◀▶PN] Deals with principles of chemistry and some applications to inorganic chemistry. For students in family and consumer sciences, nursing, education, general arts and sciences and most agriculture curricula. Students who have credit in CHEM 1020 or 1050 may not receive duplicate credit for this course. Laboratory and discussion: 3 hours per week. *Prerequisite:* Minimum grade of C in MATH 0925, or level 3 on the MPE, or ACT math score of 23 or above. (Normally offered fall semester)

1001. The Chemical Community. 1. [I,L◀▶(none)] A survey of chemistry both as a major and a discipline. Chemistry's historical role, the scientific method, scientific ethics, as well as current challenges in the major fields of chemistry are discussed. Information literacy is strongly emphasized, both by familiarization with university resources as well as specialized chemical databases. (Normally offered fall semester)

1020. General Chemistry I. 4. [SP◀▶PN] First semester of a one-year introductory series. Provides broad coverage of chemistry principles with inorganic and organic systems applications. Credit will not be allowed for more than one of CHEM 1020, 1050 and 1000. Laboratory and discussion: 3 hours per week. *Prerequisite:* ACT Math score of 23 or above, or concurrent enrollment in Math 1400, or 1405 or 1450.

1030. General Chemistry II. 4. [SP◀▶PN] Second semester of a one-year introductory series. Provides broad coverage of chemistry principles with inorganic and organic systems applications. Credit will not be allowed for more than one of CHEM 1030 and 1060. Laboratory and discussion: 3 hours per week. *Prerequisite:* CHEM 1020.

1050. Advanced General Chemistry I. 4. [SP◀▶PN] First semester of a one-year series covering chemical principles. Emphasizes inorganic chemistry and briefly discusses qualitative analysis. Credit not given for more than one of CHEM 1020, 1050 and 1000. Laboratory: 3 hours per week. *Prerequisites:* one year high school chemistry, and an ACT Math score of 27 or higher or concurrent enrollment in Math 2200. (Normally offered fall semester)

1060. Advanced General Chemistry II. 4. [SP◀▶PN] Second semester of a one-year series covering chemical principles. Emphasizes inorganic chemistry and briefly discusses qualitative analysis. Credit not given for more

than one of CHEM 1030 and 1060. Laboratory: 3 hours per week. *Prerequisite:* CHEM 1050 or CHEM 1020, with permission of the instructor. (Normally offered spring semester)

2000. Special Topics in the Laboratory. 1 (Max. 4). Introduces students to laboratory experience in chemistry. *Prerequisite:* special permission from the chemistry department.

2230. Quantitative Analysis. 5. Broad, general coverage of analytical techniques, principles and calculations. Laboratory: 6 hours per week. *Prerequisite:* CHEM 1030, 1060 or equivalent. (Normally offered spring semester)

2300. Introductory Organic Chemistry. 4. Terminal course in organic and beginning biological chemistry. No credit will be allowed in CHEM 2300 if credit earned in CHEM 2420. *Prerequisite:* CHEM 1020, 1050, 1000 or equivalent. Note: This course is **not** an acceptable prerequisite for CHEM 2440. (Normally offered spring semester)

2420. Organic Chemistry I. 4. First semester of a one-year sequence in organic chemistry. Approached from the viewpoint of modern chemical theory, emphasizing structural and mechanistic concepts. The course incorporates a laboratory integrated with the lecture. Students desiring a one-semester terminal course should take CHEM 2300. Laboratory: 3 hours per week. No credit allowed in CHEM 2420 if credit earned in 2300. *Prerequisite:* CHEM 1030 or 1060. (Normally offered fall)

2440. Organic Chemistry II. 4. Second semester of a one-year sequence in organic chemistry. Approached from viewpoint of modern chemical theory, emphasizing structural and mechanistic concepts. The course incorporates a laboratory integrated with the lecture. Students desiring a one-semester terminal course should take CHEM 2300. Laboratory: 3 hours per week. *Prerequisites:* CHEM 1030 or 1060 and 2420. *Note:* CHEM 2300 is not an acceptable prerequisite for CHEM 2440. (Normally offered spring semester)

3020. Environmental Chemistry. 3. Environment and modern environmental problems in terms of chemical structures and reactions. Chemical principles of equilibrium, kinetics, and thermodynamics are used to help understand our changing environment. Topics include toxicological chemistry, aquatic chemistry, atmospheric chemistry, and green chemistry. *Prerequisites:* CHEM 2300 or 2420; 2230; and QA course.

3550. Physical Chemistry for the Life Sciences. 3. Deals with areas of physical chemistry of interest to students majoring in the life sciences. Covers thermodynamics, kinetics, equilibrium and spectroscopy, using biological systems for development and illustration. Credit is allowed for only one of the courses: CHEM 3550 or 4507. *Prerequisites:* CHEM 1030, MATH 2200. (Normally offered every other year)

4000. Career Skills. 1. Designed to develop skills needed for success in the chemical profession or in graduate school. Topics include information on graduate programs, resume preparation, scientific writing, oral presentation, technical seminars, and laboratory note keeping. Available S/U only. *Prerequisites:* chemistry major, CHEM 4110 or concurrent enrollment. (Normally offered fall semester)

4040. Chemical Literature. 1-2 (Max. 2). Introduces literature of chemistry and methods employed in searching the literature. *Prerequisites:* CHEM 2300 or 2420; CHEM 4507 or 3550 or concurrent enrollment. (Normally offered alternating spring semesters)

4050. Solar Energy Conversion. 3. Provides an overview of the science behind current and future solar thermal and photovoltaic technologies. Environmental aspects, legal issues and cost associated with solar energy will also be included. Cross listed with ERS 4050. *Prerequisites:* CHEM 1030 or CHEM 1060 and PHYS 1210 or PHYS 1310 and MATH 2200. (Offered spring semester)

4100. Inorganic Chemistry Laboratory. 2. Introduces basic inorganic laboratory synthetic techniques and methods of analysis. *Prerequisite:* CHEM 2440 and 4110 or concurrent enrollment. (Offered fall semester)

4110. Introductory Inorganic Chemistry. 3. A basic course on theoretical and descriptive inorganic chemistry. *Prerequisite:* CHEM 2420, and physical chemistry. (Normally offered fall semester)

4230. Instrumental Methods of Chemical Analysis. 5. Introduces optical, electroanalytical and separation methods of analysis, emphasizing practical industrial applications. *Prerequisite:* CHEM 2230. (Normally offered fall semester)

4400. Biological Chemistry. 3. Covers the main principles of biological chemistry from a chemical standpoint. Highlights the chemical structure of biological molecules and examines biological processes with emphasis on the underlying organic chemistry. Introduces biological NMR spectroscopy and other biophysical methods. Discusses main metabolic pathways. Dual listed with CHEM 5400. *Prerequisite*: CHEM 2440 or consent of instructor

4507. Physical Chemistry I. 3. First semester of a one-year sequence. Emphasis on introductory quantum mechanics, atomic structure, molecular bonding and structure and spectroscopy. Kinetic molecular theory of gasses may be introduced. Uses multivariable calculus, differential equations and some linear algebra. *Prerequisites:* one year of general chemistry, multivariable calculus, one year of general college physics. (Normally offered fall semester)

4508. Physical Chemistry II. 3. Second semester of a one year sequence, emphasizes kinetic theory of gasses and non-ideal solutions, chemical equilibrium, electrochemistry, statistical thermodynamics, and reaction kinetics. Uses multivariable calculus and differential equations. *Prerequisite:* CHEM 4507. (Normally offered spring semester)

4515. Applied Mathematics in Physical Chemistry I. 3. Designed to introduce the necessary mathematical background and essential computer programming tools for students of physical and theoretical chemistry. This includes an introduction into linear algebra, multivariate calculus, differential equations, analysis and modeling of experimental data, use of Matlab software and mathematical analysis of physical chemistry problems. Dual listed with CHEM 5515. *Prerequisites:* MATH 2200 and 2205, CHEM 1020/1030 or 1050/1060.

4516. Applied Mathematics in Physical Chemistry II. 3. Covers the advanced mathematical techniques in physical and theoretical chemistry. This includes introduction into probability and stochastic processes, infinite series, vector and tensor calculus, Fourier transforms and partial differential equations. Includes practical numerical problem solutions using MatLab software and applications of the mathematical analysis to specific physical chemistry problems. Dual listed with CHEM 5516. *Prerequisite:* CHEM 4515.

4525. Physical Chemistry Lab I. 1. Illustrates principles of physical chemistry, techniques of measurement, and analysis and interpretation of data with an emphasis on quantum mechanical (spectroscopic) methodologies. *Prerequisites:* CHEM 4507 or concurrent enrollment.

4530. Physical Chemistry Laboratory II. 1. Illustrates principles of physical chemistry, techniques of measurement, and analysis and interpretation of data with emphasis on thermodynamics and kinetics. Laboratory: 3 hours per week. *Prerequisite:* CHEM 4508 or concurrent enrollment. (Normally offered spring semester)

4560. Molecular Modeling - Computational Chemistry. 3. Emphasizes practical training in computational modeling of molecular properties using modern computer software. Includes ab-initio quantum mechanical,

density functional, semi-empirical and molecular mechanics methods. Dual listed with CHEM 5560. Laboratory: 3 hours per week. *Prerequisite:* CHEM 4507. (Normally offered alternating spring semesters)

4920. Special Problems in Chemistry. 1-3 (Max. 6). Probes deeply into special areas of chemistry through library or laboratory work. Taken under supervision of faculty in the area of the investigation. Laboratory: 3-9 hours per week. *Prerequisite:* consent of instructor. (Offered every semester)

4930. Undergraduate Research. 1-3 (Max. 9). Research activities on a chemical project of limited scope or as part of a laboratory project of great scope. A written report is submitted to the department each semester of enrollment. Laboratory: 4-12 hours per week. *Prerequisites:* chemistry major and consent of instructor. (Offered every semester)

The following courses are offered for S/U credit only: CHEM 5000, CHEM 5150, CHEM 5190, CHEM 5290, CHEM 5310, CHEM 5390, CHEM 5501, CHEM 5590, CHEM 5790, CHEM 5900, CHEM 5920, CHEM 5940, CHEM 5960, CHEM 5980, and special sections of CHEM 5100, CHEM 5200, CHEM 5300, and CHEM 5500 offered during Summer Session.

5000. Seminar in Chemistry. 1 (Max. 3). All graduate students attend weekly departmental seminars. One credit given each semester a presentation is made, to a limit of 3 credits for M.S. candidate, 6 for Ph.D. candidates. The seminar will normally be based upon articles in the current chemical literature but with the last presentation being over the student's research project. Offered satisfactory/unsatisfactory only. *Prerequisite:* graduate standing in chemistry or biochemistry.

5100. Special Topics in Advanced Inorganics. 1-9 (Max. 12). A course designed for students with an interest in contemporary inorganic chemistry. Recent problems in the literature and techniques for their solution will be addressed.

5111 [5110]. Advanced Inorganic Chemistry. 3. A graduate-level course on theoretical and descriptive inorganic chemistry. Topics will include molecular symmetry, spectroscopy, electronic structure/bonding, magnetism, electron transfer, and catalysis. *Prerequisites:* CHEM 2420, CHEM 4110 and CHEM 3550 or 4507.

5115. Descriptive Inorganic Chemistry. 3. Advanced survey of inorganic chemistry, emphasizing the synthesis, structural, and reactivity properties of inorganic compounds. Emphasis will be placed on the application of bonding theory and periodic principles to the chemistry of main-group, d-block, and f-block elements. *Prerequisite:* CHEM 4110, CHEM 5110 or CHEM 5111.

5140. Organometallic Chemistry. 3. A survey of bonding and synthetic reactions of transition metal organometallic chemistry. *Prerequisite:* CHEM 4110/5110.

5150. Inorganic Group Seminar. 1 (Max. 9). Course designed for students with an interest in contemporary inorganic chemistry. Recent problems in the literature and techniques for their solution are addressed.

5190. Research in Inorganic Chemistry. 1-3 (Max. 12). Offered satisfactory/unsatisfactory only. *Prerequisite:* CHEM 4110/5110.

5200. Special Topics in Analytical Chemistry. 1-6 (Max. 12). Material selected from chromatography, electroanalytical chemistry, ion exchange, chemical separations, optical methods of analysis, polarography and other areas. *Prerequisite:* CHEM 4230, 4507.

5220. Modern Electroanalytical Methods. 3. An advanced survey of electroanalytical chemistry including ion selective potentiometry, electrolysis, coulometry, polarography and voltammetry.

5240. Optical Methods of Chemical Analysis. 3. An advanced survey of the theory, instrumentation and applications of optical methods of chemical analysis. *Prerequisite:* CHEM 4230, 4507.

5250. Advanced Chemical Instrumentation. 3. Introduces chemistry students to the basic elements of electronics. Specific topics include networks, passive and active filters, digital electronics, logic gates, counters, flip-flops, and converters. Second half of course introduces students to experimental design, pattern recognition, factorial analysis, and multivariate statistical methods. *Prerequisite:* CHEM 4230 or its equivalent.

5260. Separation Methods. 3. A detailed survey of the theoretical and practical aspects of modern separation methods with emphasis on chromatography. *Prerequisite:* CHEM 2230, CHEM 2440, and CHEM 4508.

5290. Research in Analytical Chemistry. 1-3 (Max. 12). Satisfactory/unsatisfactory only. *Prerequisite:* CHEM 2230, 4507.

5300. Special Topics Synthetic. 1-6 (Max. 9). Material will be selected from one of the following areas: heterocycles, organometallics, natural products, physical and chemical methods of structure elucidation, organic photochemistry, and other special areas of organic chemistry. *Prerequisite:* CHEM 5330.

5310. Organic Group Seminar. 1 (Max. 9). Designed for students with an interest in organic reaction mechanisms. A problem solving approach using electron pushing techniques will be emphasized. *Prerequisite:* CHEM 5340.

5320. Spectroscopic Methods of Structure Determination. 3. Provides theoretical and practical treatment of spectroscopic methods for application in research. Topics include ultraviolet, infrared, and nuclear magnetic resonance spectroscopy and mass spectrometry. *Prerequisite:* CHEM 2440, 4507.

5330. Advanced Organic Chemistry. 3. Treatment of organic chemistry from the viewpoints of structure and mechanism with emphasis on structural theory of bonding, stereochemistry and the general classes of organic reactions. *Prerequisite:* CHEM 2440 and 4507.

5340. Synthetic Methods in Organic Chemistry. 3. Surveys and applies the important synthetic methods of organic chemistry with particular attention to recent developments. *Prerequisite:* CHEM 5330.

5390. Research in Organic Chemistry. 1-3 (Max. 12). *Prerequisite:* CHEM 5320.

5400. Biological Chemistry. 3. Covers the main principles of biological chemistry from a chemical standpoint. Highlights the chemical structure of biological molecules and examines biological processes with emphasis on the underlying organic chemistry. Introduces biological NMR spectroscopy and other biophysical methods. Discusses main metabolic pathways. Dual listed with CHEM 4400. *Prerequisite*: CHEM 2440 or consent of instructor.

5500. Special Topics in Physical Chemistry. 1-6 (Max. 9). Material will be selected from one of the following fields: electrochemistry, surface chemistry, catalysis, colloids, photochemistry, and other special fields of physical chemistry. *Prerequisite:* CHEM 4507 and 5510.

5501. Physical Group Seminar. 1-9 (Max. 9). Designed for students with an interest in theoretical and experimental physical chemistry. Students are required to give presentations on current literature and research topics. *Prerequisite:* graduate standing.

5515. Methods of Applied Mathematics in Physical Chemistry I. 3. Designed to introduce the necessary mathematical background and essential computer programming tools for students of physical and theoretical chemistry. Includes an introduction into linear algebra, multivariate calculus, differential equations, analysis and modeling of experimental data, use of Matlab software, and mathematical analysis of physical chemistry problems. Dual listed with CHEM 4515. *Prerequisites:* MATH 2200 and 2205, 1 yr. CHEM 1020/1030 or 1050/1060.

5516. Applied Mathematics in Physical Chemistry II. 3. Covers the advanced mathematical techniques in physical and theoretical chemistry. This includes an introduction into probability and stochastic processes, infinite series, vector and tensor calculus, Fourier transforms and partial differential equations. Includes practical numerical problem solutions using Matlab software and applications of the mathematical analysis to specific physical chemistry problems. Dual listed with CHEM 4516. *Prerequisites:* CHEM 4515/5515.

5530. Quantum Chemistry. 3. The quantum mechanical description of time-dependent and independent processes, including discussions of the Schrodinger equation, wave packets, approximate methods, and interaction of matter with radiation. *Prerequisite:* two semesters of undergraduate physical chemistry.

5540. Molecular Spectroscopy. 3. Introduction to the relationships among quantum mechanical formulations, experimentally determinable quantities obtained via spectroscopic methods, and physical parameters related to the structure of molecular systems. *Prerequisite:* CHEM 5530.

5560. Molecular Modeling - Computational Chemistry. 3. Emphasizes practical training in computational modeling of molecular properties using modern computer software. Includes ab-initio quantum mechanical, density functional, semi-empirical and molecular mechanics methods. Dual listed with CHEM 4560. Laboratory: 3 hours per week. Prerequisite: CHEM 4507. (Normally offered alternating spring semesters)

5590. Research in Physical Chemistry. 1-3 (Max. 12). *Prerequisite:* CHEM 4507.

5790. Research in Biological Chemistry. 1-3 (Max. 12). *Prerequisite:* consent of instructor.

5820. Advanced Problems in Chemistry. 1-3 (Max. 3). A graduate level course for students desiring to probe more deeply into a special area of chemistry. Taken under the supervision of a faculty member in the field of investigation. *Prerequisite:* consent of instructor.

5900. Practicum in College Teaching. 1-3 (Max 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate status.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisites:* enrolled in a graduate degree program.

5980. Dissertation Research. 1-12 (Max. 48). Designed for students who are involved in research for their dissertation project. Also used for students whose coursework is complete and are writing their dissertation. *Prerequisites:* enrolled in a graduate level degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Communication and Journalism

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

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

Associate Professors:
CHIA FANG (SANDY) HSU, B.A. Chinese Culture University 1995; M.A. Washington State University 1997; Ph.D. Washington State University 2002; Associate Professor of Communication and Journalism 2009, 2003.
KRISTEN D. LANDREVILLE, B.S. University of Florida 2004; M.A. 2006; Ph.D. Ohio State University 2010; Associate Professor of Communication and Journalistm 2017, 2010.
LI LI, B.A. Hebei Normal University 2001; M.A. China University of Mining and Technology 2004; M.A. Ohio University 2009; Ph.D. 2012; Associate Professor of Communication and Journalism 2019, 2012.
CINDY J. PRICE SCHULTZ, B.A. University of Sioux Falls 1989; M.S. South Dakota State University 1992; Ph.D. Southern Illinois University 2000; Associate Professor of Communication and Journalism 2005, 1999.

Assistant Professor:
KATHRYN (KAATIE) COOPER, B.S. Trinity University 2008; M.A. Ohio State University 2013; Ph.D. 2018; Assistant Professor of Communication and Journalism 2019.

Senior Lecturers:
BEAU BINGHAM, B.S. Idaho State University 2000; M.A. New Mexico State University 2002; Senior Lecturer of Communication and Journalism 2007, 2003.
JUSTIN STEWART, B.A. University of Wyoming 2003; M.A. 2005; Senior Lecturer of Communication and Journalism 2017, 2005.

Assistant Lecturers:
MATTHEW LIU, B.A. University of Mary Washington 2009; M.A. Wake Forest University 2014; Assistant Lecturer of Communication and Journalism 2019.
MITZI STEWART, B.A. University of Wyoming 2007; M.A. 2015; Assistant Lecturer of Communication and Journalism 2019.

Emeriti:
Michael R. Brown, B. Wayne Callaway, William C. Donaghy, George A. Gladney, John W. Ravage, Kenneth L. Smith

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

Marketing, Facilities and Research Activities

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

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

goals. Clients can have their presentations recorded for critical input and evaluation as well as for portfolio or interview applications.

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

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

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

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

Student Organizations

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

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

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

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

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

Scholarships and Awards

The department has several scholarships available to qualified students. Check the Communication and Journalism website or UW Scholarships and Student Financial Aid for additional information.

Undergraduate Programs

The department offers courses leading to baccalaureate degrees in communication and journalism.

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

Departmental Core Courses

In addition to the university studies requirements listed in this *Catalog*, all students majoring in communication and journalism must take the following required courses:

Required Courses	Hrs.
COJO 1000 Intro to Mass Media	3
COJO 2010 Public Speaking	3
COJO 2100 Media Writing	3
STAT 2070 Intro to Statistics for the Social Sciences	4
(This course is a prerequisite for COJO 3070)	
COJO 3070 Communication Research	3
Language 1010	4
Language 1020	4

College of Arts and Sciences Requirements	Hrs.
A&S U.S. Diversity (ASD)	3
A&S Global Awareness (ASG)	3

Communication Major

Communication is a liberal arts degree relevant to a variety of careers in community relations, public relations, politics, administration, law, sales management and many other fields.

Bachelor of Arts in Communication

Required Courses	Hrs.
Departmental core courses	30
COJO 1040 Intro to Human Comm	3
COJO 3010 Business/Prof Comm	3
COJO 3040 Advanced Comm Thry	3
Electives	15
(At least 12 elective hours must be at the 3000-level or higher)	

Additional Program Requirements	Hrs.
Human Culture (H)	6

Bachelor of Science in Communication

Required Courses	Hrs.
Departmental core courses	30
COJO 1040 Intro to Human Comm	3
COJO 3010 Business/Prof Comm	3
COJO 3040 Advanced Comm Thry	3
Electives	15
(At least 12 elective hours must be at the 3000-level or higher)	

Additional Program Requirements	Hrs.
Physical and Natural World (PN) or Quantitative Reasoning (Q)	6-8

Journalism Major

The journalism major is designed to prepare students for careers as reporters, editors and writers with urban newspapers, community newspapers, news services, magazines, public information, public relations, advertising, and many other fields.

Bachelor of Arts in Journalism

Required Courses	Hrs.
Departmental core courses	30
COJO 3530 Multimedia Production	3
COJO 4500 Mass Communication Law	3
COJO 3480 Internship	3
Departmental electives	15
(Includes 9 elective hours at the 3000-level or higher in journalism, plus 3 elective hours at the 3000-level or higher)	

Additional Program Requirements	Hrs.
Human Culture (H)	6

Bachelor of Science in Journalism

Required Courses	Hrs.
Departmental core courses	30
COJO 3530 Multimedia Production	3
COJO 4500 Mass Communication Law	3
COJO 3480 Internship	3
Departmental electives	15
(Includes 9 elective hours at the 3000-level or higher in journalism, plus 3 elective hours at the 3000-level or higher)	

Additional Program Requirements Hrs.
Physical and Natural World (PN) or Quantitative Reasoning (Q) 6-8

Suggested Specialty Areas in Journalism

Reporting & Editing Hrs.
COJO 3100 Public Affairs Reporting.....3
COJO 4100 Investigative Reporting.....3
COJO 4110 Feature Writing Seminar 3

Advertising & Public Relations Hrs.
COJO 3300 Advertising in the Media 3
COJO 3310 Public Relations 3
COJO 4310 Public Relations Techniques.....3

Media & Society
COJO 3000 History of American Journalism 3
COJO 3520 Communication Technology & Society 3
COJO 3550 Political Communication 3
COJO 4020 Mass Media & Society.....3
COJO 4230 Special Topics in Mass Media ...3
COJO 4233 Race, Gender, Ethnicity in the Media 3

Visual & Multimedia
COJO 2400 Introduction to Photography....3
COJO 3200 Graphics of Communication 3
COJO 4200 Visual Communication 3
COJO 4400 Photojournalism.....3
COJO 4530 Web Design 3

Minors

The department offers minors in communication, journalism, marketing communication, and public relations. All minors must have a 2.000 minimum in minor classes. If a student is a communication or journalism major, only six credits can double count for the major and the minor.

The marketing communication minor is designed for College of Business and communication and journalism majors. Other majors are not recommended for this minor. For questions regarding this, please contact the minor supervisor.

Communication Minor (18 hours)
Required: (12 hours)
COJO 1040 Intro to Human Communication Theory
COJO 2010 Public Speaking
COJO 3010 Business and Professional Communication
COJO 3040 Advanced Communication Theory
Electives: (6 hours)
COJO 3160 Theory of Language and Society
COJO 3190 Cross Cultural Communication
COJO 3480 Internship (limited to 3 credits)
COJO 3520 Communication, Technology & Society
COJO 3550 Political Communication
COJO 3900 Family Communication
COJO 4020 Mass Media & Society
COJO 4030 Advanced Interpersonal Communication
COJO 4050 Communication & Conflict
COJO 4061 Rhetorical Theory & Criticism
COJO 4140 Nonverbal Communication Studies
COJO 4250 Advanced Organizational Communication
COJO 4260 Rhetoric and Social Justice
COJO 4620 Intergroup Communication
COJO 4640 Communication Apprehension & Competence
COJO 4210 Special Topics in Communication (no more than one)

Journalism Minor (18 hours)
Required courses: (9 hours)
COJO 1000 Intro to Mass Media
COJO 2100 Media Writing
COJO 4500 Mass Communication Law
Elective courses: (9 hours)
COJO 2400 Intro to Photography
COJO 3000 History of American Journalism
COJO 3100 Public Affairs Reporting
COJO 3200 Graphics of Communication
COJO 3480 Internship (limited to 3 credits)
COJO 3530 Multimedia Production
COJO 3550 Political Communication
COJO 4020 Mass Media & Society
COJO 4040 Digital Video Editing
COJO 4200 Visual Communication
COJO 4230 Special Topics in Mass Media (no more than one)
COJO 4233 Race, Gender, Ethnicity in the Media
COJO 4400 Photojournalism (COJO 2400 prerequisite)
COJO 4530 Web Design

Marketing Communication Minor (21 hours)
Required for all minors:
MKT 3210 Introduction to Marketing
MGT 3210 Management & Organization
COJO 3300 Advertising in the Media
COJO 3310 Public Relations
COJO Emphasis (to be taken by non-COJO majors):
Choose three courses from the following: (9 hours)
COJO 2100 Media Writing (Required in this emphasis and prerequisite to COJO 3300 and COJO 3310)
COJO 2400 Intro to Photography
COJO 3200 Graphics of Communication
COJO 3480 Section 1 (Prerequisite 9 hours of COJO)
COJO 3530 Multimedia Production
COJO 4040 Digital Video Production (Prerequisite 9 hours of COJO)
COJO 4310 Public Relations Techniques (Prerequisite COJO 3310)
Marketing Emphasis (to be taken by non-College of Business majors):
Choose three courses from the following: (9 hours)
MKT 4240 Consumer Behavior (Required in this emphasis)
MKT 4230 Integrated Marketing Communications
MKT 4520 Marketing Research & Analysis
MKT 4540 International Marketing
MKT 4590 Sustainable Business Practices
MKT 4910 Special Topics in Marketing
SELL 3310 Professional & Technical Selling

Public Relations Minor (21 hours)
Required: (12 hours)
COJO 1000 Intro to Mass Media
COJO 2100 Media Writing
COJO 3310 Public Relations
COJO 4310 Public Relations Techniques
Plus three of the following: (9 hours)
COJO 2400 Intro to Photography
COJO 3010 Business & Professional Communication
COJO 3300 Advertising in the Media
COJO 3480 Internship (limited to 3 credits)
COJO 3530 Multimedia Production
COJO 4040 Digital Video Production
COJO 4200 Visual Communication
COJO 4230 Special Topics in Mass Media (no more than one)
COJO 4250 Advanced Organizational Communication
COJO 4530 Web Design

Graduate Study

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

The program offers coursework and study in rhetorical, critical/cultural, and social scientific perspectives and methodologies. The program is designed to be flexible such that students can examine questions that relate to their specific interests in human communication and/or mediated communication. Areas of interest include but are not limited to 1) communication processes in media (e.g., journalism, social media, advertising, public relations) about various issues such as politics, race and ethnicity, science, health, law and eth-

ics, and international relations; 2) communication processes in human relationships (e.g., in interpersonal, small group, and organizational settings) about various issues such as culture, diversity, education, technology, science, and politics; and 3) communication as an agent of stability and change in diverse social systems.

Program Specific Admission Requirements

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

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

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

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

Program Specific Degree Requirements

Administered by the Director of Graduate Studies, the programs are structured to facilitate completion of requirements for the M.A. degree in two years. Deficiency makeups may be required.

Master of Arts research thesis

31 hour program.

Students must complete an accepted research thesis approved by the student's thesis committee.

Students must complete a minimum of 27 credit hours and 4 hours of thesis credit. A minimum of 24 hours must be within the department, with a maximum of 6 hours of independent study, 3 hours of internship credit hours, and 3 hours of 4000-level coursework.

Students must complete COJO 5070, 5080, and 5800, as well as one of the following theory courses: COJO 5061, 5310, or 5540.

Master of Arts professional project

33 hour program.

Students must complete an accepted professional project (e.g., documentary film, public relations and marketing plan, website) approved by the student's graduate committee. Students who chose the project option will be required to take 30 credit hours plus 3 hours of Graduate Project credits (for a total of 33 credit hours). A minimum of 27 hours must be taken within the department, with a maximum of 6 hours of independent study, 3 hours of internship credit hours, and 6 hours of 4000-level coursework.

Students must complete COJO 5070, 5080, and 5800, as well as one of the following theory courses: COJO 5061, 5310, or 5540.

Communication and Journalism (COJO)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000. Introduction to Mass Media. 3. [CS◀▶H] An overview of mass media, newspapers, magazines, books, radio, television and films. Studies mass media's historical development, emphasizing understanding techniques of expression and impact on American culture. Surveys content of mass media; considers contemporary problems and trends.

1030. Interpersonal Communication. 3. [(none)◀▶H] Focuses on interpersonal communication settings or face-to-face interaction. Basic unit of study is, therefore, the dyad. Also includes some work in small group settings.

1040. Introduction to Human Communication. 3. [CS◀▶H] Introduces theories and research of social and behavioral scientists on communication process. Orients beginning communication students by focusing on concepts and issues central to human communication.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2010 [1010]. Public Speaking. 3. [O◀▶COM2] Beginning public speaking course. Students will develop foundational oral, digital and writing communication skills. Emphasizes message construction, performance and critique in public communication settings. Includes speech preparation, listening, audience analysis, writing strategies, digital communication, critical thinking, language/nonverbal behavior and various speaking formats. *Prerequisite:* Successful completion of a COM1 course.

2095 [2090]. Persuasive Argumentation. 3. [(none)◀▶COM2] Develops student competencies in persuasive argument in its written, oral, and digital dimensions. Students participate in a series of debate exercises that draw upon digital research, written speech and message composition, and extemporaneous oral speaking. The ethics of persuasion and critical research literacy in a digital environment are also featured. *Prerequisite:* Successful completion of a COM1 course.

2099 [2060]. Special Topics in Debate. 1-3 (Max. 12). Explores the argumentative and rhetorical facets of the annual intercollegiate policy debate topic. Participation on the University's debate team is required for enrollment. *Prerequisite:* Instructor permission required.

2100. Media Writing. 3. [WB◀▶(none)] This course focuses on an introduction to basic news writing, reporting, editing, interviewing, PR and advertising. Strong writing, deadlines, accuracy, news judgment, ethical practices and sensitivity of our pluralistic society are expected. This course provides skills necessary for various media careers including media writing, PR, marketing and magazine writing. *Prerequisite:* WA or COM1 writing course.

2400. Introduction to Photography. 3. [CA◀▶(none)] Basic course in still photography. Includes classroom demonstrations in techniques of camera use, composition, computer software, and use of photographs, especially for communication and journalism applications.

3000. History of American Journalism. 3. Presents history and development of American journalism from colonial times to present, emphasizing 20th century. *Prerequisite:* COJO 1000.

3010. Business and Professional Communication. 3. [(none)◀▶COM3] Studies theories and techniques of professional communication activities including interviewing skills, group processes, and professional presentations; for students who are beyond elementary oral communication level. Students develop oral communication skills through projects and presentations. *Prerequisite:* COJO 1010 or COJO 2010 and junior standing.

3040. Advanced Communication Theory. 3. Considers nature of human communication theories. Analyzes problems in developing communication theory based on current social science methods. *Prerequisites:* COJO 1000 and COJO 1040.

3070. Communication Research. 3. Focuses on problems in communication and mass communication research. Specifically studies and applies language of science, basic concepts of communication, mass communication research, types and limitations of empirical

research, as well as measurement procedures and analysis. *Prerequisites:* COJO 1000 or 1040 and STAT 2050 or 2070.

3100. Public Affairs Reporting. 3. Practices in public affairs reporting, emphasizing local and state political organization as foundation for such reporting. Specialized reporting fields. News analysis. *Prerequisite:* COJO 2100.

3160. Theory of Language and Society. 3. [WC◀▶(none)] Considers contributions to communication theory from linguistics, sociolinguistics, sociology, social psychology and anthropology to understanding a spoken language. *Prerequisites:* COJO 1040 and 6 additional hours in the department.

3190. Cross-Cultural Communication. 3. [D◀▶COM3] Studies human communication processes within the context of various cultures and subcultures. Opportunity for field study of the effect of culture on communication behavior. *Prerequisites:* COJO 1040 and junior standing.

3195. Cultural Encounters in China. 3. [(none)◀▶H] This course is designed to study the relationship between cultures and communication through a 3-week stay in China. We will explore how cultures and communication interact, interrelate, and influence each other as well as investigating how and why cross-cultural communication is filled with both challenges and opportunities through our daily interactions with Chinese people. *Prerequisite:* COJO 1040.

3200. Graphics of Communication. 3. [CA◀▶(none)] Combines editing and design. Studies evaluation, selection and editing of magazine and newspaper news copy. Practice in publication design, including headline writing, printing methods, page layout and other display techniques. *Prerequisite:* COJO 1000.

3300. Advertising in the Media. 3. Studies fundamentals of copywriting in mediated communication. Provides information about the psychology of advertising, advertising appeals, strategy, and structure of ads and other marketing materials. Includes exercises in basic principles of copywriting for print, electronic and digital media. *Prerequisite:* COJO 2100.

3310. Public Relations. 3. Studies how organizations can improve their relationships with their publics. Explores public opinion and how to research audiences. Explains different skills needed in the field, including its relationship to advertising and marketing. *Prerequisite:* COJO 2100.

3480. Internship. 1-12 (Max. 12). Review and evaluation of approved internship experience. At the conclusion, students must submit a journal containing work samples and a critique of their performance and internship experience. Maximum of 6 hours of internship credit can be used to fulfill requirements of the major. *Prerequisites:* signed contract and 9 hours in the department.

3520. Communication Technology and Society. 3. Studies role of communication technology in functioning of society. Examines history of effects on personal growth, self-concept, world view, creative thinking, personal relationships and social processes. *Prerequisite:* COJO 1000 or 1040.

3530. Multimedia Production. 3. Intensive introduction to reporting, writing, producing, editing, and managing content for the web. Integration of writing, photography, social media, audio, video, and blogging for both journalism and strategic communication (e.g., public relations, marketing). Focus on grammar, AP style, deadlines, accuracy, news judgment, ethics, and appreciation of our diverse society. *Prerequisite:* COJO 2100.

3550. Political Communication. 3. Examines the intersection of politics and communication. For example, may cover politics and media, interpersonal political discussion, organizational and governmental political communication, political campaigns, politics and technology, etc. Moreover, it may cover the effects of political communication on individuals' opinions and behavior. Cross listed with POLS 3550. *Prerequisites:* COJO 1000, COJO 1040, or POLS 1000.

3900. Family Communication. 3. This course will assist students in a study of the concept of family from a communication perspective. The goals of the course include: 1. To introduce students to the wide range of family experiences in the 21st century; 2. To develop knowledge regarding the major communication theories used to analyze families and their interaction; 3. To allow students the opportunity to analyze your own family situations, and those of your classmates, in order to benefit you both academically and personally, to provide new insights into the people with whom you share your lives as well as others who live in your communities. Restricted to juniors and seniors. *Prerequisite:* COJO 1040.

4020. Mass Media and Society. 3. Studies ethical and related problems of mass communication from contemporary and historical viewpoints. Critical analysis of the performance of the mass media. *Prerequisites:* COJO 1000 or 1040 and 6 hours in the department.

4030. Advanced Interpersonal Communication. 3. Studies research and theory in interpersonal relationships; formation and maintenance of friendships; marriages; and group relationships. *Prerequisites:* COJO 1040 and 6 hours in the department.

4040. Digital Video Production. 3. This course teaches technical skills and creative principles involved in shooting and editing single camera video. Topics include video technology, design, lighting, audio, continuity, and editing. Students will gain experience planning, shooting, and editing video projects through hands-on exercises and assignments. Dual listed with COJO 5040. *Prerequisite:* 9 hours of COJO coursework.

4050. Communication and Conflict. 3. Studies research and theory concerning communication in conflict development and management. Examines forms of conflict, including occurrences in interpersonal, group, organizational and cultural contexts. *Prerequisites:* COJO 1000 or 1040 and 6 hours in the department.

4061. Rhetorical Theory and Criticism. 3. An investigation into how rhetorical theory, spanning from its ancient roots in Aristotelian thinking to its current postmodern components, operates in society. Explores how various critical methods can be utilized to gain a stronger understanding of public communication texts, including newspapers, speeches, music and film. Cross listed with ENGL 4061; dual listed with COJO 5061. *Prerequisites:* COJO 1040 and junior standing.

4100. Investigative Reporting. 3. [WC◀▶(none)] Practices developing and writing articles of depth and substance in areas of public concern. Emphasizes careful research, weighing conflicting viewpoints, interpreting complex issues and critical evaluation. *Prerequisite:* COJO 2100.

4110. Feature Writing Seminar. 3. [WC◀▶COM3] This course critically examines how to produce content for a magazine and how to write feature stories. Among the topics covered are how to develop a good idea, analyze a target audience, gather information using interviews and research, write a feature article, edit your writing, and market a feature story. P*rerequisite:* COJO 2100.

4120. News Editing. 3. Students develop skills in editing copy for newspapers and magazines. Focus is on copy editing for grammar, syntax, style, clarity, spelling, word usage, fairness and balance, conciseness, and accuracy. Students also learn to write effective headlines and cutlines, do effective design and layout of tabloid and broadcast pages, and create effective information graphics and photo features. *Prerequisite:* COJO 2100.

4140. Nonverbal Communication Studies. 3. Critical analysis of current studies in the area of nonverbal communication. Students are required to complete an independent study of some aspect of nonverbal communication relevant to interests. Dual listed with COJO 5140. *Prerequisites:* junior standing.

4160. African American Rhetoric. 3. [CH,D◆▸COM3] African American discourse and its relationship to equality and participation. Through examination of various media, music, speeches, and art this course uses the struggle of African Americans as an instructive exemplar, to come to terms with the philosophical concepts, political issues, moral complexities, and discursive characteristics of African American Rhetoric. Dual listed with COJO 5160; cross listed with AAST 4160. *Prerequisites:* 9 credit hours in AAST or COJO.

4200. Visual Communication. 3. The purpose of this course is to combine visual communication theory and application in order to enhance visual literacy and practical skills. Content includes analyzing visual messages, developing and producing visual messages, and understanding how audiences process and are affected by visual messages. Dual listed with COJO 5200. *Prerequisite:* 9 hours of COJO coursework.

4210. Special Topics in Communication. 1-3 (Max. 6). Intensive study of such special problems and topics in human communication processes as gender relations, power dynamics, family and political communication. Content varies. Dual listed with COJO 5210. *Prerequisites:* COJO 1040 and 9 hours in the department.

4230 [4910]. Special Topics in Mass Media. 1-3 (Max. 6). Intensive study of problems and topics specific to the mass media, including print, broadcast, advertising, public relations, and the Internet. Course content varies and may include historical, legal, ethical, political, sociocultural, economic, and theoretical perspectives. Dual listed with COJO 5230. *Prerequisites:* COJO 1000 and 9 hours in the department.

4233. Race, Gender, Ethnicity in the Media. 3. [WC,D◆▸COM3] Examine the role mass media plays in the Black community and other racial, ethnic, gendered, and socioeconomic communities. Students will develop a critical understanding of the way the mass media uses stereotypes and prejudice to influence society's views about ethnic minorities and women in in contemporary United States society. Cross-listed with AAST 4233 and WMST 4233; dual-listed with COJO 5233. *Prerequisites:* 3 credit hours in AAST, COJO, or WMST, WB/COM2, and junior standing.

4250. Advanced Organizational Communication. 3. Studies communication processes in political, educational, industrial, medical and nonprofit organizations. Emphasizes in-depth analysis of theories and methods of organizational research and practice.

4260. [4985] Rhetoric and Social Justice. 3. [D◆▸COM3] Analyzes concepts of ableism, anti-Semitism, heterosexism, racism, sexism, and socioeconomic class through a critical/social construction framework. It attempts to develop a "working" definition of these concepts by analyzing historical and current conceptualizations and identifying marginalization and disenfranchisement as it is woven in the fabric of American society. Dual listed with COJO 4260; cross listed with AAST 4260. *Prerequisites:* Minimum of 9 credit hours in AAST or COJO and junior standing.

4310. Public Relations Techniques. 3. Practical application of public relations writing, planning and program implementation. Includes exercises in writing news releases, structuring news conferences and writing preliminary and formal public relations strategies. The plans also incorporate advertising and marketing segments for external publics, newsletter design, editing and interpersonal relations. *Prerequisite:* COJO 3310.

4400. Photojournalism. 3. Studies and intensively practices reporting news and features photographically, plus essentials of advertising photography. Includes advanced camera and darkroom techniques and photo editing. Two one-hour lectures and one two-hour laboratory weekly. *Prerequisite:* COJO 2400.

4500. Mass Communication Law. 3. Studies development of First Amendment law. Includes practical application of law to mass media practice; relationship of legal and social responsibilities of the mass media; and problems of law and regulation, such as constitutional, statutory and administrative. *Prerequisite:* COM2 with a grade of C or better.

4530. Web Design. 3. Addresses the theory and logistics of web design and online interactivity. Students will create and maintain a professional portfolio website that showcases their communication and design talents. It is applicable to journalism, public relations, advertising, marketing, photography, and any other media-related career path that uses new media. Dual listed with COJO 5530. *Prerequisites*: COJO 1000 and 9 hours in the department.

4600. Mass Media Ethics. 3. Studies ethical theory, emphasizing how it can be applied to problem solving in the media. Examines major ethical perspectives and requires application to actual case studies. Dual listed with COJO 5600. *Prerequisite:* 6 hours at 3000-level in the department.

4620. Intergroup Communication. 3. The course will provide an overview of theory and research on intergroup relations to demonstrate how communication both affects and reflects our social group memberships. The objective is to provide students with the theoretical foundation to view various contexts of communication through an "intergroup lens." Dual listed with COJO 5620. *Prerequisite:* COJO 1000 or COJO 1400.

4640. Communication Apprehension/Competence. 3. This course examines theoretical explanations, research findings, and interventions. Students are required to develop research projects aimed at helping people cope with communication fear or anxiety in various contexts. Dual listed with COJO 5640. *Prerequisite:* COJO 1000 or 1040.

4700. Media, Science, and Society. 3. This course discusses why scientific, health, and environmental issues are covered in particular ways in media. We will also examine how these messages impact people's attitudes, opinion, knowledge, and emotions about science, health, and the environment. Dual listed with COJO 5700; cross listed with ENR 4700. *Prerequisites:* COJO 1000 or ENR 1200 or ENR 1500 or ENR 2000.

4990. Independent Study in Communication. 1-3 (Max. 6). *Prerequisites:* 15 hours in the department and consent of department chair.

5010. Texts of Mass Media. 3. Intensive critical examination of the history, theory, social responsibility and empirical research in the production and consumption of mediated messages. *Prerequisite:* graduate standing.

5030. Seminar in Interpersonal Communication. 3. Intensive examination of contemporary theoretical perspectives and empirical research on interpersonal communication, including the role of communication in self-concept formation, social relationship development, and the structure and function of ordinary discourse in human interaction. Dual listed with COJO 4030. *Prerequisite:* graduate standing.

5040. Digital Video Production. 3. This course teaches technical skills and creative principles involved in shooting and editing single camera video. Topics include video technology, design, lighting, audio, continuity, and editing. Students will gain experience planning, shooting, and editing video projects through hands-on exercises and assignments. Dual listed with COJO 4040. *Prerequisite:* graduate standing.

5061. Rhetorical Theory and Criticism. 3. An investigation into how rhetorical theory, spanning from its ancient roots in Aristotelian thinking to its current postmodern components, operates in society. Explores how various critical methods can be utilized to gain a stronger understanding of public communication texts, including newspapers, speeches, music and film. Cross listed with ENGL 5061; dual listed with COJO 4061. *Prerequisite:* graduate status or 12 hours of 3000-4000 level work.

5070. Quantitative Research Methods. 3. Design, implementation, and examination of research questions in communication with quantitative, social scientific methodologies. Attention primarily on survey design, experimental design, and quantitative content analysis. Analysis of quantitative data with statistical programs. Theories and ethical issues with quantitative research. Design and implement a quantitative study start to finish. *Prerequisite:* graduate standing.

5080. Qualitative Research Methods. 3. Students study principles and issues associated with qualitative methods used in communication and media research. The class explores methods that use interpersonal communication and observation as tools for data collection and explores methods that analyze media content from a critical and qualitative perspective. *Prerequisite:* graduate standing.

5140. Nonverbal Communication Studies. 3. Critical analysis of current studies in the areas of nonverbal communication. Students are required to complete an independent study of some aspects of nonverbal communication relevant to interests. Dual listed with COJO 4140. *Prerequisites:* COJO 1040 or COJO 1000.

5160. African American Rhetoric. 3. African American discourse and its relationship to equality and participation. Through examination of various media, music, speeches, and art this course uses the struggle of African Americans as an instructive exemplar, to come to terms with the philosophical concepts, political issues, moral complexities, and discursive characteristics of African American Rhetoric. Dual listed with COJO 4160; cross listed with AAST 5160. *Prerequisites:* 9 credit hours in AAST or COJO.

5200. Visual Communication. 3. The purpose of this course is to combine visual communication theory and application in order to enhance visual literacy and practical skills. Content includes analyzing visual messages, developing and producing visual messages, and understanding how audiences process and are affected by visual messages. Dual listed with COJO 4200. *Prerequisite:* graduate standing.

5210. Special Topics in Communication. 1-3 (Max. 6). Intensive examination of current theoretical issues in communication. Course content varies. Graduate students are expected to follow a rigorous reading schedule and submit a major paper or research project. Dual listed with COJO 4210. *Prerequisite:* graduate standing.

5230. Special Topics in Mass Media. 1-3 (Max. 6). Intensive study of problems and topics specific to the mass media, including print, broadcast, advertising, public relations and the internet. Course content varies and may include historical, legal, ethical, political, sociocultural, economic and theoretical perspectives. May dual list with COJO 4230. Graduate students are expected to follow a rigorous reading schedule and submit a major paper or research project. *Prerequisite:* graduate standing.

5233. Race, Gender, Ethnicity in the Media. 3. Examine the role mass media plays in the Black community and other racial, ethnic, gendered, and socioeconomic communities. Students will develop a critical understanding of the way the mass media uses stereotypes and prejudice to influence society's views about ethnic minorities and women in in contemporary United States society. Cross-listed with AAST 5233 and WMST 5233; dual-listed with COJO 4233. *Prerequisites:* 3 credit hours in AAST, COJO, or WMST, WB/COM2, and junior standing.

5250. Seminar In Organizational Communication. 3. Intensive examination of the historical and contemporary theoretical approaches and empirical research in organizational dynamics. Attention primarily focuses on how the institutionalized collective affects and is affected by other social systems. Dual listed with COJO 4250. *Prerequisite:* graduate standing.

5260. [5985] Rhetoric and Social Justice. 3. Analyzes concepts of ableism, anti-Semitism, heterosexism, racism, sexism, and socioeconomic class through a critical/social construction framework. Attempts to develop a "working" definition of these concepts by analyzing historical and current conceptualizations and identifying marginalization and disenfranchisement as it is woven in the fabric of American society. Dual listed with COJO 4260; cross listed with AAST 5260. *Prerequisite:* graduate standing.

5310. Seminar in Mass Communications. 3. The study of contemporary, historical, critical and behavioral theories of mass communication processes. Attention primarily on the social functions performed by mediated messages. *Prerequisite:* graduate standing.

5530. Web Design. 3. Addresses the theory and logistics of web design and online interactivity. Students will create and maintain a professional portfolio website that showcases their communication and design talents. It is applicable to journalism, public relations, advertising, marketing, photography, and any other media-related career path that uses new media. Dual listed with COJO 4530. *Prerequisites:* COJO 1000 and 9 hours in the department.

5540. Seminar in Communication Theory. 3. An intensive examination of various metatheoretical assumptions and theoretical models used in the study of communicative dynamics. *Prerequisite:* graduate standing.

5600. Mass Media Ethics. 3. The study of ethical theory with special emphasis on how that theory can be applied to problem solving in the media. Examines major ethical perspectives and requires the application of those perspectives to actual case studies. Graduate students are expected to follow a rigorous project. Dual listed with COJO 4600. *Prerequisite:* graduate standing.

5620. Intergroup Communication. 3. The course will provide an overview of theory and research on intergroup relations to demonstrate how communication both affects and reflects our social group memberships. The objective is to provide students with the theoretical foundation to view various contexts of communication through an "intergroup lens." Dual listed with COJO 4620. *Prerequisite:* graduate standing.

5640. Communication Apprehension/ Competence. 3. This course examines theoretical explanations, research findings, and interventions. Students are required to develop research projects aimed at helping people cope with communication fear or anxiety in various contexts. Dual listed with COJO 4640. *Prerequisite:* graduate standing.

5700. Media, Science, and Society. 3. This course discusses why scientific, health, and environmental issues are covered in particular ways in media. We will also examine how these messages impact people's attitudes, opinion, knowledge, and emotions about science, health, and the environment. Dual listed with COJO 4700; cross listed with ENR 5700. *Prerequisite:* graduate standing.

5800. Foundations of Communication and Journalism. 3. Examines current issues and trends in the various areas of communication and journalism that are represented within the department. Students analyze the historical roots of these issues and trends as a way of understanding the present context and future evolution of communication and journalism

scholarship. *Prerequisites:* first year of graduate study and acceptance into the COJO graduate program.

5890. Problems: Communication. 1-4 (Max. 6). *Prerequisite:* 18 hours at the 5000 level in the department.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate standing.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5961. Graduate Projects. 1-4 (Max. 4). Limited to those students enrolled in a Plan B graduate program. Students should be involved in non-course scholarly activities in support of their Plan B project. *Prerequisites:* enrollment in Plan B program and departmental approval.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Department of Criminal Justice and Sociology

Criminal Justice

208 Arts and Sciences Building,
(307) 766-2988
Web site: www.uwyo.edu/cj
Department Head: Eric Wodahl

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

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

ERIC J. WODAHL, A.A. Eastern Wyoming College 1992; B.A. Chadron State College 1994; M.P.A. University of Wyoming 2003; Ph.D. University of Nebraska at Omaha 2007; Associate Professor of Criminal Justice 2012, 2008.

Assistant Professor:
KATELYN GOLLADAY, B.B.A. Pacific Lutheran University 2012; M.S. Arizona State University 2014; Ph.D. 2018; Assistant Professor of Criminal Justice 2018.
LAUREN McLANE, B.S. Radford University 2002; J.D. Seattle University School of Law 2008; Assistant Professor of Law 2018.
KIMBERLY SCHWEITZER, B.S. University of North Dakota 2010; M.S. University of Wyoming 2013; Ph.D. 2016; Assistant Professor of Criminal Justice 2016.
CLAIR WHITE, B.A. Colorado State University 2009; Ph.D. Arizona State University 2015; Assistant Professor of Criminal Justice 2018.

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

Adjunct Professor:
(See Catalog section following name for academic credentials.)
Robert A. Schuhmann, political science

Students majoring in criminal justice will be involved in a critical examination of the sources of criminal behavior and the social and political institutions and processes designed to control criminal behavior. Criminal Justice majors are offered at the University of Wyoming campus in Laramie, as well as through Distance Education.

We expect that our graduating students will have (1) acquired an accurate knowledge base relating to crime in modem society to include the elements of major crime, the extent of crime, and its distribution in society; (2) will possess a broad historical and contemporary understanding of the institutions that make up our criminal justice system, the interconnectedness of these institutions, and the related issues of diversity and discrimination; (3) will have developed an understanding of the major legal principles that serve as the foundation for criminal law and the processing of individuals through the justice system, as well as the difficult situations and ethical dilemmas they will face in the criminal justice field; (4) will understand and apply basic concepts and theoretical perspectives in criminology and criminal justice; (5) will possess the ability to access, comprehend, and critically examine research and policy relevant to the field of criminal justice and criminology, including understanding basic research methodology.

Undergraduate Major

Students pursuing a B.A. in criminal justice must fulfill university studies and college requirements as listed in this Catalog, satisfy required prerequisites to courses in the major program, and complete a minimum of 40 credit hours in the major. Only courses in which a grade of C or better has been earned may be used to satisfy major requirements.

Foundation Courses:		**Hrs.**
CRMJ	1001	3
CRMJ	2210	3
CRMJ/SOC	2400	3
CRMJ	2685	4
CRMJ	3110	3
CRMJ	3350	3
CRMJ	3490	3
CRMJ	4200	3

Crime and Deviance (2 courses)		**Hrs.**
CRMJ/SOC	3250	3
CRMJ/SOC	3400	3
CRMJ	3500	3
CRMJ	4151	3
CRMJ	4260	3
CRMJ/INST/SOC	4705	3

Criminal Justice Institutions & Processes (2 courses)		**Hrs.**
CRMJ	4130	3
CRMJ	4140	3
CRMJ	4150	3
CRMJ	4280	3
CRMJ	4750	max 3
CRMJ	4860	3

Supporting Courses
(three credit hour course; or 1 additional course from Crime & Deviance or Criminal Justice Institutions & Processes categories):

		Hrs.
CRMJ/POLS	4110	3
CRMJ/ANTH	4230	3
CRMJ/SOC	4350	3
CRMJ/PSYC	4370	3
CRMJ/WMST	4540	3
CMRJ/POLS	4600	3
CRMJ/PSYC	4730	3
CRMJ	4750	1-12
CRMJ/PSYC	4760	3
CRMJ	4965	1-6
CRMJ	4975	1-3
CRMJ	4990	1-3

In addition to the above required courses, it is required that students take POLS 1000, STAT 2050 or 2070, one lab science, and two semesters of the same foreign language. A grade of C or better must be earned to satisfy these additional requirements. Upper division course work that was completed more than ten years prior to graduation will not meet major requirements.

Pre-Law Concentration

The Department of Criminal Justice offers a Pre-Law Concentration for Criminal Justice majors that consists of courses selected from several departments across the university. These courses were chosen to help prepare students for the challenges of law school and the practice of law. Students electing the Pre-Law Concentration are urged to seek advising early.

Along with the 40 hours of criminal justice degree requirements, an additional 27 credit hours (18 of which must be 3000-level courses or above) must be earned for the Pre-Law Concentration. All coursework must be completed with a grade of C or better to be counted toward the concentration.

Verbal Comprehension and Expression (min. of 3 hours)
COJO 2090 Persuasive Argumentation
COJO 3010 Business and Professional Communication
COJO 3160 Theory of Language and Society
AGEC 4450 Negotiation
HIST 4515 American Legal History

Written Comprehension and Expression (min. of 6 hours)
Any two (2) courses with a USP designation of WC or COM3 may be counted in this area.

Critical Understanding of Human Institutions and Values (min. of 3 hours)
ECON 1020 Principles of Microeconomics
MGT 3110 Business Ethics
PHIL 3120 Ancient Greek Philosophy
PHIL 3250 Global Justice
PHIL/ENGL 3340 Philosophy of Literature (max. 3 hours)
PHIL 3350 History of Moral Philosophy
PHIL 3500 History of Science
POLS/AMST/ENR/GEOG/REWM 4051 Environmental Politics
COJO/AAST 4260 Rhetoric and Social Justice

Creative and Analytical Thinking (min. of 3 hours)
CW 2050 Introduction to Fiction *or*
CW 2060 Introduction to Nonfiction (max. 3 hours) *or*
CW 2080 Introduction to Poetry (max. 3 hours)
PHIL 3140 Philosophy of Science
PHIL 3420 Symbolic Logic
PHIL 3510 Introduction to Epistemology
STAT 4015 Regression Analysis
ENR 4550 Negotiation Analysis

World Cultures and International Institutions (min. of 3 hours)
INBU/INST 1040 Intro to International Business
HIST 1320 World History to 1500
HIST 1330 World History since 1500
POLS 2310 Introduction to International Relations
PHIL 3320 Eastern Thought
ANTH/INST 3420 Anthropology of Global Issues
CRMJ 4280 Comparative Criminal Justice
INST/POLS 4340 International Organizations
INST/SOC 4370 Global Political Economy

Electives (max. 3 courses or 9 hours)
ECON 1000 Global Economic Issues
COJO 1030 Interpersonal Communication
COJO 1040 Intro to Human Communication
MGT 1040 Legal Environment of Business
ANTH 1200 Intro to Cultural Anthropology
CNSL 2200 Intro to Student Leadership
STAT 3050 Statistical Methods - General
POLS 3100 Politics and Judicial Process
COJO 3190 Cross-Cultural Communication
PHIL 3440 Philosophy of the Mind
POLS 4100 Constitutional Law: Institutional Powers
CRMJ/POLS 4110 Constitutional Law: Civil Liberties and Rights
GEOG 4325 Legal Aspects of Planning
ANTH 4350 or INST 4340 Culture Change
CNSL 4520 Fundamentals of Counseling
POLS 4840 Seminar in Public Law

Undergraduate Minors

Criminal Justice Minor

A minor in criminal justice requires 18 semester hours in criminal justice. All courses must be completed with a grade of C or better. The required courses are: CRMJ 1001, CRMJ 2210, CRMJ/SOC 2400, CRMJ 3110, CRMJ 3350, and CRMJ 3490.

Pre-Law Minor

The minor requires 18 hours to be completed from among the following courses. Of these 18 hours, 12 must be upper division (3000 or 4000 level). In addition, 12 of the 18 hours must be outside the student's primary major, and none of these courses may be credited toward both the minor and the USP requirement. Complete one course from each of the following categories. All coursework must be completed with a grade of C or better to counted toward the minor.

Language Comprehension & Expression (3 hours)
COJO 1030 Interpersonal Communication
COJO 2090 Persuasive Argumentation
COJO 3010 Business & Professional Communication
COJO 3160 Theory of Language & Society
COJO/ENGL 4061 Rhetorical Theory & Criticism
AGEC 4450 Negotiation
ANTH 4795 Language Change

Written Comprehension & Expression (3 hours)

Any course with a USP designation of C3 may be counted in this area. However, no C3 course may be counted twice toward fulfilling this category and the USP C3 requirement or another category within the prelaw minor.

Critical Understanding of Human Institutions & Values (3 hours)
POLS 2460 Intro to Political Philosophy
MGT 3110 Business Ethics
PHIL 3300 Ethical Theory
PHIL 3350 History of Moral Philosophy
PHIL 3500 History of Science
POLS/AMST/ENR/GEOG/REWM 4051 Environmental Politics
POLS 4090 Anglo-American Jurisprudence
FCSC 4113 Consumer Issues
AAST/COJO 4260 Rhetoric and Social Justice
PHIL 4300 Topics in Ethics
PHIL 4340 Issues in Environmental Ethics

Creative & Analytical Thinking (3 hours)
CW 2050 Intro to Fiction
CW 2060 Intro to Nonfiction
CW 2080 Intro to Poetry
PHIL 2420 Critical Thinking
PHIL 3140 Philosophy of Science
PHIL 3220 Existentialism and Phenomenology
PHIL 3420 Symbolic Logic
PHIL 3440 Philosophy of the Mind
PHIL 3510 Intro to Epistemology
CRMJ/ANTH 4230 Forensic Anthropology
PHIL 4420 Advanced Logic
ENR/AGEC 4550 Negotiation Analysis

World Cultures & International Institutions (3 hours)
HIST 1330 World History since 1500
ANTH 2200 World Culture
PHIL 3250 Global Justice

PHIL 3320 Eastern Thought
ANTH/INST 3420 Anthropology of Global Issues
INST/SOC 4110 Sociology of International Development
CRMJ 4280 Comparative Criminal Justice
INST/POLS 4340 International Organizations

Law (3 hours)
MGT 1040 Legal Environment of Business
CRMJ 2210 Criminal Law
POLS 3100 Politics and the Judicial Process
CRMJ 3110 Criminal Courts and Processes
NAIS 3300 Federal Indian Law
AGEC 3400 Agriculture Law
POLS 4100 Constitutional Law: Institutional Powers
CRMJ/POLS 4110: Constitutional Law: Civil Liberties and Rights
CRMJ 4140 Criminal Legal Procedure
GEOG 4325 Legal Aspects of Planning
MGT 4340 Law for Managers
MGT 4350 Commerical Law
MGT 4360 Business Law for Entrepreneurs
COJO 4500 Mass Communication Law
HIST 4515 American Legal History
CRMJ/WMST 4540 Women, Crime and the Law
AGEC 4710 Natural Resource Law and Policy
CRMJ/PSYC 4730 Psychology and Law
ENR 4750 ENR Law & Policy
POLS 4840 Seminar in Public Law

Graduate Study

A criminal justice concentration within the master of public administration program is offered by the Criminal Justice program.

Program Specific Admission Requirements

Master of Public Administration
Plan B (non-thesis)

Students wishing to enroll in the M.P.A. with criminal justice concentration must first be admitted into the M.P.A. program. See M.P.A. program admission requirements for specific details.

Program Specific Degree Requirements

Master of Public Administration
Plan B (non-thesis)

The M.P.A. with criminal justice concentration curriculum consists of 39 credits including: core (7), option-core (2) and criminal justice (4) courses. Students may complete the degree within two years full-time or approximately three-four years part-time. Courses are offered through distance education, which allows students to complete their degree in their community while working full-time.

Required Core Courses
POLS 5000 Survey of Public Administration
POLS 5400 Public Personnel Management
POLS 5410 Administrative Behavior & Theory of Organizations
POLS 5440 Principles & Processes of Government Budgeting
POLS 5510 Public Policy and Program Management
POLS 5684 Empirical Analysis for Public Administration
POLS 5690 Capstone in Public Management

Option-Core Courses

All MPA students are required to choose two courses designated as option core credit, defined as courses relating to more specific focuses on public administration and taught by MPA faculty members.

Criminal Justice Concentration Courses

Required Criminal Justice Concentration Courses
CRMJ 5000 Survey of Criminal Justice
CRMJ 5100 Public Policy and Crime

Elective Criminal Justice Concentration Courses
(students must select two of the following courses)
CRMJ 5130 Leadership and Management in the Criminal Justice System
CRMJ 5151 Crime Causation
CRMJ 5280 Comparative Criminal Justice
CRMJ 5500 Internship in Criminal Justice*
CRMJ 5860 Social Inequality, Crime, and Criminal Justice

*Students with little or no administration and/or criminal justice professional experience must enroll in CRMJ 5500 as one of their electives.

Additional Requirements
In addition to graduate coursework, M.P.A. students must complete a series of papers constituting the Plan B project. It is the purpose of POLS 5690, Capstone in Public Management, to be a framework within which students initiate and substantially complete their Plan B projects.
Following the completion of all other requirements, the M.P.A. student is required to pass a comprehensive oral examination covering the information contained within his/her program of study as well as a defense of the Plan B projects. The oral examination is also conducted within the framework of the POLS 5690 Capstone course.
Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course documents libraries, working on course projects, and for conducting interactive/electronic class discussion.
Students must maintain a graduate GPA of 3.000.
Students must complete the CAPP program in lieu of a program of study.

Criminal Justice (CRMJ)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1001 [2120]. Introduction to Criminal Justice. 3. Introduces the American criminal justice system. Examines nature of crime and describes historical and philosophical foundations of law enforcement agencies, criminal courts and correctional institutions. Discusses major issues facing the criminal justice system.
2210. Criminal Law. 3. Introduces the fundamental principles of substantive criminal law: the history and philosophy of modern criminal law, the basic dimension of criminality, the elements of major crimes, criminal defenses and the nature of criminal sanctions. *Prerequisite:* CRMJ 1001 and POLS 1000.
2400. Criminology. 3. Generally introduces the nature of crime, statistics on crime, types of criminal behavior and explanations of crime. Cross listed with SOC 2400. *Prerequisite:* SOC 1000.
2685 [3680]. Research Methods in Criminal Justice. 4. Introduces students to fundamental issues associated with the application of scientific methods to criminal justice problems. Students examine research designs involving ethnographic, archival, historical, and quantitative methods and how they relate to criminal justice issues. Prerequisite: enrollment limited to criminal justice majors.
3110. Criminal Courts and Processes. 3. Examines the structure, organization and operation of criminal courts and their role in the larger criminal justice system; the process of adjudication of criminal cases from initial charging through post-conviction review; the

constitutional rights of the accused; and the roles of the major courtroom participants. *Prerequisites:* CRMJ 1001, CRMJ 2210, and CRMJ/SOC 2400, or declared Public Law minor.

3250. Juvenile Delinquency. 3. Considers the nature of delinquency, including an analysis of treatment methods and the juvenile justice system. Cross listed with SOC 3250. *Prerequisites:* CRMJ/SOC 2400.

3350. Correctional Theory and Practice. 3. Examines the various components of the correctional complex from both theoretical and practical frameworks. Students are exposed to the abundance of research that informs current correctional practice and will be called upon to critically evaluate this research and its implications for correctional policy and practice. *Prerequisite:* CRMJ 1001, CRMJ 2210, CRMJ/SOC 2400, and CRMJ 2685.

3400. Deviant Behavior. 3. Examines theory and research relevant to understanding deviant behavior in general and specific types of individual and subcultural deviancy. Cross listed with SOC 3400. *Prerequisite:* SOC 1000.

3490. Issues in Policing. 3. Examines the various components of policing from both theoretical and practical frameworks. Students are exposed to the abundance of research that informs current policing practice and will be called upon to critically evaluate this research and its implications for policing policy and practice. *Prerequisites:* CRMJ 1001, CRMJ 2210, CRMJ/SOC 2400, CRMJ 2685.

3500. Drugs and the Criminal Justice System. 3. Focus on drugs and their impact on society. Particular interest is paid to the extent of drug use/abuse in America, and the effects of this problem on the criminal justice system and society as a whole. Strategies for controlling both supply and demand are discussed. *Prerequisites:* CRMJ 1001, CRMJ 2210, and CRMJ/SOC 2400.

4110. Constitutional Law: Civil Liberties and Rights. 3. Encompasses case-study analysis of judicial decisions and policies of the constitutional interpretation of the 1st Amendment (freedom of speech, press, association and religion), privacy rights, the rights of the criminally accused, and civil rights (racial and gender equality). Cross listed with POLS 4110. *Prerequisites:* POLS 1000, POLS 3100 recommended.

4130. Leadership and Management in the Criminal Justice System. 3. There is a clear need for managers and administrators to understand leadership and ethics. This course is designed to provide students with a foundation in the management and leadership discourse surrounding criminal justice agencies. *Prerequisites:* CRMJ 1001, CRMJ 2210, CRMJ/SOC 2400, and CRMJ 3490.

4140. Criminal Legal Procedure. 3. Examines the constitutional principles that safeguard the rights and liberties of criminal suspects and constrain police during the investigatory stages of the criminal justice process: arrest; search and seizure; interrogation; undercover operations; pretrial identification; and the exclusionary rule. *Prerequisites:* CRMJ 1001, CRMJ 2210, and CRMJ/SOC 2400, or declared Public Law minor.

4150. Community-Based Corrections 3. Designed to provide students with an in-depth look at the community corrections complex. It will examine the history and growth of community corrections, the probation system, methods of post-incarceration supervision, intermediate sanctions, and correctional programming and treatment in the community. *Prerequisites:* CRMJ 1001, CRMJ 2210, CRMJ/SOC 2400, and CRMJ 3350.

4151 [3150]. Crime Causation. 3. Examines the causal mechanisms that produce crime. Theoretical perspectives and empirical research from various disciplines will be evaluated, with particular emphasis placed on social factors that may cause crime. Policy implications of the different perspectives will be discussed. Dual listed with CRMJ 5151. *Prerequisites:* CRMJ 1001, CRMJ 2210, and CRMJ/SOC 2400.

4200 [3200]. Ethics in Administration of Justice. 3. Introduces basic ethical theories, emphasizing how ethical theory can be applied to contemporary problems in law enforcement, corrections and adjudication. Students will be called upon to apply these various ethical frameworks to typical moral dilemmas in criminal justice. *Prerequisites:* CRMJ 3110, CRMJ 3350, and CRMJ 3490.

4230. Forensic Anthropology. 3. Introduces methods and purposes of physical anthropology as applied in human identification for law enforcement agencies. Cross listed with ANTH 4230. *Prerequisite:* ANTH 1100.

4260. Gangs. 3. Considers the nature and the characteristics of gangs and gang members. The theoretical and empirical evidence regarding the phenomenon of gangs is evaluated. Particular emphasis is placed on the social and policy implications of this social problem. *Prerequisites:* CRMJ 1001, CRMJ 2210, CRMJ/SOC 2400, and junior standing.

4280. Comparative Criminal Justice. 3. [WC,G◀▶(none)] Compares the incidence, trends, control, treatment and prevention of crime across nations using mainstream criminological theories. Examines criminal justice systems from an international perspective and draws lessons for the American society. Explores forms of international cooperation and difficulties in the control of transnational crimes. Dual listed with CRMJ 5280. *Prerequisites:* CRMJ 1001, CRMJ 2210, CRMJ/SOC 2400, and junior standing.

4350. Sociology of Law. 3. A consideration of sociological concepts such as inequality, stratification, social control and social change in an analysis of the law and legal institutions. Topics include: the role of the police, lawyers, judges, and juries; race, sex, age, and sexuality discrimination and civil rights; free speech, and toxic torts. Cross listed with SOC 4350. *Prerequisites:* 6 hours of sociology/criminal justice, including SOC 1000, and at least junior standing.

4370. Criminal Psychopathology. 3. Provides an overview of current theories and empirical evidence concerning the relationship between psychological disorder and criminal behavior. Examines various clinical syndromes and their role in biological, social and psychological genesis of crime, as well as the concept of criminal responsibility. Cross listed with PSYC 4370. *Prerequisite:* A grade of C or better in 6 hours in psychology.

4540. Women, Crime and the Law. 3. Addresses status of women as offenders and as victims in society and in the criminal justice system. Considers special role of women as professionals in the criminal justice system. Cross listed with WMST 4540. *Prerequisite:* ENGL/WMST 1080, WMST/SOC 3500, or CRMJ/SOC 2400.

4600. Political Violence. 3. Examines causes and consequences of violence both among individuals and among nations. Cross listed with POLS 4600. *Prerequisite:* POLS 1000, or SOC 1000, or POLS 1200, or POLS 1250, or POLS 2310, or permission of instructor. (Normally offered every other year)

4705 [4700]. Global Terrorism. 3. Examines the concept, causes, incidence, types, consequences of, and responses to terrorism. Highlights the distinction between domestic and international terrorism and expands on the latter within the framework of the global environment. Cross listed with INST 4705 and SOC 4705. *Prerequisites:* 9 hours in CRMJ, INST, or SOC coursework.

4730. Psychology and Law. 3. Exposes students to the application of psychological principles to problems in law. Emphasizes the American trial system, correction systems and civil commitment. Cross listed with PSYC 4730. *Prerequisite:* A grade of C or better in 6 hours in psychology.

4750. Internship in Criminal Justice. 1-12 (Max. 12). Integrates practical criminal justice experience with academic knowledge. Students participate in specifically assigned duties and observe broader activities of the sponsoring organization, and reflect upon these experiences through written assignments. *Prerequisite:* junior standing, 2.500 cumulative GPA, completion of at least 6 upper division hours in CRMJ and consent of instructor.

4760. Child Maltreatment. 3. Examines the phenomenon of child abuse and neglect. Includes an overview of attitudes towards and legal definitions of child maltreatment. Explores parental factors, contextual influences and developmental consequences of maltreatment. Relies heavily on current research in child abuse and neglect. Emphasizes policy implications. Cross listed with PSYC 4760. *Prerequisite:* A grade of C or better in 6 hours in psychology.

4860. Social Inequality, Crime, Criminal Justice and the Law. 3. Provides an in-depth look at social inequality and its impact on crime, criminal justice, and the law. Particular emphasis will be given to the individual and interactive effects of race, class, and gender inequality. Critical theoretical perspectives that promote social justice will be the primary analytical focus. Dual listed with CRMJ 5860. *Prerequisites:* CRMJ 1001, CRMJ 2210, CRMJ/SOC 2400 and junior standing.

4965. Research Hours in Criminal Justice. 1-6 (Max. 6). Provides undergraduates with an opportunity to assist in conducting various aspects of research under the supervision of criminal justice faculty. Specific research activities and requirements will be determined in consultation with the sponsoring faculty person. Credit is only available for research corresponding to enrollment in this course. Dual listed with CRMJ 5965. *Prerequisites:* upper division standing and consent of instructor required in advance.

4975. Readings. 1-3 (Max. 6). Special programs of readings in criminal justice related subjects will be outlined to meet needs of individual students. *Prerequisite:* consent of instructor.

4990. Topics: ___. 1-3 (Max. 6). Intended to accommodate various special subjects not offered as regular courses. *Prerequisites:* as listed for housing department's topics course.

5000. Survey of Criminal Justice. 3. Provides an overview of criminal justice theory by providing critical evaluation and discussion of research in the criminal justice field. It will emphasize seminal works and review current research concerning the structure, function, operation, interaction of the criminal justice system's primary components, and future trends. *Prerequisite:* Admission to the MPA Program or consent of instructor.

5100. Public Policy and Crime. 3. This course is designed to take a multidimensional look at public policy issues related to the prevention and control of crime in the United States. Issues covered include the development, implementation, and evaluation of crime control policy. *Prerequisite:* Admission to the MPA Program or consent of instructor.

5151. Crime Causation. 3. Examines the causal mechanisms that produce crime. Theoretical perspectives and empirical research from various disciplines will be evaluated, with particular emphasis placed on social factors that may cause crime. Policy implications of the different perspectives will be discussed. Dual listed with CRMJ 4151. *Prerequisite:* graduate standing or consent of instructor.

5280. Comparative Criminal Justice. 3. Compares the incidence, trends, control, treatment and prevention of crime across nations using mainstream criminological theories. Examines criminal justice systems from an international perspective and draws lessons for the American society. Explores forms of international cooperation and difficulties in the control of transnational crimes. Dual listed with CRMJ 4280. *Prerequisite:* graduate standing.

5500. Internship in Criminal Justice. 3. Educationally-oriented assignments for work in selected criminal justice agencies, with tutorial types of supervision. Offered Satisfactory/Unsatisfactory only. *Prerequisite:* Admission to the MPA Program or consent of instructor.

5860. Social Inequality, Crime, Criminal Justice and the Law. 3. Provides an in-depth look at social inequality and its impact on crime, criminal justice, and the law. Particular emphasis will be given to the individual and interactive effects of race, class, and gender inequality. Critical theoretical perspectives that promote social justice will be the primary analytical focus. Dual listed with CRMJ 4860. *Prerequisite:* graduate standing or consent of the instructor.

5965. Research Hours in Criminal Justice. 1-6 (Max. 6). Provides students with an opportunity to assist in conducting various aspects of research under the supervision of criminal justice faculty. Specific research activities and requirements will be determined in consultation with the sponsoring faculty person. Credit is only available for research corresponding to enrollment in this course. Dual listed with CRMJ 4965. *Prerequisites:* graduate standing; consent of instructor required in advance.

5975. Graduate Readings. 1-3 (Max. 3). This course provides students the opportunity to engage in an in-depth inquiry into a criminal justice topic through a thorough review of the existing literature under the supervision of a faculty member. *Prerequisite:* graduate standing and consent of instructor.

Sociology

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Web site: www.uwyo.edu/Sociology
Department Head: Eric Wodahl

Professors:
MALCOLM D. HOLMES, B.A. University of Texas at El Paso 1974; M.A. 1976; Ph.D. University of Texas at Austin 1982; Professor of Sociology 1999, 1991.

Assistant Professor:
DANIEL AUERBACH, B.S. St. Lawrence University 2008; M.S. North Carolina State University 2012; Ph.D. University of Utah 2020; Assistant Professor of Sociology 2020.
JENNIFER TABLER, B.A. University of California Los Angeles 2010; M.S. University of Utah 2013; Ph.D. 2016; Assistant Professor of Sociology 2018.

Professors Emeriti
David Ashley, Audie Blevins, Gary Hampe, Quee-Young Kim, Richard Machalek

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

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

The department provides a comprehensive sociology education both for students who elect to terminate their formal education with the B.A. and for those who plan to pursue advanced degrees in sociology or a related social science. Fundamentally, however, the department aspires to prepare students for informed participation in an increasingly complex world.

Undergraduate Major

In addition to University and College requirements, the following are minimum requirements for the undergraduate major in sociology leading to the Bachelor of Arts degree.

Thirty-four credit hours are required to earn a major in sociology. These courses are listed below. This includes 13 hours of required Foundation Courses, 12 hours of Core Courses, and 9 hours of sociology elective courses. Grades of "C" or better must be earned in all 34 hours of coursework in order to be counted toward the major.

Foundation Courses

SOC	1000	3
SOC/STAT 2070 or STAT 2050		4
SOC	3180	3
SOC	4715	3
	Total Foundation Hrs	***13***

Core Courses:

Complete four courses from the following list:

SOC	2350	3
SOC	3110	3
SOC	3140	3
SOC	3200	3
SOC/CRMJ 3400		3
SOC	3500	3
SOC	3550	3
SOC	3605	3
SOC	3640	3
SOC	3880	3
SOC/INST 4110		3
SOC/INST 4370		3
	Total Core Hrs.	***12***

Elective courses:

Complete 9 additional hours of sociology courses. Electives may be used either to develop additional expertise in an area of interest or to broaden the student's sociological training.

Undergraduate Minor

The sociology minor requires a total of 18 sociology credits including SOC 1000. At least 9 of these 18 hours must be upper-division sociology credits.

Only grades of C or better can be counted toward the minor. Also, A&S students seeking a minor must have 12 credit hours exclusive to the minor and not counted toward their major.

Honors in Sociology

Sociology majors with a 3.200 overall GPA, a 3.500 GPA in sociology courses and one 5000-level sociology course graduate with honors in sociology. The department also nominates students for membership in *Alpha Kappa Delta*, the international honorary society for sociology. Selection is based on academic excellence.

Sociology (SOC)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000. Sociological Principles. 3. [CS◀▶H] Provides a survey of the discipline and foundation for other sociology courses. Explores major areas of interest — ranging from small groups and families to bureaucracies and social movements. Introduces significant concepts and theories, along with tools of social research. Gives attention to contemporary American society, as well as comparative and historical material.

1100. Social Problems and Issues. 3. [I,L◀▶(none)] Explores various approaches to defining and identifying social problems and applies basic sociological concepts and methods to analysis of selected social problems and issues.

1350. American Indians in Contemporary Society. 3. [CS,D◀▶(none)] Survey lecture course. Examines social and cultural issues and concerns of American Indians both on and off the reservations. Additionally, the status of American Indian people within the dominant society and culture are explored. Cross listed with NAIS 1350.

2070 [2000]. Introductory Statistics for the Social Sciences. 4. [QB◀▶Q] Presents central ideas of descriptive statistics and statistical inference, as applied to questions in social sciences. Includes graphs, averages, sampling, estimation, hypothesis-testing and relationships between variables. Introduces associated computer skills. Credit cannot be earned in more than one of STAT 2010, 2050, 2070, 4220, 5520. Cross listed with STAT 2070. *Prerequisite:* MATH 1000, 1400 or equivalent.

2350. Race and Ethnic Relations. 3. [D◀▶(none)] Examines social relations among majority and minority groups by devoting particular attention to race and ethnic relations in the U.S. Encompasses sociological approach to this topic, which emphasizes power structures, economic relationships and cultural traditions historically and today. Devotes attention to social psychological issues, such as prejudice, and social structural issues, such as class inequality. *Prerequisite:* SOC 1000.

2400 [3300]. Criminology. 3. Generally introduces the nature of crime, statistics on crime, types of criminal behavior and explanations of crime. Cross listed with CRMJ 2400. *Prerequisite:* SOC 1000.

3000 [2100]. Social Change. 3. [G◀▶(none)] Studies causes, processes and consequences of structural transformations in historical and comparative perspective. Reviews and assesses forces that account for sociological changes. Explores social change globally as well as in the U.S. Cross listed with INST 3000. *Prerequisites:* SOC 1000 and junior standing.

3100. Chinese Society. 3. [G◀▶(none)] Reviews origins and consequences of Chinese revolution in comparative and cultural perspectives. Discusses influence of historical traditions and social structure on individual lives and behavioral patterns. Cross listed with INST 3100. *Prerequisite:* SOC 1000.

3110 [2110]. Self and Society. 3. Considers social behavior at the micro level, emphasizing the influence of society on the individual's thoughts, emotions and behaviors. Topics such as the development of the self over the life course, the self in social interaction, and the role of attitudes and emotions in social interaction are discussed. *Prerequisite:* SOC 1000 or PSYC 1000.

3140. [4100, 4140] Sociology of the Family. 3. Two major themes of the course are change experienced by the family institution and the centrality of the family in America today. Subjects that are covered include: A brief history of the family in the U.S., kinship, family structure, mate-selection, marriage, divorce and socialization. *Prerequisite:* SOC 1000.

3150. Collective Behavior and Social Movements. 3. Analyzes and explains fads, fashions, rumors, riots and mass behavior in light of theoretical frameworks. Studies social movements including blacks, women, labor, religions and students. *Prerequisite:* SOC 1000.

3180. [3090, 4095]. Sociological Research Methods. 3. Examine the design and conduct of social research. Students will complete a research prospectus, including formulating a sociological research question, developing hypotheses, conducting a literature review, surveying prospective data, speculating about potential findings, and discussing implications. *Prerequisites:* STAT/SOC 2070 or STAT 2050 and SOC 1000.

3200. Sociology of Religion. 3. Introduces various ways sociologists interpret religion. Explores the nature of relationships between religion and society. *Prerequisite:* SOC 1000.

3250. Juvenile Delinquency. 3. Considers the nature of delinquency, including an analysis of treatment methods and the juvenile justice system. Cross listed with CRMJ 3250. *Prerequisites:* CRMJ/SOC 2400.

3400 [4200]. Deviant Behavior. 3. Examines theory and research relevant to understanding deviant behavior in general and specific types of individual and subcultural deviancy. Cross listed with CRMJ 3400. *Prerequisite:* SOC 1000.

3500. Sociology of Gender. 3. Explores gender through a cultural and structural approach. The cultural approach emphasizes the variability in social expectations for men and women across time and place; the structural approach analyzes the effect of social institutions such as family, government, education, and the economy of gender. *Prerequisite:* SOC 1000.

3550. Medical Sociology. 3. Considers sociological contributions to diagnosis and treatment of illness. Studies social organization of health professions and agencies. *Prerequisite:* SOC 1000.

3605. Sociology of Education. 3. An introductory overview of the principal areas of inquiry in the field. Students learn relevant theories and concepts, principal methodological approaches as well as important current issues in education. Comparative analysis may focus on historical comparisons, national/global comparisons, U.S. regional, and/or variant educational systems at the local level. *Prerequisite:* SOC 1000.

3640 [4000, 4050]. Social Inequality. 3. Focuses on the structure and consequences of unequal access to political, economic and social benefits in U.S. society and the world. This course critically examines institutional arrangements that perpetuate and are supported by inequality and stratification, as well as patterns of social mobility. *Prerequisites*: SOC 1000.

3880. Political Sociology. 3. Study of political theory, political organization, political mobilization, the state, nation-building, national identity, post-nationalism, the relationship between the state and markets, historic formation of the nation-state, and the changing role of the state in a global context. *Prerequisite:* SOC 1000.

3950. Environmental Sociology. 3. Explores how ecology, technology, politics, economics, and culture intersect. By analyzing key contemporary environmental debates, students will develop an understanding of sociological analyses, and the impact of social life on our environment, as well as the effect of the environment on social life. Topics covered include: the environmental movement; sustainable development; developing nations and their environment; capitalism and technology; and environmental justice. Cross listed with ENR 3950. *Prerequisite:* SOC 1000.

4020 [4560]. Sociology of Work. 3. Examines social organization of work—especially in response to change in technology, demands for equal opportunity, size and goals of firms and desires for meaningful work. Historically and comparatively analyzes work-life experiences shaping of labor markets and role of collective action. Explores impact of the labor process on distribution of society's material and symbolic rewards. Dual listed with SOC 5020. *Prerequisite:* SOC 1000, MGT 3210 or ECON 1010.

4110. Sociology of International Development. 3. Surveys development studies and rural change, including case studies of deliberate change efforts toward industrialization. Includes peasant modes of food production, daily life in subsistence, agriculture, shifts to commercial agriculture and global economy, ethical and critical issues of induced change and different approaches to development process and outcomes. Cross listed with INST 4110. *Prerequisites:* SOC 1000 or ANTH 1200; SOC 3000 recommended.

4160 [4150]. Sociology of Aging. 3. The process of aging from the individual to the societal level is the focus of the course. Consequences of this process such as the increase in the number of elderly, retirement and health are examined from the major social institutions, the relationships between these institutions and American society as a whole. Dual listed with SOC 5160. *Prerequisite:* 6 hours of sociology (including SOC 1000) and at least junior standing.

4350. Sociology of Law. 3. A consideration of sociological concepts such as inequality, stratification, social control and social change in an analysis of the law and legal institutions. Topics include: the role of the police, lawyers, judges, and juries; race, sex, age, and sexuality discrimination and civil rights; free speech, and toxic torts. Cross listed with CRMJ 4350; dual listed with SOC 5350. *Prerequisites:* 6 hours of sociology/criminal justice, including SOC 1000, and at least junior standing.

4370. Global Political Economy. 3. [G◀▶(none)] Examines the interaction of politics and the economy at the global level. Evaluates how political and economic decisions of one country or groups of countries affect institutions and life circumstances in others. Assesses the causes of consequences of globalization as rooted in political economy. Cross listed with INST 4370. *Prerequisites:* SOC 1000 and junior standing or SOC 3000.

4440. Deviance and Social Control. 3. In-depth examination of theory and research on the social construction and social control of deviance. Dual listed with SOC 5440. *Prerequisite:* 9 hours of SOC courses and upper division standing.

4500. Sociology of Organizations. 3. Complex organizations have been described as the dominant feature of modern societies. Organized on the basis of bureaucratic modes of administration, they dominate contemporary societal institutions, such as the economy, the polity, education, religion, and the military. This course investigates basic structures and processes of all types of complex organizations. *Prerequisites:* 6 hours of SOC including SOC 1000 and junior/senior or graduate student standing.

4650. Urban Sociology. 3. Considers growth of metropolis and its impact upon modern life. Dual listed with SOC 5650. *Prerequisite:* SOC 1000 and junior standing. (Offered based on sufficient demand and resources)

4705. Global Terrorism. 3. Examines the concept, causes, incidence, types, consequences of, and responses to terrorism. Highlights the distinction between domestic and international terrorism and expands on the latter within the framework of the global environment. Cross listed with CRMJ 4705 and INST 4705. *Prerequisites:* 9 hours in CRMJ, INST, or SOC coursework.

4715 [3700, 3900]. Sociological Theory. 3. Examines the emergence and development of sociological theory in the writings of thinkers such as Marx, Durkheim, and Weber. Explores continuities and discontinuities between the classical period of sociological theory and contemporary schools such as functionalism, conflict theory, neo-Marxian theories, symbolic interactionism, phenomenonlogy, and rational choice/exchange theory. Dual listed with SOC 5715. *Prerequisite:* 9 credit hours of sociology, including SOC 1000.

4805. Global Population Issues. 3. Considers population structure and demographic transition, with applications to topics such as global population growth, population aging, health, family, migration, urbanization, environment. Dual listed with SOC 5805. *Prerequisites:* SOC 1000 and SOC/STAT 2070 or equivalent.

4850. Conference. 1-6 (Max. 6). Considers topics of current sociological interest in consultation with a faculty member. *Prerequisites:* senior standing and 15 hours of sociology.

4890. Special Topics in____. 1-3 (Max. 6). Accommodates seminar series and/or course offering by visiting faculty whose subject matter is not included in other courses. *Prerequisites:* junior standing and consent of department.

4900. Seminar. 3-6 (Max. 6). Considers special topics of current sociological interest. May be repeated for maximum of 6 hours credit when topic of seminar is different. *Prerequisite:* consent of instructor.

4970. Sociology Internship. 3. Students gain practical experience in the application of principles learned in sociology courses. Students work with the internship coordinator to select a site and faculty supervisor; intern approximately six hours per week in the host organization; and complete readings and written assignments which reflect the student's work. Satisfactory/Unsatisfactory Only. *Prerequisites:* sociology major or minor with a minimum of junior standing and the completion of SOC 1000, and two additional sociology courses.

5000. Advanced Sociological Theory. 3. A consideration of the nature of theory and the major theoretical perspectives in sociology. Prerequisite: SOC 3900 or equivalent.

5020. Sociology of Work. 3. Examines social organization of work-especially in response to change in technology, demands for equal opportunity, size and goals of firms and desires for meaningful work. Historically and comparatively analyzes work-life experiences shaping of labor markets and role of collective action. Explores impact of the labor process on distribution of society's material and symbolic rewards. Dual listed with SOC 4020. *Prerequisite:* SOC 1000, MGT 3210 or ECON 1010.

5050 [4000]. Social Inequality. 3. Focuses on the structure and consequences of unequal access to political, economic and social benefits in the U.S. and the world. Critically examines institutional arrangements that perpetuate and are supported by inequality and stratification, as well as patterns of social mobility.

5070. Statistical Methods for the Social Sciences. 3. General statistical analyses and their application to the social sciences. Analysis of variance, regression and correlation methods are studied from a data analytic perspective, emphasizing the conceptual understanding of where and when these techniques should be used and the interpretation of their results. Available computer programs are utilized. Credit cannot be earned in more than one of the following courses: STAT 2110, 3050, 5050, 5060, 5070, 5080. Cross listed with STAT 5070. *Prerequisite:* one course in statistics (all introductory courses except STAT 2000).

5100. Advanced Social Research Methods. 3. In-depth survey of research concepts and methods with emphasis on application that culminates in the designing and execution of a research project by the student. *Prerequisite:* SOC 5070 or equivalent.

5140. The Family. 3. Two major themes of the course are change experienced by the family institution and the centrality of the family in America today. Subjects that are covered include: A brief history of the family in the United States, kinship, family structure, mate-selection, marriage, divorce, and socialization. Dual listed with SOC 4140. *Prerequisite:* 6 hours in sociology including SOC 1000 and at least junior standing.

5160. Sociology of Aging. 3. The process of aging from the individual to the societal level is the focus of the course. Consequences of this process such as the increase in the number of elderly, retirement and health are examined for the major social institutions, the relationships between these institutions and American society as a whole. Dual listed with SOC 4160. *Prerequisite:* 6 hours of sociology including SOC 1000 and at least junior standing.

5200. Conference. 1-8 (Max. 8). Consideration of topics of current sociological interest in consultation with a member of the faculty. *Prerequisite:* consent of instructor.

5250. Seminar. 3 (Max. 12). Consideration of topics of sociological interest in the content of a graduate seminar. Cannot be dual-listed with any course below the 5000 level. May be repeated for credit when the topic of the seminar is different. *Prerequisite:* consent of instructor.

5350. Sociology of Law. 3. A consideration of sociological concepts such as inequality, stratification, social control and social change in an analysis of the law and legal institutions. Topics include: the role of the police, lawyers, judges, and juries; race, sex, age, and sexuality discrimination and civil rights; free speech, and toxic torts. Cross listed with CRMJ 4350; dual listed with SOC 4350.

5440. Deviance and Social Control. 3. In-depth examination of theory and research on the social construction and social control of deviance. Dual listed with SOC 4440. *Prerequisite:* graduate standing.

5540. Stratification and Inequality. 3. In-depth survey of sociological theory and research on substantive issues such as social class structure, racial/ethnic relations, and gender stratification. *Prerequisite:* graduate standing.

5650. Urban Sociology. 3. Considers growth of metropolis and its impact on modern life. Dual listed with SOC 4650. *Prerequisite:* SOC 1000 or equivalent.

5715 [3700]. Sociological Theory. 3. Examines the emergence and development of sociological theory in the writings of thinkers such as Marx, Durkheim, and Weber. Explores continuities and discontinuities between the classical period of sociological theory and contemporary schools such as functionalism, conflict theory, neo-Marxian theories, symbolic interactionism, phenomenonlogy, and rational choice/exchange theory. Dual listed with SOC 4715. *Prerequisite:* 9 credit hours of sociology, including SOC 1000.

5805. Global Population Issues. 3. Considers population structure and demographic transition, with applications to topics such as global population growth, population aging, health, family, migration, urbanization, environment. Dual listed with SOC 4805. *Prerequisites:* SOC 1000 and SOC/STAT 2070 or equivalent.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 12). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). The course is designed to provide an enrichment experience in a variety of topics. Note: Credit in this course may not be included in a graduate program of study for degree purposes. Offered S/U only. *Prerequisite:* graduate standing.

5960. Thesis Research. 1-12 (Max. 24). Graduate level course designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

English

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Professors:

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

Associate Professors:

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

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

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

CHRISTOPHER CASKEY RUSSELL, B.A. Western Washington University 1993; M.A. 1996; Ph.D. University of Oregon 2001; Associate Professor of English 2009, 2004.

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

Assistant Professors:

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

NANCY SMALL, B.A. Texas A&M University 1992; M.A. 1994; Ph.D. Texas Tech University 2014; Assistant Professor of English and Director of Writing Programs 2017.

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

Senior Lecturers:

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

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

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

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

Associate Lecturer:

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Assistant Lecturers:

ASHLEY M. BURCHETT, B.A. The College at Southeastern 2016; M.A. North Carolina State University 2018; Assistant Lecturer in English 2019.

JAMES CREEL, B.A. University of Wyoming 2007; M.A. 2011; Ph.D. Texas Christian University 2018; Assistant Lecturer in Engligh 2019.

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

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

Assessment of English Undergraduate Learning

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

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

1. Read, interpret, and write about a diverse range of texts in English, for example literature, film, digital media, and popular culture;

2. Understand those texts analytically and critically;

3. Understand those texts on the basis of careful close reading;

4. Understand those texts through past and current literary and rhetorical theory;

5. Understand that those texts are culturally constructed in time, place, and tradition;

6. Understand how those texts inform culture;

7. Participate in the critical and cultural discourses of English;

8. Participate clearly and appropriately through multiple spoken and written forms.

The English Undergraduate Major

The English major requires 36 hours of work within the major and an additional 12 hours of a single foreign language. 21 of the hours within the major must be taken at the upper division. Only those courses in which a grade of C or better has been earned may count toward the 36 hours required for the B.A. and the foreign language requirement. No 1000-level courses count toward the B.A.

Specific courses that fulfill the Expanding the Canon requirements will be identified each semester. They will focus on global/postcolonial texts or texts of diversity (e.g. Native American, African-American, and Latinx literatures; feminist or queer theory, disability studies). Additional courses that may fulfill the Historical Period requirements beyond those listed below will also be identified each semester.

Prerequisites

Most 2000-level courses require the completion of the COM1 requirement. Normally, 3000-level courses have the COM1, ENGL 2025, and one 2000-level "broad historical sweep" course (one of ENGL 2410, 2425,

2430, 2435, 2340, 2350, 2360) as prerequisites, and 4000-level courses have 6 hours of 2000-level English courses as prerequisites. Students without certain prerequisites should consult the English department for permission to enroll.

English Tracks

There are two tracks within the English degree: a Literary Studies track and an English Studies track. The former focuses on the study of literature and culture, while the latter balances literary study with courses in rhetoric and composition and professional writing. All English Education students are required to take the English Studies track.

Literary Studies Track

Requirements Hrs.

1. Gateway to the English Major 3
   ENGL 2025: Introduction to English Studies (COM2)
2. Historical Period Classes 15

Take two of the following six courses:
   ENGL 2425
   ENGL 2430
   ENGL 2435
   ENGL 2340
   ENGL 2350
   ENGL 2360

Take three of the following five courses:
   ENGL 3200
   ENGL 3300
   ENGL 3400
   ENGL 3500
   ENGL 3600

3. Expanding the Canon Classes 6

ENGL 2340/2350/2360 can be taken either as an Expanding the Canon course OR as an Historical Period course. The Expanding the Canon options are always changing, but they will always include at very least the following: ENGL 2340, 2345, 2350, 2360, 3330, 3710, 4450, 4455, 4460, 4470, 4640: Postcolonial Literature, 4830. A full list of courses that fulfill the Expanding the Canon requirements will be published each semester; generally speaking, these courses will cover topics related to racial diversity, global literatures, gender, sexuality, or disability studies.

4. Literary Studies Methods Course.....3
   ENGL 3000: Literary Theory
5. Electives 6
   Students can select from any of our courses for credit in this category; one of the three electives must be in either Rhetoric & Composition (ENGL 2005, 2035, 2125, 3020, 4000, 4010, 4020, 4025, 4030, 4061, 4075) or Creative Writing
6. Capstone Course.....3
   ENGL 4999: Senior Seminar (COM3)

Total hours 36

Note: At least 21 of the 36 credit hours must be upper division (3000-level or higher).

English Studies Track

Requirements Hrs.

1. Gateway to the English Major 3
   ENGL 2025: Introduction to English Studies (COM2)
2. Historical Period Classes 12

Take one of the following six courses:
   ENGL 2425
   ENGL 2430
   ENGL 2435
   ENGL 2340
   ENGL 2350
   ENGL 2360

Take three of the following five courses:
   ENGL 3200
   ENGL 3300
   ENGL 3400
   ENGL 3500
   ENGL 3600

3. Expanding the Canon Classes 6

ENGL 2340/2350/2360 can be taken either as an Expanding the Canon course OR as an Historical Period course. The Expanding the Canon options are always changing, but they will always include at very least the following: ENGL 2340, 2345, 2350, 2360, 3330, 3710, 4450, 4455, 4460, 4470, 4640: Postcolonial Literature, 4830. A full list of courses that fulfill the Expanding the Canon requirements will be published each semester; generally speaking, these courses will cover topics related to racial diversity, global literatures, gender, sexuality, or disability studies.

4. English Studies Methods Course 3
   ENGL 3010: Approaches to Rhetoric, Composition Pedagogy, and Professional Writing
5. Foundations of Language.....3
   One class in History of the English Language or Social Linguistics (ENGL 4780; ENGL 4785 is acceptable, as are EDCI 4761 and 4762.)
6. Electives 6
   2 courses from the list of Rhetoric/Composition/Professional Writing courses offered by English (ENGL 2005, 2035, 2125, 3020, 4000, 4010, 4020, 4025, 4030, 4061, 4075) and approved courses offered by other departments. Sample course topics include Writing for the Web, Publication Editing, and Rhetorical Theory.
7. Capstone Course.....3
   ENGL 4999: Senior Seminar (COM3)

Total hours 36

Note: At least 21 of the 36 credit hours must be upper division (3000-level or higher).

English Honors Program

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

Minor in Literary Studies

To minor in literary studies, a student must complete the following 18-credit sequence of courses:

Requirements Hrs.

1. ENGL 2025 3
2. Historical Period Classes 6

Take any 2 of the following historical period courses:
   ENGL 2425 (Survey I: Literatures written in English through 1750) 3
   ENGL 2430 (Survey II: Literatures written in English, 1750-1865)
   ENGL 2435 (Survey III: Literatures written in English, 1865-present) 3
   ENGL 2340 (Intro to African-American Literature) 3
   ENGL 2350 (Intro to Native American Literature) 3
   ENGL 2360 (Intro to Mexican-American Literature) 3
   ENGL 3200: Medieval Literature 3
   ENGL 3300: Shakespeare/Renaissance Literature 3
   ENGL 3400: 18th Century Literature.....3
   ENGL 3500: 19th Century Literature.....3
   ENGL 3600: 20th Century & Contemporary Literature 3
3. 4000-level literature courses 9

Take any additional 3 upper-division literature courses. Please consult with department for options in this category.

Minor in Professional Writing

To minor in professional writing, a student must complete the following 18-credit sequence of courses:

Requirements **Hrs.**

1. Foundations Course.....3
   ENGL 2035 or ENGL 2005 (COM2)
2. Program Electives.....6

Take any 2 of the following courses:
   ENGL 4010: Technical Writing in the Professions (COM3)
   ENGL 4020: Editing for Publication
   ENGL 4025: Writing for the Web (COM3)
   ENGL 4050: Writer's Workshop in:
   ENGL 4075: Writing for Non-Profits (COM3)
   ENGL 4970: Writing Internship

3. Other Electives.....6

Courses from any discipline that relates to professional writing; consult with a Professional Writing Minor advisor.

4. Professional Writing Minor Capstone 3
   ENGL 4000

Teacher Certification

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

Graduate Study

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

Program Specific Admission Requirements

Master of Arts in English

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

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

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

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

Program Specific Graduate Assistantships

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

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

Program Specific Degree Requirements

Master of Arts in English Plan A (thesis)

The Department of English offers three concentrations within the master of arts degree. A concentration consists of three courses chosen from among those designated by the department as belonging to that concentration, together with other courses to total 26 hours. The concentration insures coherence in each student's graduate program; breadth is insured by a distribution of courses. Much of each student's program is taken in courses outside the concentration. Seminars will usually include students from all concentrations.

Literary Studies. Working from a variety of perspectives, this concentration focuses on the study of literature and of other culturally significant texts and materials, including, for example, film, oral materials, and political documents.

Rhetoric, Composition, and Writing Studies. This concentration emphasizes scholarship on the production of discourse, broadly conceived, and may include a focus on classical, contemporary, or cultural rhetoric; post-secondary writing pedagogy and program administration; community and adult literacy; or other subjects related to the field of writing studies.

Public Humanities. Designed for students who wish to pursue professions that may span beyond traditional academic work, this concentration prepares graduates for careers in civic, nonprofit, and community-based cultural organizations that engage the humanities, contribute to social reform, and promote the public good.

26 hours of coursework and a thesis for 4 additional hours (ENGL 5960 and ENGL 5965).

A reading exam and oral thesis defense. Students may write a traditional thesis, or they may assemble a public-facing thesis portfolio. See program website for more details about thesis options.

With approval of the graduate adviser, a student may take a maximum of three hours credit outside the department.

All coursework must be at the 5000-level.

For information on the Plan B, consult with the program director.

English (ENGL)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1010. College Composition and Rhetoric 3. [WA◀▶COM1] A composition course emphasizing expository writing, analytical reading, and academic and civic argumentation in a range of print, oral, and digital genres. A grade of C or better is required to meet the COM1 requirement. Students may not have credit in both ENGL 1010 and UWYO 1000, 1110 or 1210.

1030. Intellectual Community in Cinema Etc. 3. [I◀▶(none)] Introduces students to a range of issues within the humanities through the analysis of film, television, and theater.

1080. Introduction to Women's Studies. 3. [CH,D◀▶(none)] An introduction to key issues in women's studies. A topical examination of women's participation in and relationship to institutions of society, such as family and school, as well as processes and activities, such as work, art, and politics in historical and cross-cultural analysis. Cross listed with WMST 1080.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2005. Writing in Technology and the Sciences. 3. [WB◀▶COM2] Develops writing styles specifically suited to technological and scientific fields of study. Includes focus on disciplinary conventions and styles as well as audience/readership considerations. Introduces techniques for data interpretation and visualization, and helps students analyze, understand, and adapt common field genres and formats. *Prerequisite:* successful completion of WA/COM1.

2015. College Composition and Rhetoric II: College and Career. 3. [(none)◆▶COM2] ENGL 2015 helps students become stronger writers, speakers, and thinkers, and features assignments that explore issues that pertain to students' majors and future careers. Students will engage in different genres for a range of audiences, revise substantially, and practice critical thinking in academic, civic, and professional contexts. *Prerequisite:* ENGL/Synergy 1010 (COM1).

2020. Literature, Media and Culture. 3. [CH,WB◆▶COM2] Introduces students to the basic tools of literary, film, and media analysis and develops students' critical writing, digital analysis, and oral communication skills. No expertise in literary criticism or film theory is necessary in this course; all majors are welcome. *Prerequisite:* COM1. COM1 may not be taken concurrently.

2025. Introduction to English Studies. 3. [(none)◆▶COM2]. This course provides an introduction to English Studies, covering the history of English as an academic field, the options available within it, and possible career paths. Students will also be taught the skills they need to succeed as English majors, including critical reading and writing, and literary and rhetorical analysis. *Prerequisite:* COM1; English major status.

2035. Writing for Public Forums. 3. [WB◆▶COM2] Introduction to professional writing that focuses on analyzing and producing texts designed to influence public opinion. Genres may include letters, editorials, web pages, pamphlets, e-mail, speeches, and position papers. Focuses on skills in collaboration and use of technology necessary for ethical, effective participation in public discourse. *Prerequisite:* WA/COM1.

2125. Writing Tutor Pedagogy/Practicum. 3. [WB◆▶COM2] Prepares students for professional employment as writing tutors in a writing center environment. Students will gain a detailed understanding of the history of writing centers, the development of writing center studies and theory, and the innovative trends in contemporary writing center practices and organization. *Prerequisites:* ENGL 1010 or COM1/transfer equivalent with a grade of B or higher; 3.000 GPA or higher.

2170. The Bible as Literature. 3. A study of the Bible as a body of literary expression with an introduction to critical technique appropriate to such study. *Prerequisite:* WA/COM1.

2190. African Literature. 3. A study of the modern literature of Africa written in English, against its background of the continent's oral traditions. *Prerequisite:* WA/COM1.

2240. Arthurian Legend. 3. An introduction to both Arthurian romance and writing about literature. Traces the Arthurian Legend from its roots in Welsh mythology through its development in the Middle Ages and to its current manifestations in popular culture. *Prerequisites:* WA/COM1; sophomore standing.

2340. Native American Culture and Literature. 3. [CH,D◆▶(none)] Broad cultural study of Native Americans, past and present. Emphasizes folklore and literature. Cross listed with NAIS 2340. *Prerequisite:* WA/COM1.

2345. American Indians in Hollywood Film. 3. [CH◆▶(none)] Examines the ways Hollywood film has constructed various forms of racial identity for American Indians. Cross listed with NAIS 2345. *Prerequisite:* WA/COM1.

2350. Introduction to African American Literature. 3. [WB,D<>{none}] Provides an introduction to the major works of the African American literary tradition. Covering a wide range of fiction, poetry, drama, and autobiography, the course introduces students to some of the most exciting works of literature ever to appear in America. Cross listed with AAST 2350. *Prerequisite:* WA/COM1.

2360. Mexican American Literature. 3. [CH,D◆▶H] Discusses literary reflections of Chicanoism. Studies literature of the Hispanic Southwest, Mexican-American folklore and the contemporary Chicano movement. Cross listed with LTST 2360. *Prerequisite:* WA/COM1.

2410. Literary Genres. 3 (Max. 6). [CH,WB◆▶H] Studies specific genres of literature. Emphasis will vary (poetry, fiction, drama, etc.) from semester to semester, depending on curricular needs. *Prerequisite:* WA/COM1.

2425. Literatures in English I. 3. [CH◆▶(none)] Surveys major figures and literary movements in literatures written in English through 1750. *Prerequisite:* WA/COM1.

2430. Literatures in English II. 3. [CH◆▶(none)] Surveys major figures and literary movements in literatures written in English 1750-1865. *Prerequisite:* WA/COM1.

2435. Literatures in English III. 3. [CH◆▶(none)] Surveys major figures and literary movements in literatures written in English 1865-present. *Prerequisite:* WA/COM1.

2490. Studies in_____. 1-6 (Max. 6). Presents a variety of topics in literature. *Prerequisite:* WA/COM1.

3000. Literary Theory. 3. An introduction to critical theory as a methodology within literary studies. The course covers major schools of theory and major figures within those schools. Students will read, discuss, and write about literary texts and cultural artefacts by placing them in dialogue with important works of both theory and literary criticism. *Prerequisites:* ENGL 2025 and junior standing.

3010. Approaches to Rhetoric, Composition Pedagogy, and Professional Writing. 3. Introduces common methods, concepts, and theories emphasized in these interrelated intellectual traditions. It asks students to examine how research traditions have developed alongside each other over time, and prepares students to design a multimodal research project. *Prerequisites:* ENGL 2025 and junior standing.

3020. Culture, Communication, Work. 3. [(none)◆▶COM3] Examines individual identity and group cultures, and how they influence communication in the workplace. Helps students develop strategies for working across cultural differences and for effective negotiation and conflict resolution skills. *Prerequisite:* Completion of COM2.

3100. Tribal Literatures of the Great Plains. 3. [WC,D◆▶(none)] Familiarizes students with American Indian literatures of the Great Plains. The Great Plains region is the locus of much historical and contemporary significance in regard to American Indian cultures. The literature of Great Plains Indians allows students to confront and reexamine the national narratives surrounding American Indians. Cross listed with NAIS 3100. Prerequisite: 6 hours of NAIS or ENGL.

3150. World Literature. 3 (Max. 6). [CH,G◆▶(none)] Encompasses reading and analysis of major works representative of significant periods or literary forms in the history of literature. *Prerequisites:* WA and WB/COM1 and COM2.

3200. Topics in: Medieval Literature. 3 (Max. 12). This course focuses on the language, literature, history, and culture of England between 800 and 1485, including influential texts from continental and Arabic traditions. Students will be taught to read Middle English and the class will include a translation component. *Prerequisites:* COM1 and 6 hours of 2000-level literature courses.

3300. Topics in: Renaissance Literature. 3 (Max. 12). Surveys important authors and texts from Britain, Europe, and the "new world" from 1500-1642. Covers major literary movements and genres, and contextualizes materials by discussing the historical, cultural, and political developments of the period. Examines how literature is produced and consumed in the sixteenth century. Specific focus varies by section. *Prerequisites:* COM1 and 6 hours of 2000-level literature courses.

3330. Global Shakespeare in Performance. 3. Shakepeare's works are constantly being reinterpreted around the globe, because their cultural capital invites many cultures to re-brand Shakespeare as their own. While helping us to see universal connections, recorded re-interpretations provide opportunities for viable cross-cultural analysis, as we explore and compare the hot-button cultural issues addressed through global performance. *Prerequisite:* COM1.

3340. Philosophy in Literature. 3 (Max 6). Examines central themes in literary works with philosophical significance; studies related general issues. Issues include questions of interpretation, criticism, and translation, as well as the possibility of direct philosophical influence on authors. Cross listed with ENGL 3340. *Prerequisite:* one course in philosophy or one course in literature or consent of instructor.

3400. Topics in: Eighteenth-Century Literature. 3 (Max. 12). Topics in eighteenth-century American and/or British literatures. Readings situated amid the historical and social developments of the era, including the expansion of mercantilism and slavery, the spread of secularism, the rise of print capitalism, and the emergence of new ideas of self and authorship. Subject matter varies by section. *Prerequisites:* COM1, ENGL 2025, and 3 hours of a 2000-level literature course.

3500. Topics in: Nineteenth-Century Literature. 3 (Max. 12). This course surveys authors, movements, and/or genres significant to 19th Century American or British literature, and contextualizes materials by discussing the historical, cultural, and political developments of the period. *Prerequisites:* COM1 and 6 hours of 2000-level literature courses in ENGL.

3600. Topics in: 20th Century Literature. 3 (Max. 12). Surveys important authors and texts from Britain, the U.S., and around the world from 1900 to present-day. Covers major literary movements and genres, including modernism and postmodernism, and contextualizes materials by discussing the historical, cultural, and political developments of the period. Examines how literature is produced in our contemporary moment. *Prerequisites:* COM1 and 6 hours of 2000-level literature courses in ENGL.

3610. Non-Western Women Writers. 3. Examines literature written by women in non-western cultures. The geographical region, time period, and genres of literature may vary by semester. Analyzes representations of such topics as family, marriage, sexuality, community, and colonialism as expressed in fiction, drama, literary non-fiction, and/or poetry. *Prerequisites:* ENGL 1010 or WMST 1080; junior standing.

3710. Gender: Humanities Focus. 3. [CH◀▶COM2] Explores how men and women are imaged differently, studying the influence of representation on gender (including representations in literature, film, art, popular culture, and/or performance). Sharpens students' ability to analyze texts and images and investigate those texts' messages about gender, sexuality, ethnicity, and class. Cross listed with ART/WMST 3710. *Prerequisite:* WMST 1080 or ENGL 1010.

4000 [3000]. 21st Century Issues in Professional Writing. 3. [WC◀▶COM3] Examines ethical, cultural, and practical issues for writers in complex, real-world scenarios that pose communication challenges. Focuses on applying fundamental principles of rhetoric, effective research methods, analytical skills, and design technologies to collaborative and individual problem-based projects. *Prerequisites:* WA and WB/COM1 and COM2; completion of one of the following: ENGL 2005, 2035, 4010, 4020, 4025, or 4075; junior or senior standing.

4010. Technical Writing in the Professions. 3. [WC◀▶COM3] Enhances professional writing skills applicable to a variety of professions. Includes audience analysis and adaptation, information design and use of visuals, and a range of formats and genres. Emphasizes clarity and precision of language. May feature primary research and problem-based or service-learning projects. *Prerequisites:* WA and WB/COM1 and COM2; junior or senior standing.

4020. Editing for Publication. 3. Theory and practice of editing in the contexts of book, magazine, newspaper, and web-based publications. Standard editing practices for using grammar, proofreading marks, and computer editing tools. *Prerequisites:* WA/COM1, WB/COM2 (ENGL 2035 and 3000 recommended).

4025 [3050]. Writing for the Web. 3. [WC,L◀▶COM3] Covers a variety of issues relevant for composing in the 21st century. As students learn to design and generate effective writing for a particular audience in a digital environment, they will also develop skills with advanced web and print research, basic HTML programming language, and standard web design software. *Prerequisites:* WB/COM2 and junior standing.

4030. Writing for Magazines. 3. Students write a variety of articles that would be appropriate for submission to a magazine. Feedback is given through class workshops and consultation with the instructor. Award-winning articles are read and discusses. The business aspect of magazine writing is also covered. *Prerequisite:* COM1, COM2, and junior standing.

4040. Rhetoric, Media, and Culture. 3. [(none)◀▶COM3] This class will guide us through the ways in which popular culture shapes the way that we view ourselves and other, and gives us a vocabulary to describe this phenomenon, critique it, and even push back against it. *Prerequisite:* COM1 and COM2.

4061. Rhetorical Theory and Criticism. 3. An investigation into how rhetorical theory, spanning from its ancient roots in Aristotelian thinking to its current postmodern components, operates in society. Explores how various critical methods can be utilized to gain a stronger understanding of public communication texts, including newspapers, speeches, music, and film. Cross listed with COJO 4061; dual listed with ENGL 5061. *Prerequisites:* COJO 1040 and 3040 or ENGL 2035.

4070. Film Directors:_____. 3 (Max. 6). Offers an intensive examination of representative films by selected film makers. *Prerequisite:* 6 hours of 2000-level literature courses.

4075. Writing for Non-Profits. 3. [WC◀▶COM3] Designed for students interested in working in the non-profit sector. Explores rhetorical, political, and social dimensions of writing and communicating in the non-profit world and features intensive study of special topics and problems related to non-profit communication, including activism, grant writing, organizational rhetoric, and non-profit genres. Content varies. *Prerequisite:* WB/COM2.

4080. Film Genre Studies:____. 3 (Max. 6). Offers structural, film historical, and political analyses of selected major film genres. *Prerequisite:* 6 hours of 2000-level literature courses.

4090. Film and Religion. 3. Movies use religion to convey messages; they debate religious issues and use religion to debate non-religious issues. This course analyzes how film makers use religion and religious themes to transform religions into advocates for social issues and to shape religion's role in society. Popular films drawn from many genres. *Prerequisite:* 6 hours of 2000-level or higher literature courses or religion courses.

4230. Greek Tragedy. 3. Reading and discussion of major plays by Aeschylus, Sophocles, and Euripides, together with examination of the performance and social context of Greek drama, its use of traditional myths, and selected issues in contemporary scholarship on the tragedies. Cross listed with CLAS/THEA 4230. *Prerequisite:* WB or COM2. (Offered in spring in alternate years)

4270. Classical Epic Poetry. 3. Reading and discussion of major works of Greek and Latin epic poetry, centered on Homer and Vergil. Also includes consideration of the background of these works (both mythological and historical) and the development of the epic tradition in the ancient world. Cross listed with CLAS 4270. *Prerequisite:* WB or COM2.

4450. African American Novel. 3. [D◀▶(none)] Considers aesthetic dimension and cultural matrix of novels written by Black Americans. Cross listed with AAST 4450. *Prerequisites:* AAST 1000, any AAST 2000 level course, junior/senior standing, six hours of 2000-level literature courses in ENGL.

4455. Slavery and Freedom. 1-4 (Max. 8). [D◀▶(none)] Students engage in an in-depth study of the literary voices that emerged from the history of enslavement in the Americas from colonial times through the end of Reconstruction in 1877. Dual listed with ENGL 5455; cross listed with AAST 4455. *Prerequisites:* AAST 1000, any AAST 2000-level course, and junior/senior standing, or six credit hours of literature courses in ENGL.

4460. American Indian Literature. 3. [WC◀▶(none)] Advanced critical study of the history of American Indian literature, emphasizing the authors' views of social change. Cross listed with NAIS 4460. *Prerequisite:* 6 hours of 2000-level literature courses.

4470. Studies in Chicano Folklore. 3. [CH,D◀▶H] Provides a survey of the origins, development and contemporary folklore of the Mexican American Chicano people of the United States with comparative relation to Mexico and other groups in the United States. Cross listed with LTST 4470. *Prerequisites:* LTST 1100 and WA/COM1.

4480. Regional Literature of the U.S.: The West. 3. Encompasses major themes and writers in western American literature. *Prerequisite:* 6 hours of 2000-level literature courses.

4600. Studies in _____. 1-6 (Max. 12). Presents from semester to semester a variety of significant topics in American, English, or other literatures. *Prerequisite:* 6 hours of 2000-level literature courses.

4610. Special Studies Abroad in _____. 1-6 (Max. 6). *Prerequisite:* 6 hours of 2000-level literature courses.

4620. Independent Reading in _____. 1-3 (Max. for M.A. 3; Max. 6). Involves independent study and research experience in given topic, person, movement in literature. *Prerequisites:* 6 hours of 2000-level literature courses, consent of instructor, and permission of department chair.

4630. English Honors Thesis. 1-3 (Max. 3). Directed study under the supervision of an English honors thesis chairperson. Results in production of an English honors thesis. Maximum of three credits of ENGL 4630 can be applied to the degree. *Prerequisites:* consent of the Director of the English Honors Program, instructor and department chair.

4635. English Department Honors. 0. Satisfactory completion of this course indicates that English Departmental Honors have been conferred on the student. *Prerequisites:* successful completion and defense of English Honors thesis.

4640. Studies in Emerging Fields and Approaches. 3 (Max. 12). Presents from semester to semester a variety of significant topics in emerging fields or approaches to literature written in English. *Prerequisite:* six hours of 2000 level literature courses.

4780. History of the English Language. 3. Considers major sources of change in the English language historically, as well as some of the internal and external catalysts for the process. Identical to ANTH 4780. *Prerequisite:* ENGL 4750.

4785. Linguistics, Language Teaching and Social Context. 3. Introduces prospective teachers of English as second language to the basic components of language and to the social aspects of human language use. Explores a variety of concepts about language: how it is used and perceived, how languages change, how diverse cultures respond to such changes. Cross listed with LANG 4785. *Prerequisite:* WB/COM2.

4830. Victorian Women's Lives: Their Art, Literature, and Culture. 3. [CA◀▶(none)] An interdisciplinary approach to the study of women's issues in art, using literary, cultural, and sociological texts to enlarge the art historical basis. Topics include "domestic goddess," class issues, racial questions, working women, prostitution, education, marriage, and divorce. Dual listed with ENGL 5830; cross listed with ART/WMST 4830. *Prerequisites:* ART 2020, WMST/ENGL 1080.

4970. Writing Internship. 3 (Max. 6). Students work 6-8 hours per week as "writing interns" for a private business or public agency, performing specific writing/editing tasks for that client. Students are supported and enabled through a series of classroom sessions and individual meetings with the course instructor. Formal progress reports and a comprehensive final report are required. *Prerequisite:* successful completion of ENGL 4010, 4020, or 4050.

4990. Senior Seminar in English Studies. 3. [WC◀▶COM3] Considers methods, theories, and history of the study of literature and writing. In readings, discussion, as well as oral and written presentations, students seek a broad perspective on knowledge and skills gained throughout study in the English major. *Prerequisite:* advanced (senior) standing in English.

4999. Senior Seminar. 3. [(none)◀▶COM3] This course is the capstone course in the English major. Subject matter varies by section. In all sections students will exercise skills acquired in the major (close-reading, historical analysis, application of theory) to explore significant texts and to reflect on the nature of English study today. *Prerequisites:* COM1, COM2, and either ENGL 3000 or ENGL 3010; Senior standing.

5000. Studies In:. 1-8 (Max. 8). Provides an opportunity for specialized seminar approaches to subjects in literature. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5010. Rhetoric and Composition: History, Theory, Practice. 1-4 (Max. 4). Prepares graduate students to teach college composition and rhetoric at UW and beyond, with attention to the intellectual traditions that inform our writing program's pedagogy. It examines the theories that support informed writing instruction and offers classroom strategies that may be applied to any course in English studies. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5020. Public-Facing English Studies. 1-4 (Max. 8). Introduction to the history and theory of public intellectualism and English studies. Students develop theoretical and practical knowledge and explore alternative applications for academic research for publics beyond the classroom. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5050. Writing in Public Genres. 1-4 (Max. 8). Intensive introduction to public-facing writing in English subject areas, including articles, book reviews, think pieces, TED talks, podcasts, and other genres of commentary associated with public intellectual work in English studies. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5061. Rhetorical Theory and Criticism. 1-4 (Max. 8). An investigation into how rhetorical theory, spanning from its ancient roots in Aristotelian thinking to its current postmodern components, operates in society. Explores how various critical methods can be utilized to gain a stronger understanding of public communication texts, including newspapers, speeches, music, and film. Cross listed with COJO 5061; dual listed with ENGL 4061. *Prerequisite:* graduate status or 12 hours of 3000-4000 level work.

5070. Qualitative Methods in English. 1-4 (Max. 8). Advanced introduction to qualitative research methods in English and

Rhetoric. Students will survey different types of qualitative methods and will learn to evaluate qualitative projects. Includes an emphasis on working with human participants and on ethics. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5075. Non-Profit Writing and Grants. 1-4 (Max. 8). Non-profit writing from a rhetorical perspective. Students analyze different kinds of non-profit communication, including fundraising, mission development, social media. Participate in grant proposal development or other organizational communication activity. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5080. Graduate Apprenticeship. 1. The graduate apprenticeship furthers a graduate student's professional development by allowing him/her to teach in a course other than Freshman Composition and to engage in a close working relationship with a faculty member. Apprentices will engage in a full range of teaching activities, such as grading, constructing assignments and exams, lecturing, leading discussion, and so on. Does not apply to hour requirement for the degree. *Prerequisites:* graduate standing and permission of the English department chair.

5220. Studies in Medieval Literature. 1-4 (Max. 8). A seminar course in selected genres, figures, and themes in Medieval English literature. *Prerequisite:* graduate status or 12 hours or 4000-level work.

5230. Studies in English Renaissance Literature. 1-4 (Max. 8). A seminar in selected genres, figures, and themes of the sixteenth and early seventeenth centuries. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5250. Studies in Shakespeare. 1-4 (Max. 8). To provide advanced students with the opportunity to study problems of text, sources, staging, theatrical history, and/or critical theory with reference to the works of William Shakespeare. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5270. Studies in 18c English Literature. 1-4 (Max. 8). A seminar in selected genres, figures, and themes of restoration and eighteenth century English literature. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5280. Studies in 19c English Literature. 1-4 (Max. 4). A seminar in selected genres, figures, and themes of the romantic and Victorian periods. *Prerequisite:* graduate status or 12 hours or 4000-level work.

5290. Studies in 20c English Literature. 1-4 (Max. 8). A seminar in significant writers of poetry, drama, fiction, and biography from the end of the nineteenth century to the present. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5310. Early American Literature. 4. Seminar designed to acquaint graduate students with selected texts from the colonial period to 1800, relevant secondary works, and scholarly methods. *Prerequisite:* graduate status or 12 hours of 3000-4000 level work.

5320. Studies in 19c American Literature. 1-4 (Max. 8). A seminar designed to acquaint graduate students with selected principal works of American literature, relevant secondary works, and scholarly method. *Prerequisite:* graduate status of 12 hours or 4000-level work.

5330. Studies in 20c American Literature. 1-4 (Max. 8). A seminar in selected significant writers of poetry, drama, and prose from the end of the nineteenth century to the present. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5340. Intellectual Currents in Modern American Literature. 1-4 (Max. 4). Devoted to the study of writers such as Marx and Freud and more recent American writers. *Prerequisite:* graduate status or 12 hours or 4000-level work.

5350. Global Literatures in English. 1-4 (Max. 8). Examines significant texts, authors, cultural and historical contexts, and literary and theoretical movements in postcolonial or global literatures. May involve comparative study or may be focused on a single country context. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5360. Literatures of Diversity. 1-4 (Max. 8). A study of literature and culture of selected minority or marginalized communities. *Prerequisite:* graduate status or 12 hours of 3000-4000 level work.

5455. Slavery and Freedom. 1-4 (Max. 8). Students engage in an in-depth study of the literary voices that emerged from the history of enslavement in the Americas from colonial times through the end of Reconstruction in 1877. Dual listed with ENGL 4455; cross listed with AAST 5455. *Prerequisite:* graduate status or 12 hours of 3000-4000 level work.

5520. History of Literacy Criticism: Enlightenment and 19th Century. 4. Historical survey of the mainstream of European literary criticism, including the critics of antiquity and the Renaissance. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5530. Modern Critical Theory and Practice. 1-4 (Max. 4). Major trends in modern poetics and practical criticism. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5830. Victorian Women's Lives: Their Art, Literature, and Culture. 3. An interdisciplinary approach to the study of women's issues in art, using literary, cultural, and sociological texts to enlarge the art historical basis. Topics include "domestic goddess," class issues, racial questions, working women, prostitution, education, marriage, and divorce. Dual listed with ENGL 4830; cross listed with WMST 5830. *Prerequisites:* ART 2020, WMST 1080, ENGL 1080.

5880. Studies in Modern Fiction. 4. A study of modern fiction, examining theory and practice, and covering works of English, European, and American origin. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5890. Consumption, Markets, Cultures. 1-4 (Max. 8). An interdisciplinary investigation of the ways in which cultural venues curate and market stories, history, and texts. Analyzes and applies theories and methodologies from literary and cultural tourism studies, as well as marketing and consumer culture, to museums, performances, tourist sites and theme parks. This class will include hands-on field research. *Prerequisite:* graduate status or 12 hours of 4000-level work.

5900. Practicum in College Teaching. 1-3 (Max. 4). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate status.

5915. Tutorial. 1. Graduate standing or consent of instructor. One credit hour for fee purposes.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: Credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5965. Thesis Research II. 1-3 (Max. 3). Designed for students who have reached an advanced stage in the writing of the thesis. Also to inform students of professional genres and practices as well as academic and non-academic careers following the MA degree. *Prerequisites:* ENGL 5960 and enrollment in a graduate degree program.

5975. Independent Studies. 1-4 (Max. 6). Independent study and research experience in a given topic, person, or movement in literature at an advanced level. *Prerequisite:* permission of chair; graduate standing.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Geography Program

122 Geology Building, (307) 766-3386
Web site: www.uwyo.edu/geography
Program Director: Carrick M. Eggleston

The Geography Program organization may be changing pending review.

Professor Emeritus:
John L. Allen, William L. Baker, Ronald E. Beiswenger, Thomas Buchanan, William J. Gribb, Deborah D. Paulson

The Geography Program is comprised of faculty with interests and expertise in geography, planning, and resource management. The program focuses upon the following:

1. The origin and nature of the physical and cultural environment, how the physical environment and its natural resources form, and how the environment and natural resources affect the quality of life.
2. The ways in which people and institutions affect natural resources and the environment.
3. The variety of methods and techniques with which we solve or prevent problems through the planning and management of natural resources.
4. The ways in which human institutions (e.g. political, economic, social) interact to produce diverse human landscapes.

Four Fundamentals of Geographic Learning

The Geography Program has identified four fundamental goals of geography to emphasize in its undergraduate curriculum. These four goals are at the intersection of topically important areas in the discipline of geography. We continue to evaluate student learning in our program to insure our curriculum addresses these fundamental goals as effectively as possible.

Goal 1 – Human-Environment Interaction

Students will be able to identify and explain how humans modify the environment and affect Earth's biophysical systems through their human activities.

Goal 2 – Biophysical Systems

Students will be able to identify and explain an array of patterns, processes, and interactions in Earth's biophysical systems occurring at different spatial scales.

Goal 3 – Human-Cultural Systems

Students will be able to identify and explain an array of patterns, processes, and interactions across Earth's human landscapes at different spatial scales.

Goal 4 – Geographic Thought, Methods and Analysis

Students will understand basic geographic concepts and ideas, and will be capable of using them to inform their work. Students will also demonstrate the ability to select and use appropriate tools and techniques for addressing geographic problems and conducting geographic analysis. They will also be able to use multiple methods to examine, represent, and visualize Earth and its geographic characteristics.

Undergraduate Major

In addition to course work required by the university and the college, majors must complete 40 hours of program requirements, all of which must be completed with a grade of C or above, of which at least 15 credits will be 3000-40000 level Geography courses. All Geography degree students will complete a topical language requirement. Students completing a B.S. degree will need to complete two semesters of a computational or science language (computer programming language, mathematical language or science courses are acceptable) and one additional mathematical, statistical, or science class above the USP Q or PN requirement. Required courses (14 credit hours) include GEOG 1000, 1010, 1020, and 2150. In addition, students are required to complete 26 credit hours distributed over three of four content areas (Human Geography, Physical Geography, Geographic Information Science, and Natural Resource Management) with a minimum of one course in three different content area (to demonstrate breadth) and at least two courses in two content areas (to demonstrate depth). Students must declare to their academic advisor their preference of degrees prior to graduation. Students in the B.S. program must complete the following:

Core requirements:	**14 hours**
GEOG 1000 World Regional Geog	3
GEOG 1010 Intro to Physical Geography	4
GEOG 1020 Intro to Human Geog	3
GEOG 2150 Found of GIS & Tech	4

Content areas. 26 hours distributed among a minimum of three of the following areas with at least two courses in each of two areas:

- Human geography
- Physical geography
- Geographic information science
- Natural resource management
- Planning

Courses used to meet program requirements must be approved by the faculty advisor. The remaining credit hours needed for completion of the B.S. are elective credits (approximately 13-15).

B.S. Suggested Program of Study

FRESHMAN YEAR: Fall	**Hrs.**
GEOG 1000	3
USP First-Year Seminar	3
USP Communication I	3
USP Human Culture*[1]	4
USP Physical & Natural World	3
Total Hrs.	***16***

FRESHMAN YEAR: Spring	**Hrs.**
GEOG 1020	3
USP Human Culture*	4
A&S Core Diversity in the US	3
USP Physical & Natural World	4
Total Hrs.	***14***

SOPHOMORE YEAR: Fall	**Hrs.**
GEOG 1010	4
USP Communication II	3
USP Quantitative Reasoning	3
Electives	6
Total Hrs.	***16***

SOPHOMORE YEAR: Spring	**Hrs.**
GEOG 2150	4
Quantitative Reasoning Elective	3
Electives	9
Total Hrs.	***16***

JUNIOR YEAR: Fall	**Hrs.**
POLS 1000	3
Upper Division GEOG Content Area Course (GEOG 4200 recommended)	3
Upper Division GEOG Content Area Course	3
Electives	6
Total Hrs.	***15***

JUNIOR YEAR: Spring	**Hrs.**
Upper Division GEOG Content Area Course (GEOG 3480 recommended)	3
Upper Division GEOG Content Area Course	3
Electives	9
Total Hrs.	***15***

SENIOR YEAR: Fall	**Hrs.**
USP Communication III	3
Upper Division GEOG Content Area Course (GEOG 4051 recommneded)	3

Upper Division GEOG Content Area Course 3
Upper Division Electives 6
Total Hrs. 15

SENIOR YEAR: Spring Hrs.
Upper Division GEOG Content Area Courses 9
Upper Division Electives 6
Total Hrs. 15
Total Credit Hours 122

* USP Human Culture: A single language must be taken for two semesters to fulfill the eight hour foreign language requirement for the program. Students taking American Sign Language to fulfill the language requirement of the major will have to take other courses to fulfill the USP H requirements.

[1]Can substitute computer programming but it does not fulfill the USP H requirement; consult with an academic advisor.

Undergraduate Minor

The program offers a minor in geography. Credit requirements range from 18-20 hours of required and elective courses, all of which must be completed with a grade of C or above. Information on the minor program is available on the Geography Program website.

Environment and Natural Resources

The program offers a concentration in the university's interdisciplinary program, Environment and Natural Resources. A description of the concentration requirements is available online at the ENR website.

Graduate Study

The Geography Program offers coursework leading to the Master of Arts and Master of Planning degrees. Areas include: physical geography, natural resource management,spatial analysis, information, and display, and human geography. Areas in planning include: land use planning, environmental planning, and small town and rural planning.

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, applicants must submit a statement of academic and professional goals. Applicant evaluations are based on GRE score, undergraduate G.P.A. and 3 letters of recommendation. Undergraduate deficiencies, identified by the candidate and advisor, can be remedied during the degree program.

Program Specific Graduate Assistantships

Graduate assistantships are available as both teaching and research assistantships. Applicants for graduate assistantships must submit their completed materials to the program graduate coordinator by February 15th prior to the fall semester for which they are seeking the assistantship. Students already in the program as well as new applicants for admission may apply for graduate assistantships. Assistantship duties will be determined following the award and acceptance of the student.

Program Specific Degree Requirements

Incoming students must have a minimum undergraduate background equivalent to 15 semester hours in college-level geography courses to include 3 hours each in maps and mapping, human geography, and physical geography. Planning students may use undergraduate course work in planning, analytic tools, regional science, or other relevant subject matter to meet the undergraduate requirement. Deficiency courses prescribed by the faculty advisor do not count toward graduate program requirements, and must be taken for credit and for a grade (not S/U).

All Master Degrees (Plan A Thesis)

Thirty credit hours of approved course work (not including thesis research), a minimum of four hours of thesis research, and completion of a thesis.

Core Requirements - All Programs:
GEOG 5000 Research Perspectives 3
GEOG 5001 Research in Geography Colloquium 2
GEOG 5002 Geography Graduate Seminar 1
Students will successfully complete at least two techniques courses totaling six or more credit hours. These may be selected from the list below. Alternatively, students may discuss with their advisor techniques courses that more appropriately support their program of study and research plans.
GEOG 4200 Introduction to Geographic Information Sciences 4
GEOG 5111 Remote Sensing of the Environment/Lab 4
GEOG 5210 Advanced Geographic Information Systems 4
GEOG 5220 Spatial Modeling 4
GEOG 5455 Remote Sensing of Rivers.....3
GEOG 5050 Environmental Data Management 4
STAT 5000 Statistical Analysis for Research Workers 3
STAT 5070 Statistical Methods for the Social Sciences 3
STAT 5210 Statistical Methods.....3
AMST 5800 Historical Preservation.....3
SOC 5100 Advanced Social Research Methods 3
GEOL 5446 Introduction to Geostatistics ..3

All students must complete a thesis which shall be an original contribution to knowledge. The student graduate committee will be composed of a minimum of two Geography faculty, with one serving as chairperson, and at least one faculty member from outside the Geography Program. All students must prepare a thesis proposal for submission to their committee and have committee approval to initiate research on their thesis and must successfully complete an oral defense of their thesis. The student's committee may also require a written examination.

Master of Arts in Geography

Students must fulfill all requirements listed above.

Master of Planning
Core courses (12 hours)
GEOG 4310 Foundations of Sustainable Planning 3
POLS 5510 Public Policy and Program Management.....3
GEOG 5325 Legal Aspects of Planning.....3
GEOG 5330 Land Use Planning 3
Analysis courses: (three courses - 9 hours)
Statistics: (one course - 3 hours)
Techniques: (two courses - 6 hours)
Elective courses:
15 hours of elective course work in planning areas: land use, natural resource, or small town and rural area approved by faculty advisor.

Students completing the Plan A option are required to complete a minimum of 4 hours of thesis research.

Students completing the Plan B are required to complete a minimum of 4 hours of geographic research writing and two papers from the areas of planning: land use, natural resource, or small town and rural area.

Master of Arts in Geography/Water Resources
Core Requirements:
GEOG 5000 Research Perspectives 3
GEOG 5450 Fluvial Geomorphology.....4
REWM 4700 Wildland Watershed Management 3
OR
REWM 4285 Wildland Hydrology.....3

In completing core methods requirements students may also choose GEOG 5111, Remote Sensing of the Environment (4), or GEOG 4455/5455, Remote Sensing of Rivers (3). Additional course requirements include one class from the Technical Hydrology and/or Water Quality lists for the Interdisciplinary MS Program in Hydrology & Water Resources (WARE) program and one course from the Law and Natural Resource Economics list.

Technical Hydrology Water Quality Course Requirement (at least one of the following):

CE 4800 Hydrology 3
CE 5435 Environmental Transport Processes 3
CE 5445 Hazardous Waste Site Remediation 3
CE 5810 Ground Water Hydrology.....3
CE 5860 Soil Erosion and Conservation 3
CE 5870 Water Resources Engineering 3
CE 5880 Advanced Hydrology 3
GEOL 5444 Geohydrology.....3
GEOL 5550 Numerical Methods in Ground Water Geology I.....3
GEOL 5570 Advanced Geohydrology 3
REWM 4700 Wildland Watershed Management.....3
REWM 5280 Stream Habitat Management..3
REWM 5285 Wildland Hydrology.....3
SOIL/MATH 5110 Modeling Flow Transport in Soil and Groundwater Systems 4
BOT 5740 Ecosystems Analysis 4
CE 4410 Environmental Engineering Chemistry 3
CE 4400 Design of Water Treatment Facilities 3
CE 5410 Advanced Biological Wastewater Treatment 3
CE 5450 Advanced Physical/Chemical Water Treatment Processes 3
GEOL 4490 Geochemistry 3
GEOL 5450 Water Quality Modeling 3
GEOL 5777 Geochemistry of Natural Waters 3
REWM 5710 Watershed Water Quality Management.....3
SOIL 5130 Chemistry of the Soil Environment.....4
ZOO 4440 Limnology 3

Law and Natural Resource Economics Course Requirement (at least one of the following):

AGEC 4710 Natural Resource Law and Policy 3
AGEC 4720 Water Resource Economics.....3
AGEC 5630 Advanced Natural Resources Economics 3
ECON 4400 Environmental Economics 3
ECON 4410 Natural Resources Economics 3
ECON 5400 Advanced Resource & Environmental Economics.....3
LAW 6660 Environmental Law.....3
LAW 6860 Water Rights.....3

Plan B (Non-Thesis)

Thirty credit hours of approved course work (not including geographic research writing credit), a minimum of four hours of research writing credit, and the completion of two professional research papers.

Core Requirements - All Programs:

GEOG 5000 Research Perspectives 3
GEOG 5001 Research in Geography Colloquium 2
GEOG 5002 Geography Graduate Seminar 1

Students will successfully complete at least two techniques courses totaling six or more credit hours. These may be selected from the list below. Alternatively, student may discuss with their advisor techniques courses that more appropriately support their program of study and research plans.

GEOG 4200 Introduction to Geographic Information Systems.....3
GEOG 5111 Remote Sensing of the Environment/Lab 4
GEOG 5210 Advanced Geographic Information Systems.....4
GEOG 5220 Spatial Modeling 4
GEOG 5455 Remote Sensing of Rivers.....3
GEOG 5050 Environmental Data Management.....4
STAT 5070 Statistical Methods for the Social Sciences 3
STAT 5210 Statistical Methods.....3
AMST 5800 Historical Preservation.....3
SOC 5100 Advanced Social Research Methods 3
GEOL 5446 Introduction to Geostatistics ..3

All students must have committee approval to initiate research on their professional papers and must successfully complete an oral defense of their professional papers. The student's committee may also require a written examination.

Geography (GEOG)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000 [G&R 1000]. World Regional Geography. 3. [CS,G◀▶H] Covers the distributions, traits, and processes of the Earth's peoples and landscapes through the perspective of regional geography, which is the study of the spatial relationships of natural environments and human societies. Cross listed with: INST 1060.

1010 [G&R 1010]. Introduction to Physical Geography. 4. [SE◀▶PN] Systematically studies natural aspects of geographic environments, including weather and climate, landforms, soils and vegetation. Lab fee required.

1020 [G&R 1020]. Introduction to Human Geography. 3. [CS,G◀▶H] Analyzes spatial patterns of and interaction between the world's great cultural systems. Includes settlement patterns, behavioral patterns, agricultural land use and resource utilization.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2150 [G&R 2150]. Foundations of Geo Information Science and Technology. 4. [L◀▶(none)] Overviews the role of geographic information and technology in modern society. Includes discovery and accessing geospatial data and information for both research and enjoyment, with an emphasis on reading and analyzing maps and visualizations to support geographical reasoning. Lab provides hands-on experience working with maps and related geographic information technologies.

2370. Chicano History: Origins to 1900. 3. [CS,D◀▶H] General survey that traces the geographic distribution and historical processes that have shaped the life experiences, socio-economic development and cultural contributions of peoples of Mexican descent in the United States from their indigenous and Hispanic origins to the end of the 19th century. Cross listed with LTST/HIST 2370.

2550 [G&R 2550]. Recreation and Natural Resources. 3. Introduces outdoor recreation agencies and programs; supply and demand for outdoor recreation resources; and relationship of recreation to the conservation of natural resources.

3010 [G&R 3010]. Geomorphology of Earth's Dynamic Landscapes. 3. A Systematic exploration of Earth's surface, emphasizing the geographic distribution of various landforms and their evolution over time. Introduces general geomorphic principles and describes the application of these principles to specific landscape features. The processes that drive landscape change are examined through

case studies, computer-based mapping exercises, and basic calculations. *Prerequisite:* Either GEOG 1010 or GEOL 1500 or equivalent.

3030 [G&R 3030]. Geography and Development. 3. [CS,G◀▶(none)] Examines distribution of wealth and poverty in the world; theories of development, from traditional modernization theories through Marxist critiques and sustainable development; and case studies from around the world of development successes and failures, chosen to illustrate and illuminate theories of development. *Prerequisite:* GEOG 1000 or 1020 or 9 credit hours of social science with global focus.

3050 [G&R 3050]. Economic Geography. 3. Economic Geography is the study of the location, distribution and spatial organization of economic actvities across the globe; specifically how the economic realm is intertwined with other spheres of international social life. It explores the inherent logics and mechanisms of the capitalist system, and the social and spatial inequalities that result. *Prerequisite:* 6 hours of Social Sciences or International Studies.

3280. Spatial Methods. 4. [(none)◀▶COM3] Introduction of statistical methods for the analysis of geo-spatial data; point, line/network, and areal units. The application of quantitative measurements to examining the spatial relationship of physical and socio-economic factors in problem-solving. *Prerequisites:* at least one geography course and completion of either STAT 2010, 2050, or 2070.

3400. Traditional Ecological Knowledge. 3. [CS,D◀▶(none)] Description of the interaction between economy, religion, language and the ecosystem for select indigenous peoples and discussion of the pedagogical methods for preserving their ecological knowledge. An examination of the conflict between contemporary society's demands and preserving traditional society's heritage. Cross listed with NAIS 3400. *Prerequisite:* one course in American Indian culture.

3450 [G&R 3450]. Weather and Climate. 3. Systematically examines elements and controls of weather and climate with application to regions. Cross listed with ENR 3450. *Prerequisite:* GEOG 1000, 1010 or 1020.

3480 [G&R 3480]. Environmental Change. 3. [WB,G◀▶(none)] Examines changes in the bio-physical environments and landscapes of Earth during its habitation by humans. Emphasizes integrated approaches to understanding environmental changes based on climatological, ecological, geological, archeological, and historical evidence. Explores how humans have modified Earth's environments and how societies have responded to natural and anthropogenic environmental change. Cross listed with ESS 3480. *Prerequisites:* GEOG 1010 or any USP PN course and USP COM1.

3550 [G&R 3550]. Natural Hazards and Society. 3. [CS◀▶(none)] Considers societal structures and processes as they interact with hazards in the natural environment.

4000 [G&R 4000]. Terrain Analysis. 3. Studies techniques for acquiring and analyzing spatial data from maps, remotely sensed imagery and field surveys for landscape assessment. Emphasizes deriving maps that describe physical suitability of landscapes for specific human activities. Field trip required. *Prerequisite:* Completion of USP PN requirement or consent of instructor.

4013. Political Geography. 3. Geographic space is subdivided into political units to aid human interaction and to facilitate political processes. Examines the spatial organization of political space and its effects upon political processes at varying geographic scales ranging from the local to international. Dual listed with GEOG 5013; cross listed with POLS 4013. *Prerequisite:* Completion of USP H requirement.

4020 [4420]. Geography and Tourism. 3. Studies concepts, methods, conflicts and opportunities of national and international tourism. Emphasizes recreation and the environment. *Prerequisites:* GEOG 1010 or GEOG 1000 or GEOG 1020 or consent of instructor.

4040 [G&R 4040]. Conservation of Natural Resources. 3. [CS◀▶(none)] Geographically analyzes conservation of natural and human resources, as well as political, social and ethical ramifications of our environmental policy. Cross listed with ENR 4040. *Prerequisite:* 6 hours of geography or ENR.

4051 [G&R 4051]. Environmental Politics. 3. Analyzes environmentalism as a political phenomenon. Provides students with a basic understanding of how to analyze political issues by: (1) examining the historical and contemporary issues that produce controversy over environmental matters; and (2) surveying the impacts of these issues on the formulation and implementation of laws, policies, and regulations. Cross listed with AMST, ENR, POLS and REWM 4051. *Prerequisite:* POLS 1000.

4052 [G&R 4052]. Federal Land Politics. 3. Examines the political forces that have shaped and continue to shape federal land policy and management. Explores the interactions between democratic decision making and science in the management of federal lands. Surveys the sources of controversy over federal land management and methods for harmonizing public demands with technical expertise. Cross listed with POLS/ENR/AMST/REWM 4052. *Prerequisite:* POLS 1000.

4080 [G&R 4080]. Management of Major River Basins. 3. Examines geography of water resources, including distribution, water as a resource and water as a hazard to humans. Focuses on water management case studies on the scale of major river basins in North America and elsewhere in the world. *Prerequisite:* Completion of the USP PN requirement or consent of instructor.

4113. Geological Remote Sensing. 4. Acquaints students with aircraft and spacecraft remote sensing of the environment, emphasizing geologic application to earth and other planetary bodies. Includes visible, infrared, ultraviolet, radio and radar sensing. Laboratory exercises are applications related to tectonics, geomorphology, paleoclimate, structure, stratigraphy, environmental geology and geologic hazards. Cross listed with GEOL 4113. *Prerequisites:* GEOL 1005 or 1100 or 1200 or GEOG 1010 and MATH 1400/1405 or MATH 1450.

4200 [G&R 4200]. Introduction to Geographic Information Systems. 4. Fundamental concepts, theories and applications in geographic information systems and science. *Prerequisite:* GEOG 2150.

4210 [G&R 4210]. Advanced Geographic Information Systems. 4. Advanced study of programs, data structures, and techniques for spatial data display and analysis. Dual listed with GEOG 5210. *Prerequisite:* GEOG 4200.

4220. Spatial Modeling and Geocomputation. 4. Examines the theory and development of models of spatial patterns and process. Modeling these systems often required techniques not readily available in a GIS environment. Examines GIS and geocomputational methods to solve these problems as well as issues related to error, representation, and scale. Dual listed with GEOG 5220. *Prerequisite:* GEOG 4200 or GEOG 4210 or consent of instructor.

4310 [G&R 4310]. Foundations of Sustainable Planning. 3. Description and analysis of planning that involves a citizen involvement process to determine the future direction of a community or region. Sustainability concepts are described to provide a framework for social equity, environmental protection, and economic longevity, the fundamental elements of a community or regional comprehensive plan. Dual listed with GEOG 5310. *Prerequisite:* junior standing.

4325 [G&R 4325]. Legal Aspects of Planning. 3. Review of the U.S. Constitution, federal and state laws and statues, and pertinent court cases that directly relate to planning policy at the federal, state and local level. Examination of the legal system to provide services and protect the health, safety, and welfare of

citizens with regard to private property rights. Dual listed with GEOG 5325. *Prerequisites:* junior standing, USP V course.

4330 [G&R 4330]. Land Use Planning. 3. Advanced study of processes expressed as a specific activity on the land. An examination and analysis of the interacting environmental, economic, and social factors that produce the land activity. Dual listed with GEOG 5330.

4340 [G&R 4340]. Natural Resource Management on Western Reservations. 3. Designed to examine natural resource management techniques on western reservations. Topics to be discussed will focus on the management and planning of water, grazing, extractive industries and forestry. Field work on the Wind River Indian Reservation is a part of the class. Cross listed with NAIS 4340. *Prerequisite:* 6 hours of 2000-level NAIS classes.

4370 [G&R 4370]. Environmental Planning. 3. A planning-oriented approach to ecosystems theory based on the federal/legal regulatory foundation. An examination of scientific and alternative perspectives on the comparative dynamics of natural and human-oriented ecosystems and implementing strategies. Dual listed with GEOG 5370.

4390 [G&R 4390]. Rural & Small Town Planning. 3. A single community planning problem is assigned. Student teams play the role of community planning staff. Teams experience defining community goals; communicating with others about these goals and problem perceptions; accomplishing necessary research; generating various solutions to problems they have perceived; selected from among these solutions, and formulating a single, integrated, comprehensive plan and documenting the plan and rationale behind it. Dual listed with GEOG 5390. *Prerequisite:* work at the 4000-level in one or more of the four substantive areas, and/or consent of the instructor.

4400 [G&R 4400]. Natural Resource Policy. 3. Encompasses administrative policies and programs relating to natural areas. Emphasizes the national park system. *Prerequisite:* GEOG 4750.

4440. Advanced Global Climate Variability. 3 (max. 9). Climate varies. This fundamental aspect of the climate system can have major environmental and societal impacts to ecosystems, the hydrologic cycle and water resource management in arid environments such as the intermountain west. This course will utilize climate data and mapping tools to understand global and regional climate variability. Dual listed with GEOG 5440. *Prerequisite:* GEOG/ENR 3450 or instructor's consent.

4450 [G&R 4450]. Fluvial Geomorphology. 4. A systematic examination of rivers and related land forms. Emphasizes understanding how processes of flow and sediment transport influence channel form and behavior. Considers rivers systems across a range of scales, from movement of individual sediment particles to organization of continental drainage basins. Explores connections to aquatic ecosystems and human impacts. Dual listed with GEOG 5450. *Prerequisites:* GEOG 3010 or GEOL 2100 or GEOL 2150 or consent of instructor.

4455. Remote Sensing of Hydrologic Systems. 4. Explores the application of remote sensing data and techniques to the study of the hydrological systems and introduces the physical principles that enable the different elements of the hydrological system to be inferred from different types of image data and analysis. Dual listed with GEOG 5455. *Prerequisites:* junior standing and one prior course in remote sensing.

4460 [G&R 4460, 3460]. Biogeography. 3. A systematic study of the distribution of plants and animals, communities and ecosystems, the processes that produce patterns of distribution and their change over time. Interactions of climate, soil geomorphology, biota and human activities are emphasized. *Prerequisites:* junior standing and GEOG 1010 or LIFE 2022 or 2023.

4470 [G&R 4470]. Fire Ecology. 3. Natural and human-caused fires are an important phenomenon affecting ecosystems and human communities throughout the world. Explores the geography, ecology, and management of fires. Dual listed with GEOG 5470. *Prerequisite:* GEOG 4460, BOT 4700, LIFE 3400 or graduate standing.

4500 [G&R 4500]. The American Landscape. 3. Provides a basis for interpreting the nature and content of the contemporary landscapes of the United States by viewing those landscapes in the process of creation and change and investigates the relationship between landscape and American environmental attitudes. Students are introduced to research techniques and methodologies in historical geography. *Prerequisite:* Completion of USP H requirement or consent of instructor.

4502. Images of Wyoming and the West. 3. The West is nothing more than a barren, desolate landscape to some while to others it offers great spiritual and cultural significance. Examines how individuals and groups perceive Wyoming and the West, how such perceptions have been constructed over time, and how these differing views create images of the region both real and imagined. Dual listed with GEOG 5502. *Prerequisite:* GEOG 1000 or GEOG 1020 and junior standing.

4550. Geography of Wine. 3. Examine the regional influence of climate, terrain and cultural characteristics on the production of grape varieties and demonstrate the implications of this influence on the location and distribution of wines produced. Discussion will focus on the world-wide production and consumption of wine and impacts of multi-national corporations. *Prerequisites:* junior standing and at least 21 years of age.

4560. Global Cities. 3. Globalization accelerates urbanization processes and creates a new type of city: the global city. This course investigates the debates over global cities, urban culture, new urban landscapes, urban planning practices, and social disparity. Using case studies from around the world, this class explores the diversity of global city formation processes. Dual listed with GEOG 5560; cross listed with INST 4560. *Prerequisites:* 9 hours of international studies or geography.

4570. Cultural Geography. 3. Cultural Geography is an overview in qualitative cultural landscape studies. The course emphasizes what a cultural landscape is, how it can be examined, and what can be learned from such landscapes. Students are exposed to readings in cultural geography from a wide array of viewpoints with an emphasis placed on classic works. Dual listed with GEOG 5570. *Prerequisite:* GEOG 1000 or GEOG 1020 and junior standing.

4580 [4572]. Sense of Place. 3. Examines how individuals and groups perceive specific geographic locations, how such perceptions are constructed, and how these differing views and feelings play out in our everyday. Dual listed with GEOG 5580. *Prerequisites:* Completion of USP H requirement or consent of instructor.

4590 [4574]. Geography of Conflicts. 3. Explores the representation of place and how various groups often have differing views of how a place should be represented and/or thought of. Various local representations of contested land use, group place identity, and personal place identity are discussed. Dual listed with GEOG 5590. *Prerequisite:* Completion of USP H requirement or consent of instructor.

4875 [G&R 4875, 4950]. Independent Studies. 1-6 (Max. 6). Considers current research topics in consultation with faculty member. Dual listed with GEOG 5875. *Prerequisite:* 9 hours in subject area of topic of current research.

4880 [G&R 4880, 4850]. Current Topics. 1-6 (Max. 9). Special course on a topic of current interest. Dual listed with GEOG 5880. *Prerequisite:* junior standing.

4885 [G&R 4885, 4900]. Seminar: _____. 1-3 (Max. 6). Faculty-student discussion, reading, and study focused on a selected topic and interest. *Prerequisite:* GEOG 4750.

4960 [4860, G&R 4860]. Field Studies. 1-6 (Max. 6). Intensive introduction to field methods used in geographic research in one or more of the subdivisions of geography.

4965 [4865, G&R 4865]. Directed Studies/ Research Problems. 1-6 (Max 6). Intensive introduction to methods used in geographic research. *Prerequisites:* consent of instructor and at least 12 hours in geography.

4990 [4870, G&R 4990]. Internship/ Practicum. 1-6 (Max. 12). Experience in applying student skills and training in an agency, organization, or business. Offered for S/U only. Dual listed with GEOG 5990. *Prerequisites:* for majors only, minimum of 12 hours in the major, junior standing and consent of the instructor.

5000. Research Perspectives. 3. Focuses upon the historical development, heritage and topical breadth of geography. Special emphasis is given to the changing approaches and philosophies for conducting research in geography. *Prerequisite:* graduate standing.

5001. Research in Geography Colloquium. 2. Colloquium series and discussion to review and critique examples of current research in geography and allied disciplines. This course builds on the theoretical and philosophical foundations from Research Perspectives. *Prerequisite*: GEOG 5000 and graduate standing.

5002. Geography Graduate Seminar. 2. Research seminar providing third-semester graduate students a public and formal opportunity to present their research. *Prerequisite*: GEOG 5001.

5013. Political Geography. 3. Geographic space is subdivided into political units to aid human interaction and to facilitate political processes. Examines the spatial organization of political space and its effects upon political processes at varying geographic scales ranging from the local to international. Cross listed with POLS 5013; dual listed with GEOG 4013. *Prerequisite:* graduate standing.

5050. Techniques in Environmental Data Management. 4. Centers on the role of information technology in support of scientific research. Through integration of multiple software packages (e.g. Relational databases, ProgramR and ArcGIS), proven database designs, and SQL scripting, increased efficiency and utility will occur during data analyses. These information science principles are demonstrated using project-based examples. Cross listed with ECOL/ENR 5050. Prerequisite: graduate standing.

5060. Landscape Ecology. 3. A study of structure, function, and change in the biosphere on the scale of kilometers. Includes a consideration of the effects of human land uses, natural disturbances, and other processes on landscapes. *Prerequisite:* GEOG 4460 or LIFE 3400 or BOT 4700.

5210. Advanced Geographic Information Systems. 4. Advanced study of programs, data structures, and techniques for spatial data display and analysis. Dual listed with GEOG 4210. *Prerequisites:* GEOG 4200 or equivalent and graduate standing.

5220. Spatial Modeling and Geocomputation. 4. Examines the theory and development of models of spatial patterns and process. Modeling these systems often requires techniques not readily available in GIS environment. Examines GIS and geocomputational methods to solve these problems as well as issues related to error, representation, and scale. Dual listed with GEOG 4220. *Prerequisite:* GEOG 4200/4210.

5310. Foundations of Sustainable Planning. 3. Description and analysis of planning that involves a citizen involvement process to determine the future direction of a community or region. Sustainability concepts are described to provide a framework for social equity, environmental protection, and economic longevity, the fundamental elements of a community or regional comprehensive plan. Dual listed with GEOG 4310.

5325. Legal Aspects of Planning. 3. Review of the U.S. Constitution, federal and state laws and statues, and pertinent court cases that directly relate to planning policy at the federal, state and local level. Examination of the legal system to provide services and protect the health, safety, and welfare of citizens with regard to private property rights. Dual listed with GEOG 4325. *Prerequisite:* graduate standing.

5330. Land Use Planning. 3. Advanced study of processes expressed as a specific activity on the land. An examination and analysis of the interacting environmental, economic, and social factors that produce the land activity. Dual listed with GEOG 4330. *Prerequisite:* graduate standing.

5370. Environmental Planning. 3. A planning-oriented approach to ecosystems theory based on the federal/legal regulatory foundation. An examination of scientific and alternative perspectives on the comparative dynamics of natural and human-oriented ecosystems and implementing strategies. Dual listed with GEOG 4370. *Prerequisite:* graduate standing.

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5440. Advanced Global Climate Variability. 3. Climate varies. This fundamental aspect of the climate system can have major environmental and societal impacts to ecosystems, the hydrologic cycle and water resource management in arid environments such as the intermountain west. This course will utilize climate data and mapping tools to understand global and regional climate variability. Dual listed with GEOG 4440. *Prerequisites:* GEOG/ENR 3450 or equivalent and graduate standing.

5450. Fluvial Geomorphology. 4. A systematic examination of rivers and related land forms. Emphasizes understanding how processes of flow and sediment transport influence channel form and behavior. Considers rivers systems across a range of scales, from movement of individual sediment particles to organization of continental drainage basins. Explores connections to aquatic ecosystems and human impacts. Dual listed with GEOG 4450. *Prerequisites:* GEOG 3010 or GEOL 2100 or GEOL 2150 or equivalent and graduate standing.

5455. Remote Sensing of Hydrologic Systems. 4. Explores the application of remote sensing data and techniques to the study of the hydrological systems and introduces the physical principles that enable the different elements of the hydrological system to be inferred from different types of image data and analysis. Dual listed with GEOG 4455. *Prerequisite:* graduate standing.

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Wyoming and the West, how such perceptions have been constructed over time, and how these differing views create images of the region both real and imagined. Dual listed with GEOG 4502. *Prerequisite:* GEOG 1000 or GEOG 1020 or equivalent and graduate standing.

5560. Global Cities. 3. Globalization accelerates urbanization processes and creates a new type of city: the global city. This course investigates the debates over global cities, urban culture, new urban landscapes, urban planning practices, and social disparity. Using case studies from around the world, this class explores the diversity of global city formation processes. Dual listed with GEOG 4560; cross listed with INST 5560. *Prerequisites:* 9 hours of international studies or geography.

5570. Cultural Geography. 3. Cultural Geography is an overview in qualitative cultural landscape studies. The course emphasizes what a cultural landscape is, how it can be examined, and what can be learned from such landscapes. Students are exposed to readings in cultural geography from a wide array of viewpoints with an emphasis placed on classic works. Dual listed with GEOG 4570. *Prerequisite:* GEOG 1000 or GEOG 1020 or graduate standing.

5580 [5572]. Sense of Place. 3. Examines how individuals and groups perceive specific geographic locations, how such perceptions are constructed, and how these differing views and feelings play out in our everyday. Dual listed with GEOG 4580. *Prerequisites:* GEOG 1000 or GEOG 1020.

5590 [5574]. Geography of Conflicts. 3. Explores the representation of place and how various groups often have differing views of how a place should be represented and/or thought of. Various local representations of contested land use, group place identity, and personal place identity are discussed. Dual listed with GEOG 4590. *Prerequisite:* GEOG 1000 or GEOG 1020 or graduate standing.

5790. Research Methods. 1-3 (Max. 9). Introduction to the methodology of empirical research in related fields for advanced students. *Prerequisites:* 12 credit hours in GEOG, graduate standing, and consent of instructor.

5875. Independent Study. 1-6 (Max. 6). Considers current research topics in consultation with faculty member. Dual listed with GEOG 4875. *Prerequisite:* 9 hours in subject area of topic of current research.

5880. Current Topics. 1-9 (Max. 9). Special course on a topic of current interest. Dual listed with GEOG 4880. *Prerequisite:* junior standing.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: Credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Graduate level course designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisites:* enrollment in a graduate degree program.

5990. Internship/Practicum. 1-12 (Max. 12). Experience in applying student skills and training in an agency, organization, or business. Offered for S/U only. Dual listed with GEOG 4990. *Prerequisite:* graduate standing.

Geology and Geophysics

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Department Head: Carrick M. Eggleston

Professors:

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CARRICK M. EGGLESTON, A.B. Dartmouth College 1983; Ph.D. Stanford University 1991; Professor of Geology 2006, 1995.

CAROL D. FROST, A.B. Dartmouth College 1979; Ph.D. Cambridge University 1984; Professor of Geology 1995, 1983.

NEIL F. HUMPHREY, B.S. University of British Columbia 1978; M.S. University of Washington 1983; Ph.D. 1987; Professor of Geology 2002, 1990.

BARBARA E. JOHN, B.A. University of California-Berkeley 1978; Ph.D. University of California-Santa Barbara 1987; Professor of Geology 2002, 1992.

SUBHASHIS MALLICK, B.S. Indian Institute of Technology 1976; M.S. 1978; Ph.D. University of Hawaii 1987; Professor of Geology and Geophysics and the School of Energy Resources 2008.

JAMES D. MYERS, B.S. University of Rhode Island 1973; M.A. The Johns Hopkins University 1977; Ph.D. 1979; Professor of Geology 1993, 1981.

BRYAN N SHUMAN, B.A. Colorado College 1994; M.S. Brown University 1997; Ph.D. 2001; Professor of Geology 2016, 2007.

KENNETH W. W. SIMS, B.A. Colorado College 1986; M.S. University of New Mexico 1989; Ph.D. University of California - Berkeley 1995; Professor of Geology 2014, 2009.

YE ZHANG, B.S. Nanjing University (PR China) 1998; M.S. University of Minnesota 2004; Ph.D. Indiana University 2005; Professor of Geology 2019, 2007.

Associate Professors:

MICHAEL J. CHEADLE, B.A. Oxford University 1981; M.S. Cornell University 1984; Ph.D. Cambridge University 1989; Associate Professor of Geology and Geophysics 2001.

PO CHEN, B.S. Beijing University 2000; Ph.D. University of Southern California 2005; Associate Professor of Geology and Geophysics and the School of Energy Resources 2014, 2008.

ELLEN D. CURRANO, B.Sc. University of Chicago 2003; Ph.D. Pennsylvania State University 2008; Associate Professor of Geology and Geophysics 2017, 2014.

KENNETH G. DUEKER, B.A. Whitman College 1984; Ph.D. University of Oregon 1994; Associate Professor of Geophysics 2006, 2000.

DARIO GRANA, B.S. University of Pavia 2003; M.S. 2005; M.S. University of Milano Bicocca 2006; M.S. Stanford University 2013; Ph.D. 2013; Associate Professor of Geology and Geophysics and the School of Energy Resources 2019, 2013.

JOHN KASZUBA, B.S. Beloit College 1982; M.S. Virginia Polytechnic Institute & State University 1986; Ph.D. Colorado School of Mines 1997; Associate Professor of Geology and the School of Energy Resources 2008, 2012.

BRANDON McELROY, B.S. University of Michigan 2000; M.S. 2003; Ph.D. University of Texas 2009; Associate Professor of Geology 2019, 2011.

TOM A. MINCKLEY, B.S. Northern Arizona University 1987; University of Arizona 1996; M.A. University of Oregon; Ph.D. 2003; Associate Professor of Geology 2014, 2012.

CLIFFORD S. RIEBE, B.S.E. University of Michigan 1992; Ph.D. University of California-Berkeley 2000; Associate Professor of Geology 2014, 2008.

JACQUELINE J. SHINKER, B.S. University of Arizona 1996; M.A. University of Oregon 1999; Ph.D. 2003; Associate Professor of Geology 2011, 2005.

Assistant Professors:
JAMES CHAPMAN, B.S. College of William and Mary, 2003; M.S. University of Texas at El Paso, 2008; Ph.D. University of Arizona, 2018; Assistant Professor of Geology and Geophysics 2018.
KIMBERLY LAU, B.S. Yale University 2009; Ph.D. Stanford University 2017; Assistant Professor of Geology and Geophysics 2019.
ANDREW PARSEKIAN, B.S. Dickinson College 2005; Ph.D. Rutgers University 2011; Assistant Professor of Geology and Geophysics 2013.
SIMONE RUNYON, B.S. Illinois State University 2007; M.S. University of Arizona; Ph.D. 2017; Assistant Professor of Geology and Geophysics 2018.

Research Scientists:
BRADLEY CARR, B.S University of Wisconsin-Madison 1987; Ph.D. University of Wyoming 1995; Assistant Research Scientist Senior 2017, 2013.
KEVIN R. CHAMBERLAIN, B.A. Colgate University 1979; Ph.D. Washington University 1990; Research Professor 2004, 1990.
JANET C. DEWEY, B.S. Mississippi State University 1990; M.S. Auburn University; Associate Research Scientist 2017, 2011.
SUSAN SWAPP, B.A. Indiana University 1977; M.S. Yale University 1978; M.Ph. 1979; Ph.D. 1982; Senior Research Scientist 1994.

Adjunct Professors:
Vladmir Alvarado, Erin Campbell-Stone, Eric Erslev, Warren B. Hamilton, Peter H. Hennings, W. Steven Holbrook, Ranie Lynds, Laura Vietti

Professors Emeriti:
Donald W. Boyd, James I. Drever, William E. Frerichs, B. Ronald Frost, Robert Houston, Robert R. Howell, Jason A. Lillegraven, Ronald W. Marrs, Randi Martinsen, James E. McClurg, Scott B. Smithson, Arthur W. Snoke, Ronald C. Surdam

Geology is the study of the origin, history and structure of the earth. Our undergraduate offerings encompass virtually every aspect of the science, with emphasis on current theory, methods and applications. The philosophy of the department is to provide sound training in both theory and field observation, and to couple this background with a thorough education in modern laboratory, quantitative and field techniques required for an understanding of geologic processes.

The setting of the university in the Rocky Mountains is ideal because some of North America's most outstanding geologic features are within a short drive of campus. The semi-arid climate in Wyoming has resulted in excellent exposures of diverse rock types ranging in age from Precambrian to Recent. Deformation of the rocks in the region has been extensive, affording the student a field laboratory that exhibits a wide diversity of styles of faulting and folding. Mineral deposits, petroleum resources and coal abound in the region.

Undergraduate Majors

The Bachelor of Science in geology is designed for those students who intend to become professional geologists and/or those who plan to attend graduate school in geosciences. The program includes courses normally expected of graduate school applicants, including a summer field camp and courses in related sciences and mathematics. This degree program prepares students for the examination for the professional geologist license.

The Bachelor of Arts in geology and Earth sciences is specifically designed for undergraduates who wish to study Earth sciences as a foundation for careers in a variety of areas, such as environmental law, natural resource business, land use planning, Earth science education, science journalism, and many governmental positions. The B.A. program includes a broad spectrum of courses, and focuses both on information about the Earth and on how society makes decisions that affect the Earth system.

The Bachelor of Science in Environmental Geology and Geohydrology is designed for those students who intend to become professionals in environmental fields such as consulting, site assessment, hazard assessment, and remediation. The degree will prepare students for graduate school in environmental disciplines and for entry-level jobs.

Majors in any of the degree programs above may also choose to declare an affiliated degree with the School of Environment and Natural Resources by completing degree requirements for both degrees. Students should consult the section on the School of Environment and Natural Resources.

The Department of Geology and Geophysics also participates in the Earth System Science interdisciplinary program by offering a concentration in geology for the B.S. degree in ESS. Students interested in this major should consult the section on Earth System Science for curriculum requirements.

Geology Program Objectives: Bachelor of Science

The primary mission of our B.S. geology program is to provide a quality educational experience that prepares men and women to enter careers in geology and related fields. We expect that our graduates should:

- Have the basic knowledge and skills demanded for entry-level competence in typical careers in earth science.
- Be able to apply basic scientific and technical knowledge to specific tasks and problems.
- Cultivate the specific scientific and technical skills that will allow them effectively to serve their employers and to enhance their own career development.
- Develop increased capacity in the skills of independent learning, critical thinking, problem definition, and problem solving.
- Develop enhanced numerical skills and computer literacy as part of an undergraduate program designed to deliver a current and relevant knowledge of their discipline.
- Communicate effectively and professionally through oral, written, and graphical means and to participate effectively in their workplace and in individual and team-related activities.
- Have the broad general education needed to appreciate the role of Earth Sciences in the societal context and appreciate the importance of ethics in the practice of the profession.

Geology Program Goals: Bachelor of Science

The department of Geology and Geophysics has the following specific goals for its B.S. program:

- Students in the B.S. program will receive a quality preparatory education in the discipline that is current, relevant, practical, and personal.
- B.S. students who graduate with appropriate grades will be able to compete successfully for positions at graduate schools nationwide.
- B.S. students who graduate with appropriate grades will be well prepared for entry-level positions as professionals within their and other related disciplines.

Geology Program Objectives: Bachelor of Arts

The primary mission of our B.A. geology program is to provide a broad educational experience that prepares men and women for careers in earth science-related fields. We expect that our graduate should:

- Have the basic knowledge and skills demanded for entry-level competence in typical careers in earth science related fields.
- Be able to apply their knowledge to specific situations or problems.
- Cultivate the skills and ethics that will allow them effectively to serve their employers and to enhance their own career development.
- Develop increased capacity for independent learning, critical thinking, and problem solving.
- Develop basic numerical skills and computer literacy as part of an undergraduate program designed to deliver a current and relevant knowledge of their discipline.
- Communicate effectively and professionally through oral, written, and graphical means and to participate effectively in the work environment, both in individual and team-related activities.
- Have the broad general education needed to appreciate the role of Earth Sciences in the societal context and appreciate the importance of ethics in the practice of the profession.

Geology Program Goals: Bachelor of Arts

The department of Geology and Geophysics has the following specific goals for its B.A. program:

- Students in the B.A. program will receive a broad preparatory education in earth science and related fields that is current, relevant, practical, and personal.
- B.A. students who graduate with appropriate grades will be able to compete successfully for positions at graduate schools nationwide.
- B.A. students who graduate with appropriate grades will be well prepared for entry-level positions in the geosciences and other related disciplines.

Required Academic Performance

In order to graduate with a Bachelor of Science or Bachelor of Arts degree in geology, the student must earn a letter grade of C (S where appropriate) or better in each course listed herein as part of the required course programs. This grade requirement applies to course work taken outside the department, as well as to transfer courses credited in lieu of resident requirements.

Bachelor of Science Curriculum

Geology Program

I. Required Courses **Hrs.**

One of the following:

GEOL 1005 Earth History or.....4
GEOL 1100 Physical Geology or.....4
GEOL 1200 Historical Geology or.....4
GEOL 1500 Water, Dirt, Climate.....4

And each of the following:

GEOL 2000 Geochemical Cycles & Earth Systems.....4
GEOL 2005 Introduction to Geophysics or GEOL 3005 Principles of Geophysics.....4
GEOL 2010 Minerology.....3
GEOL 2020 Petrology.....2
GEOL 2100 Stratigraphy & Sedimentation..4
GEOL 4610 Structural Geology & Tectonics.....4
GEOL 4717 Field Course in Geology.....6 (to be taken in 1 of the last 2 summers on campus)
GEOL 4820 Capstone.....3

II. Additional 18 credit hours in Geology courses at 2000-level and above:

III. Allied Math and Sciences (20 credits) **Hrs.**

CHEM 1020 or 1050 General Chem I.....4
CHEM 1030 or 1060 General Chem II.....4
MATH 2200 Calculus I.....4
MATH 2205 Calculus II or MATH 2250 Elem Lin Algebra or GEOL 4525 Environmental Data Analysis.....3-4
PHYS 1110 or 1210 Gen or Eng Physics.....4

Note: This program represents a minimum proficiency. Students are strongly advised to elect additional courses in geology.

Bachelor of Science Curriculum Environmental Geology and Geohydrology (EGGH) Program

The Environmental Geology and Geohydrology degree is designed for those students who intend to become professionals in environmental fields such as consulting, site assessment, hazard assessment, and remediation. The degree will prepare students for graduate school in environmental disciplines and for entry-level jobs.

I. Required Courses **Hrs.**

One of the following:

GEOL 1005 Earth History or.....4
GEOL 1100 Physical Geology or.....4
GEOL 1200 Historical Geology or.....4
GEOL 1500 Water, Dirt, Climate or.....4
GEOL 1600 Global Sustainability.....4

And each of the following:

GEOL 2000 Geochemical Cycles, Earth System.....4
GEOL 2010 Mineralogy.....3
GEOL 2080 General Field Geology.....3
GEOL 2100 Strat and Sediment.....4
GEOL 4444 Geohydrology.....4
GEOL 4490 Geochemistry.....4
GEOL 4777 Geochem of Natural Waters....3
GEOL 4880 Earth Surface Processes.....3
GEOL 4820 Capstone.....3

II. Required Allied Math and Science Courses

CHEM 1020 General Chem I.....4
CHEM 1030 General Chem II.....4
PHYS 1110 or 1210 Gen or Eng Physics.....4
MATH 2200 Calculus I.....4
MATH 2205 Calculus II.....4

One of the following:

LIFE 1010 General Biology or.....4
STAT 2050 Fund of Statistics or.....4
MATH 2210 Calculus III or.....4
PHYS 1120 General Physics II or.....4
PHYS 1220 Eng Physics II.....4

III. Additional 18 credit hours of Electives, in consultation with advisor

GEOL 2005 Intro to Geophysics or GEOL 3005 Principles of Geophysics.....4
GEOL 2020 Intro to Petrology.....2
GEOL 2070 Intro to Oceanography.....4
GEOL 4610 Structure & Tectonics.....4
GEOL 3400 Geologic Hazards.....4
GEOL 3500 Global Change.....4
GEOL 3600 Earth & Mineral Res.....4
GEOL 3650 Energy, Geological Persp.....4
GEOL 4001 Modeling in Earth System.....4
GEOL 4113 Geological Remote Sensing.....4
GEOL 4525 Environmental Data Analysis.....4
GEOL 4888 Glaciology.....3

NOTE: Students are encouraged, in consultation with their adviser, to design a major that best fits their interests and goals. With this in mind, there are many courses outside the Department of Geology and Geophysics that may be substituted for courses in the Electives (B) list above provided that such substitutions are made with the consent of an adviser. A

list of such courses may be obtained from the Department. Students who seek the Geology BS may not also seek EGGH as a double major, and vice versa.

Bachelor of Arts in Geology and Earth Science Curriculum

I. Required Courses **Hrs.**

Each of the following:

GEOL 1000-level intro lab course(s) 4-8
GEOL 2000 Geochemical Cycles & Earth System 4
GEOL 2010 Mineralogy.....3
GEOL 2020 Intro to Petrology 2
GEOL 2100 Stratig/Sedimentation 4
GEOL 2080 General Field Geology.....3
GEOL 4820 Capstone 3
LIFE 1010 General Biology.....4
CHEM 1020 General Chemistry I 4
PHYS 1110 General Physics I.....4
MATH 1405 Trigonometry 3
or
MATH 1450 Algebra/Trig.....5

II. Six courses from the following:

ATSC 2000 Meteorology.....4
or
GEOG 3450 Weather and Climate 3
ECON 2400 Economics of the Environment 3
GEOG 3010 Landforms and Soils.....3
GEOL 2005 Intro to Geophysics or GEOL 3005 Principles of Geophysics 4
GEOL 2050 Principles of Paleontology.....3
GEOL 2070 Intro to Oceanography 4
GEOL 3600 Earth & Mineral Resources 4
GEOL 3650 Energy: Geological Persp. 4
GEOL 3400 Geologic Hazards 4
GEOL 3500 Global Change.....4
GEOL 4444 Geohydrology.....4
GEOL 4490 Geochemistry 3
GEOL 4610 Structural Geol/Tectonics.....4
GEOL 4835 Applied/Exploration Geophysics.....3
POLS 4051 Environmental Politics and Admin 3
SOIL 4120 Genesis, Morphology, Classification of Soils.....4
ECON 4400 Environmental Economics 3
or
ECON 4410 Natural Resource Economics..3

III. Additional 12 hours of electives with adviser consultation, at least 6 hours of which must be taken outside of the Department of Geology and Geophysics.

Undergraduate Minor

A minor in geology requires 20 hours of coursework in the Department of Geology and Geophysics. Students are required to take GEOL 1100, 1200, or 1500; GEOL 2000; GEOL 3400, 3500, or 3600; and 8 additional credits in consultation with their adviser. A grade of C or better is required in each of these courses.

Graduate Study

The department offers instruction and research programs leading to master of science and doctor of philosophy degrees in both geology and geophysics and to the master of science in geology/water resources.

Program Specific Admission Requirements

All applicants must complete an online departmental application form with statement of intent. Forms are available from the Department of Geology and Geophysics Web site at www.uwyo.edu/geolgeophys.

Application deadline is January 15 of each year.

All applicants should have completed undergraduate coursework including mathematics through calculus, one year of chemistry, basic training in geology, and for most areas, one year of calculus-based physics.

Applicants to the geophysics graduate program should have an undergraduate degree in geophysics, geology, mathematics, physics, or engineering.

Applicants to the Ph.D. program, without a M.S. degree, must have attained an exceptional undergraduate record.

Formal approval of application by the departmental admissions committee.

Formal acceptance by an adviser.

Formal notice of admission by the university.

Program Specific Graduate Assistantships

All applicants to the geology and geophysics graduate program are considered for assistantships. Applicants are NOT required to complete the graduate assistant application form.

Program Specific Degree Requirements

Master of Science in Geology

Plan A (thesis) (26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geology must complete two semesters of GEOL 5200. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

Master of Science in Geophysics

Plan A (thesis) (26 hours of coursework and 4 hours of thesis)

Preliminary and initial advising shall take place upon acceptance to the graduate program to identify background deficiencies and develop a list of required deficiency coursework to be taken. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

GEOL 5020 Fundamentals of Research is required of ALL graduate students during the first semester of residence.

All graduate students in geophysics must complete two semesters of GEOL 5210. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All M.S. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure of this exam may result in dismissal from the graduate program.

The candidate's committee shall evaluate the thesis and conduct the final examination. The final exam is an oral presentation of the thesis, oral defense of thesis, and oral responses to questions relating to ancillary topics. Failure of this exam can result in dismissal. Retaking of the exam is subject to the discretion of the candidate's graduate committee.

M.S. candidates in geophysics must complete 6 hours of mathematics and three hours of physics or engineering courses at the graduate level.

M.S. candidates must take at least 12 hours of 4000- and 5000-level courses in geophysics. Recommended graduate level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

Doctor of Philosophy in Geology (42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

Completion of GEOL 5020 Fundamentals of Research is required during the first semester of residence.

All graduate students in Geology must complete two semesters of GEOL 5200. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this *Catalog*. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Doctor of Philosophy in Geophysics (42 hours of coursework and 30 hours of dissertation research)

Preliminary and initial advising will identify background deficiencies and develop a list of required deficiency coursework. Deficiency coursework must be completed with a grade of B or better early in the student's graduate residence.

All graduate students in geophysics must complete two semesters of GEOL 5210. Distinguished Lecture Series in the first two semesters of residence plus Rocky Mountain Field Trip.

Completion of GEOL 5020 Fundamentals of Research is required during the first semester of residence.

Ph.D. candidates in geophysics must complete at least 6 additional hours of graduate level coursework: 3 in mathematics and 3 in physics or engineering. Recommended graduate-level mathematics courses include differential equations, numerical analysis, and real and complex variables; in physics and engineering, they include classical mechanics, continuum mechanics, elasticity, electricity and magnetism. Ph.D. candidates are required to take at least 12 hours of 5000-level geophysics courses exclusive of GEOL 5854. Substitutions for graduate-level geophysics courses may be made with the permission of the candidate's adviser. Remaining graduate-level course requirements may be made up from courses in physics, engineering, mathematics, and geology.

All Ph.D. students in the Department of Geology and Geophysics will be required to complete a qualifying exam by the end of the second term in residence. Specific department examination requirements are available from the department office. Failure to complete the exam by the end of the second semester in residence without an approved extension will result in suspension of the student's financial support, irrespective of the source of funding. Ph.D. students who fail the exam will be asked to withdraw from the graduate program or to enroll in the M.S. program.

The preliminary examination is administered following completion of 30 hours of 4000-level or higher coursework, not including independent study or research credits. Failure of this exam may, at the discretion of the thesis committee, lead to a re-examination during the following semester in residence, remedial work, or expulsion from the program.

The Ph.D. dissertation and its defense are described in the regulations section of this *Catalog*. Specific department examination requirements are available from the department office. The candidate's committee is responsible for monitoring progress of the research, refereeing the written work, and administering the final examination.

Master of Science in Geology/Water Resources and Master of Science in Geophysics/Water Resources

Please refer to the Water Resources section of the *Catalog* for degree requirements.

Geology and Geophysics (GEOL)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1001. Earth Science and Society. 1. [I,L◀▶(none)] Introduces students to the study of Earth Science and its role in society through examination and discussion of current events, and through projects researching geologic topics of societal interest. *Prerequisite:* GEOL 1100 or concurrent enrollment.

1005. Earth History. 4. [S◀▶(none)] Reviews the evolution of the Earth including: the creation of the Universe, formation of a layered earth, development and history of continents, controls on climate change, and the origin and evolution of life. Class introduces basic geologic, chemical, physical and biologic concepts used to decipher Earth history.

1050. Gold and the American West. 3. [(none)◀▶PN] The gold rushes in the western United States offer a window into geologic principles and processes resulting to the accumulation of gold, and the consequences of resource extraction on the prospective geologic record of the Anthropocene. This course provides an interdisciplinary approach to natural resources.

1060. Geology of the National Parks. 3. [(none)◀▶PN] This course provides an overview of the geologic settings and processes that form the landscapes and features in the US National Parks and Monuments. We will use the National Parks to explore fundamental geologic concepts, Earth materials, natural hazards, and the dynamic tectonic forces that have affected the planet throughout geologic history.

1070. The Earth: Its Physical Environment. 4. [SE◀▶(none)] Discusses selected topics from geology, astronomy and meteorology illustrating fundamental concepts, processes, products and the interrelationships among them. Emphasizes nature of science and relationship between selected topics and society. Cross listed with ASTR 1070. *Prerequisites:* Math level 3 or equivalent courses, consent of instructor, elementary education major and EDCI 1450 must be taken concurrently.

1100. Physical Geology. 4. [SE◀▶PN] Studies modern concepts of the Earth's physical makeup including minerals and rocks, topography, crustal structure, plate tectonics and processes and forces acting on and within the earth.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

1110. Physical Geology for Engineers. 4. [(none)◀▶PN] Introduction to geologic principles for engineers with emphasis on near surface processes and material properties. The first half will teach planetary basics, mineral/rock and geologic structure, surface processes, geologic material strength and deformation, and geohazards. The final half covers methods and analysis with the collection of geophysical data on-campus to assess near-surface properties with a full lab report. *Prerequisites:* MATH 1400 and MATH 1405 or MPE score of 5 or higher or SAT Math score of 600 or higher or ACT Math score of 27 or higher.

1450. Solving Problems for a Sustainable Future. 3. [(none)◀▶PN] The purpose of this course is to introduce students to problem solving and basic analysis in the context of Earth's environment. Content includes large scale environmental feedbacks, cycles, and processes. The primary goals of the course are to gain an understanding of human/environment interactions and develop problem solving strategies.

1500. Water, Dirt, and Earth's Environment. 4. [SE◀▶PN]. Introductory environmental geology course focusing on water and soil both as hazards and as life-sustaining resources. Explores surface processes and climate change over geological and human timescales. Case studies illustrate the environmental tradeoffs of resource use. Cross listed with ENR 1500.

1600. Global Sustainability: Managing Earth's Resources. 4. [G,S◀▶(none)]. Uses biology, chemistry, physics and Earth science to examine Global Sustainability and how this worldview might guide our future management of Earth resources. Case studies in different international settings place questions of resource exploitation (discovery, extraction, processing, use and disposal) and sustainability in a larger global context.

1650. The Water-Energy-Climate Nexus. 3. [(none)◀▶PN] Among the grand challenges facing humanity, arguably the most significant are water, energy, and climate. These issues are, however not isolated but intimately connected, i.e. water-energy-climate (WEC) nexus. using critical thinking and problem-solving skills, the significance of the WEC nexus to humanity will be explored from STEM and non-STEM perspectives. Cross listed with ERS 1650.

2000. Geochemical Cycles and the Earth System. 4. [SE◀▶(none)]. Introduces the Earth system, including the solid Earth, hydrosphere, biosphere and atmosphere. Emphasizes the evolution of the Earth, rock associations and geochemical cycles. Cross listed with ESS 2000. *Prerequisites:* a 1000-level GEOL course with a lab and concurrent enrollment in CHEM 1020. (Normally offered fall semester)

2010. Mineralogy. 3. Introduction to rock forming minerals. Includes introduction to crystallography, crystal chemistry, and the occurrence and identification of the common minerals, with emphasis on silicates. Field trip required. *Prerequisites:* GEOL 1005, 1100, or 1500; CHEM 1020 or concurrent enrollment.

2020. Introduction to Petrology. 2. Introduces the study of igneous, sedimentary, and metamorphic rocks in hand specimen. Covers textural and mineralogic classification of rocks and the tectonic environments in which they occur. Field trip required. *Prerequisite:* a grade of C or better in GEOL 2010.

2050. Principles of Paleontology. 3. Examines scientific principles, biological and geological, that underlie general study of ancient life on Earth. Includes interactions of evolutionary, stratigraphic, taphonomic and paleogeographic concepts within various approaches to paleobiology and systematic paleontology. Optional field trip. *Prerequisite:* GEOL 1100 or LIFE 1000 or 1010. (Normally offered spring semester)

2070. Introduction to Oceanography. 4. Survey of ocean processes, including the major subdisciplines of physical, geological, chemical, and biological oceanography. Studies the form of the world ocean; composition and chemistry of seawater; circulation, currents, waves and tides; nutrients and organisms; estuaries and coastal processes; origin and distribution of deep-sea sediments; and impacts of human activities. Prerequisites: GEOL 1005, 1100, 1200, 1500 or ENR 1500; MATH 1405 or 1450.

2080. General Field Geology. 3. [SE◀▶(none)] Covers basic concepts of geology and field techniques emphasizing interpretation of geologic features in the field and constructing geologic products (e.g. measured sections and geologic maps). Students are expected to be able to identify the common rock forming minerals and common rocks in hand-sample. Weekly field trip required. *Prerequisites:* GEOL 1100 and at least one other GEOL course. (Normally offered the first half of the fall semester)

2100. Stratigraphy and Sedimentation. 4. Introduces principles of stratigraphy, materials and processes of sedimentation. Laboratory includes study and interpretation of sedimentary rocks, sedimentary structures and stratigraphic techniques. Field trip required. *Prerequisite:* GEOL 2010. (Normally offered spring semester)

2150. Geomorphology. 4. Discusses general principles of landform description and analysis. *Prerequisite:* GEOL 1100 or equivalent.

2220. Communicating Earth Science. 3. [(none)◀▶COM2] This course will focus on communicating science to non-scientists. Students will deliver earth science information through written, digital and oral presentations to be informative and interesting to the public. *Prerequisites:* grade of C or higher in GEOL 2010, COM1.

3005 [2005]. Principles of Geophysics. 4. Mechanisms and driving forces of Earth deformation, at length-scales from the tectonic to the microstructural. Introduces solid bodies, including stress and strain, with applications to plate tectonics, and surficial processes. Heat flow, electrical and electromagnetic fields are introduced, with applications to tectonic and

hydrologic problems. *Prerequisites:* 1000-level GEOL course with lab, PHYS 1110 or 1210. (Normally offered fall semester)

3040. Introduction to Groundwater. 3. This class will introduce the basic principles of Groundwater Hydrology such as hydrological cycle, mass balance, fluid properties, mechanics of flow through porous media, Darcy's law, aquifer and aquitards, groundwater wells, groundwater geology, and surface water/groundwater interaction. *Prerequisites:* A grade of B or higher in MATH 1405 or MATH 1450.

3110. Invertebrate Paleontology. 4. Encompasses taxonomy and morphology of major groups of invertebrate fossils. Includes examples of their use in correlation, environmental reconstruction and interpretation of evolution. *Prerequisite:* GEOL 1200. (Normally offered spring semester)

3250. Geosciences and Computers. 4. [I◀▶(none)] An integrated introduction to the basic components of modern scientific computing and to illustrate basic computing concepts through geoscience applications. *Prerequisite:* One USP designated science course with lab.

3400. Geologic Hazards: A Historical and Scientific Review. 4. [SE◀▶(none)] Geologic hazards include well-known catastrophic events such as earthquakes, volcanic eruptions and landslides, as well as lesser known processes such as soil expansion, land subsidence and ground failure. Economically, the latter processes have a much greater impact each year than the more notorious geologic events. Reviews geologic hazards from a historical and scientific perspective. Describes relevant geologic processes, how geologic evidence is used to identify regions at risk, monitoring procedures and the role of the scientist in predicting catastrophic geologic events. Prehistoric and historic events are used to illustrate temporal and spatial scales of geologic hazards. *Prerequisite:* junior standing.

3500. Global Change: A Geological Perspective. 4. Considers the geochemical and geophysical systems that control the Earth's climate, the geological and historical record of climate change, and then discusses the possible effect that human activities will have upon these chemical and geophysical systems. *Prerequisites:* junior standing and an introductory class in the physical sciences.

3600. Earth and Mineral Resources. 4. [Explores the geologic formation, production, and use of Earth and mineral resources, including building materials, chemical minerals, industrial minerals and metals. For each resource, the geologic environment and processes of formation are discussed. Exploration and mining techniques for each resources are also reviewed and associated environmental problems and regulations examined. Beneficial and detrimental aspects of the use of each resource are also discussed. *Prerequisite:* completion of USP QA and L.

3650. Energy for Society: Addressing the Energy Grand Challenge. 4. [SE,G◀▶PN] Examines the energy needs of a modern industrialized society. Looks at the types of energy, the natural laws that govern its use, transformation, and conservation. The different sources of energy available to modern societies are examined. Examination includes fossil fuels, nuclear power as well as alternative energy sources. The formation of the resource is discussed, how it is extracted, and any environmental consequences associated with its extraction and use. *Prerequisite:* completion of USP QA and L.

4000. Paleomagnetism in Geology/Geophysics. 3. Studies paleomagnetic solutions in geoscience topics. Includes plate reconstructions; sea-floor formation; structural geology; dating of structural/tectonic events; western North American tectonics; global geomagnetic polarity reversals and time scale; magnetostratigraphic correlation; stratigraphic dating; dating diagenetic events; characteristics of core and mantle; extraterrestrial impacts and geologic phenomena; environmental and climate change applications. Field trip and laboratory project required. Dual listed with GEOL 5000. *Prerequisite:* GEOL 1000 or 1100; GEOL 1200 desirable.

4001. Modeling the Earth System. 4. Takes a modeling approach to demonstrate how the Earth is integrated into an interconnected system through exchanges of energy and matter, and how Earth system functioning is susceptible to human alteration. Unifying concepts focus on quantitative interactions between the Earth and the Sun, and between the Earth's lithosphere, hydrosphere, biosphere and atmosphere. Cross listed with BOT/ATSC/ESS 4001. *Prerequisites:* MATH 2205 or equivalent and [ESS 2000 or GEOL 2000].

4010. Petroleum Exploration and Production. 3. The purpose of this course is to provide students with information and skills necessary to understand the oil and gas modeling process from exploration to production. Topics will include geophysical exploration, seismic acquisition, geophysical modeling, reservoir characterization, reservoir production, well planning and decision making. Cross listed with ERS 4010. *Prerequisites:* GEOL 1100; MATH 2200 or MATH 2350.

4025. Igneous and Metamorphic Petrology. 4. An advanced study of igneous and metamorphic rocks in hand sample and thin section. Covers optical techniques for identifying minerals, the use of phase diagrams and geochemistry to understand the evolution of igneous rocks and the formation conditions of metamorphic rocks. A field trip is required. *Prerequisite:* GEOL 2020.

4030. Groundwater Flow and Solute Transport Modeling. 3. Movement of groundwater and the dissolved solute is responsible for a variety of environmental, engineering, and geological processes of interest. Presents an overview of the analyses of groundwater flow and solute transport using numerical modeling. The principles of the Finite Difference Method are introduced. Dual listed with GEOL 5030. *Prerequisites:* MATH 2205 and GEOL 4444/5444.

4050. Geology of Wyoming. 3. Survey of the geologic history of Wyoming beginning in the Precambrian and extending to the present. Stratigraphic and sedimentation history, igneous activity, metamorphism, and orogenic activity are emphasized in the lectures. Occasional field trips are required. *Prerequisite:* GEOL 1100 or an equivalent course. (Normally offered fall semester)

4060. Rocky Mountain Field Trip. 1 (Max. 3). A six-day geological field trip to various classic localities in the Rocky Mountains. *Prerequisites:* senior standing and GEOL 2010 and GEOL 4610 or 4050.

4113. Geological Remote Sensing. 4. Acquaints students with aircraft and spacecraft remote sensing of the environment, emphasizing geologic application to earth and other planetary bodies. Includes visible, infrared, ultraviolet, radio and radar sensing. Laboratory exercises are applications related to tectonics, geomorphology, paleoclimate, structure, stratigraphy, environmental geology and geologic hazards. Dual listed with GEOL 5113; cross listed with GEOG 4113. *Prerequisites:* GEOL 1005 or 1100 or 1200 or GEOG 1010 and MATH 1400/1405 or MATH 1450.

4125. Igneous Petrology. 2. Studies igneous rocks in thin section. Lectures cover mineralogy, geochemistry, phase equilibria and occurrence of igneous rocks. Labs study suites of igneous rocks in thin section. *Prerequisite:* GEOL 2010. (Offered fall semester of odd numbered years)

4130. Metamorphic Petrology. 2. Studies metamorphic rocks in thin section. Lectures cover mineralogy, phase equilibria and occurrence of metamorphic rocks. Labs study suites

of metamorphic rocks in thin section. *Prerequisite:* GEOL 2010. (Offered spring semester of odd-numbered years)

4150. Paleontology of Lower Vertebrates. 4. Explores evolutionary histories of lower vertebrates including fishes, amphibians, reptiles and birds. Optional field trip. *Prerequisites:* acceptable previous training in geology or zoology, 12 hours of biology and/or geology or ZOO 4000. (Normally offered every third year)

4160. Regional Tectonics. 2. A field-based introduction to the Mesozoic to early Cenozoic tectonic evolution of the U.S. Cordillera. Dual listed with GEOL 5160. *Prerequisite:* GEOL majors and junior or senior level standing.

4170. Paleontology of Cenozoic Placental Mammals. 4. Explores evolutionary histories of placental mammals' characteristic of Cenozoic era as documented through fossil record study. Optional field trip. *Prerequisite:* 12 hours of biology and/or geology or ZOO 4000. (Normally offered every third year)

4190. Petroleum Geology. 3. Principles governing the exploration for hydrocarbons; characteristics of reservoirs and traps; origin, migration and accumulation of hydrocarbons; subsurface evaluation techniques. Dual listed with GEOL 5190. *Prerequisite:* GEOL 2005 or PETE 2050.

4191. Methods in Petroleum Geology. 3. Lectures and laboratory exercises are designed to give the student experience in working with various kinds of geoscientific data in relation to the exploration for and production of hydrocarbons. Most exercises utilize real data and real situations. Topics include recognition of hydrocarbons, interpretation of sample, mud and geophysical logs, geologic utilization of drill stem tests; subsurface correlation and mapping techniques; prospect generation. Dual listed with GEOL 5191. *Prerequisite:* GEOL 4190.

4200 [4010]. Topics in Geology. 1-3 (Max. 9). Studies particular geology topics in-depth at undergraduate level. *Prerequisites:* senior standing and 20 hours in geology.

4210 [4020]. Topics in Geophysics. 1-3 (Max. 9). Studies particular geophysics topics in-depth at undergraduate level. *Prerequisites:* senior standing and 20 hours in geology.

4214. Topics in Economic Geology. 1-2 (Max. 2). Seminar in economic geology: topics will be influenced by the interest of students who register. For undergraduates looking to enroll in GEOL 4214, it is highly suggested that you have taken GEOL 4270 Ore Deposits before taking this class. Dual listed with GEOL 5214. *Prerequisite:* C or better in GEOL 2020.

4270. Hydrogeophysics. 3. Estimating groundwater parameters, contaminant transport, porosity and other hydrologic properties using geophysics. Integrates literature review, discussion, exercises and writing to introduce students to hydrogeophysics research. Students will acquire skills at reading technical publications, writing, and grain knowledge about current trends in the field. Emphasis on critical thinking and analysis of writing. *Prerequisites:* 20 hours of geology or engineering courses.

4280. Paleobotany. 4. An examination of the ecology and evolution of land plants throughout Earth history that emphasizes the profound impact plants have had on Earth's surface and atmosphere. Through a combination of lecture, discussion, and laboratory, the course will explore fossilized plant communities, their ecological properties, and effects of major environmental upheavals. Dual listed with GEOL 5280. Cross listed with BOT 4280. *Prerequisite:* a grade of C or better in LIFE 1010 or GEOL 1100.

4310. Advanced Stratigraphy. 3. Deals with characterizing and predicting the vertical and lateral distribution of sedimentary rocks. Includes correlation methods; use of facies models; facies delineation; impact of tectonics and changes in relative sea level on sedimentary record; transgressions and regressions; concept and construction of stratigraphic framework; and sequence stratigraphy. *Prerequisite:* GEOL 2100. (Normally offered spring semester)

4320. Cenozoic Stratigraphy. 4. Studies areal distribution, depositional environment, paleohydraulics, provenance, and correlation of global Cenozoic deposits. Required field trip. *Prerequisite:* GEOL 2100. (Offered based on sufficient demand and resources)

4420. Sedimentary Rocks. 4. Encompasses origin, classification and interpretation of sedimentary rocks including sandstones, mudrocks and carbonates. Topics also include depositional environments and basin analysis. Field trip required. *Prerequisites:* GEOL 2010 and GEOL 2100. (Offered based on sufficient demand and resources)

4440. High-Performance Computing for Scientists and Engineers. 3. Gives students an integrated introduction to the design, analysis and implementation of parallel codes on modern HPC systems. This course is interdisciplinary in nature, involving case studies in biology, physics, mathematics and geoscinces. HPC systems at ARCC will be used for hands-on exercises. Offered satisfactory/unsatisfactory only.

4444. Geohydrology. 4. Examines the physical principles governing the occurrence, movement, and extraction of water in aquifers. Dual listed with GEOL 5444. *Prerequisite:* MATH 2205. (Normally offered fall semester)

4460. Planetary Geology. 3. Examines basic principles of planetary geology and their application to specific planetary examples. Core topics include solar system formation, impact cratering, and comparative planetology. Provides an opportunity to test terrestrial theories under extreme conditions, and provides insight into both early earth history and ongoing geological processes. *Prerequisites:* GEOL 2010 and GEOL 2100 and (Math 1400/1405 or 1450).

4470. Introduction to Geomodeling. 3. Introductory course in numerical modeling in the geosciences, offering coding experience as well as insight into the generalities of modeling. We develop, in class, simple geo-models, which allow experience constructing and testing computer models. As a minimum we will develop one extensive Finite Difference model and one minimalistic Finite Element model; other techniques will depend on student interests. *Prerequisites:* at least one semester of college level calculus and one semester of college level physics.

4490. Geochemistry. 4. Discusses chemical evolution of the Earth and details of chemical thermodynamics, phase rule chemistry, equilibrium reactions and reaction kinetics as applied to geology. *Prerequisites:* GEOL 2010, CHEM 1020, MATH 2200, 2205. (Normally offered spring semester)

4525. Environmental Data Analysis. 4. Explores fundamentals of environmental data analysis including the display and description of data, uncertainty propagation, statistical significance and power, t-tests, ANOVA, time series, serial correlation, multiple regression, and sample collection strategies. Students must enroll in a computer-based lab session and complete a term project involving real world problems in data analysis. Dual listed with GEOL 5525. Cross listed with ENR 4525/5525. *Prerequisites*: A grade of C or better in STAT 2050 or STAT 2070 or MATH 2200, junior standing or higher, and completion of at least one upper-division course in the natural sciences or a related field.

4610. Structural Geology and Tectonics. 4. Encompasses lectures, readings and problems dealing with character and causes of structures that deform Earth's crust. Field trips required. *Prerequisite:* GEOL 2010. (Normally offered fall semester)

4666. Plate Tectonics. 3. Studies theory of plate tectonics including quantitative assessment of observations which lead to its accep-

tance. Includes geometry of plate tectonics, plate boundaries and plate motions at present and in the past, evolution of plates including sea floor spreading and subduction processes, as well as driving mechanisms. Two lectures, one laboratory/discussion per week. Dual listed with GEOL 5666. *Prerequisites:* GEOL 4610, geology/geophysics math requirements. (Offered based on sufficient demand and resources)

4717 [5100]. Field Course in Geology. 1-8 (Max. 8). Reviews field observation of geologic phenomena, methods of geologic mapping and interpretation of data collected. Course includes a six-week field trip. *Prerequisites:* GEOL 2100, 4610. (Offered early summer)

4720 [4700]. Ore Deposits. 4. Teaches principles of economic geology of ore minerals. Lectures cover geochemistry of ore minerals and environments in which various ore minerals are found. Labs include identification of ore minerals in hand sample and under microscope and methodology of economic geology. Dual listed with 5720. *Prerequisite:* a grade of C or better in GEOL 2020. (Normally offered fall semester)

4760. Rates and Timescales of Surface Processes. 3. Explores methods for quantifying rates and timescales of weathering, erosion, soil formation, nutrient cycling and other surface processes. Focus includes cosmogenic nuclides, tracer thermochronometry, U-series disequilibrium, fallout radionuclides, and optically stimulated luminescence. Course features a mix of instructor-driven lectures on fundamentals and student-driven discussion of cutting-edge research from recent literature. Dual listed with GEOL 5760. *Prerequisites*: GEOL2150 or GEOG 3010 or GEOL 4880 and MATH 2205 and CHEM 1020 and PHYS 1100.

4777. Geochemistry of Natural Waters. 3. Studies physical chemistry applied to natural waters, and chemistry of rock weathering, sources and controls on major, minor and trace elements, plus problems related to introduced pollutants. Dual listed with GEOL 5777. *Prerequisites:* GEOL 2010, MATH 2205, and CHEM 1030.

4800. Independent Study. 1-3 (Max. 6). Encompasses field, laboratory or library research for senior students in department. *Prerequisites:* senior standing and not fewer than 20 hours in geology.

4820. Capstone. 3. [WC◀▶COM3] Critical examination of landmark papers and their influence on the Earth sciences. Through readings, lectures, discussions and in oral and written presentations, the student will gain a broad perspective over the impact of key issues in the field. *Prerequisites:* junior standing and 26 hours in the department.

4835 [4970]. Applied/Exploration Geophysics. 3. Discusses the fundamentals of Applied or Exploration Geophysics, encompassing lecture, laboratory classes and discussion of case histories. It covers the Seismic Refraction, Seismic Reflection, Gravity, and Magnetics methods. Provides a solid grounding about the exploration of the Earth's subsurface for mineral and hydrocarbon resources, and environmental issues. Dual listed with GEOL 5835. *Prerequisites:* 1000-level GEOL course with lab, PHYS 1110 or 1210 and MATH 2200.

4850. Principles of Digital Filtering and Time Series Analysis. 3. Studies principles and applications of data processing techniques as used in seismic exploration, oceanography, gravity and magnetic prospecting, remote sensing and other areas of earth science. Includes discrete versus continuous time series; fourier and Z-transforms; layer matrix analysis; reflectivity function; deconvolution and predictive deconvolution; digital filter design; array analysis; velocity filters; and migration. *Prerequisite:* mathematics through calculus. (Normally offered fall semester)

4880. Earth Surface Processes. 3. Quantitative interpretation of Earth's surface processes. Uses a quantitative approach to demonstrate how the development of landforms can be modeled. *Prerequisites:* MATH 2205 (2210 preferred), PHYS 1210.

4888. Glaciology. 3. Dynamics of frozen water. Covers behavior of ice masses, in the form of glaciers or ice-sheets, and geomorphic aspects of glacial erosion and deposition. Includes forcing and feedbacks between cryosphere and global climate. *Prerequisite:* MATH 2205, PHYS 1210 (1310). (Offered every second year spring semester)

5020. Fundamentals of Research. 2. Lectures, discussion and projects centered on three fundamental aspects of research: development of research tools, understanding the scientific method, learning how to write a grant, read the literature and present a talk. Class is designed for all incoming graduate students in the department. *Prerequisite:* graduate standing.

5030. Groundwater Flow and Solute Transport Modeling. 3. Movement of groundwater and the dissolved solute is responsible for a variety of environmental, engineering, and geological processes of interest. Presents an overview of the analyses of groundwater flow and solute transport using numerical modeling. The principles of the Finite Difference Method are introduced. Dual listed with GEOL 4030. *Prerequisites:* MATH 2205, GEOL 5444.

5050. Introduction to Isotope Geology. 3. Understanding of atomic structure, radioactive decay, mass spectrometry, dating techniques and petrologic uses of isotropic systems. Emphasis will be placed on evaluating dating methods in relation to particular geologic problems and possible sources of error. The use of isotopes in defining magmatic sources and crustal contamination are discussed. *Prerequisites:* CHEM 1020, CHEM 1110, MATH 2200, MATH 2205.

5113. Geological Remote Sensing. 4. Acquaint students with aircraft and spacecraft remote sensing of the environment, emphasizing geological application to earth and other planetary bodies. Includes visible, infrared, ultraviolet, radio and radar sensing. The laboratory exercises are applications related to tectonics, geomorphology, paleoclimate, structure, stratigraphy, environmental geology and geologic hazards. Dual listed with GEOL 4113. *Prerequisites:* GEOL 1005 or 1100 or 1200 or GEOG 1010 and MATH 1400/1405 OR MATH 1450.

5120. Tectonic Evolution of the North American Cordillera. 4. Phanerozoic tectonic evolution of western North America viewed through the paradigm of plate tectonics. Course involves intensive literature review, guest speakers, a possible field trip, and an in depth regional tectonic analysis to be done by each student. *Prerequisite:* GEOL 2020, GEOL 2100, and GEOL 4610.

5150. Metamorphic Petrology. 4. Lectures on field occurrence, macroscopic and microscopic characteristics of igneous rocks, followed by lectures on application of physical chemistry to genetic study of igneous rocks. Laboratory devoted to the study of suites of igneous rocks from classical areas. *Prerequisite:* GEOL 2020 and 4490; graduate standing.

5160. Regional Tectonics. 2. A field-based introduction to the Mesozoic to early Cenozoic tectonic evolution of the U.S. Cordillera. Dual listed with GEOL 4160. *Prerequisite:* graduate standing.

5180. Reflection Seismology. 3. Lectures treating seismic methods applied to the study of earth structures ranging from exploration to crustal structure. Topics covered include wave propagation recording techniques, processing, modeling, resolution and interpretation. Laboratory exercises give practical experience on lecture topics and emphasize use of instruments and data analysis. Computer processing introduced. *Prerequisite:* GEOL 1200, one year of calculus and one year of physics.

5190. Petroleum Geology. 3. Principles governing the exploration for hydrocarbons; characteristics of reservoirs and traps; origin, migration and accumulation of hydrocarbons; subsurface evaluation techniques. Dual listed with GEOL 4190. *Prerequisites:* GEOL 2100, 4610.

5191. Methods in Petroleum Geology. 3. Lectures and laboratory exercises are designed to give the student experience in working with various kinds of geoscientific data in relation to the exploration for and production of hydrocarbons. Most exercises utilize real data and real situations. Topics include recognition of hydrocarbons, interpretation of sample, mud and geophysical logs, geologic utilization of drill stem tests; subsurface correlation and mapping techniques; prospect generation. *Prerequisite:* GEOL 5190.

5200. Topics in Geology. 1-3 (Max. 9). Provides a detailed study at a graduate level of a particular topic in geology. *Prerequisite:* graduate standing in geology and geophysics and permission of the instructor.

5210. Topics in Geophysics. 1-3 (Max. 9). Provides a detailed study at a graduate level of a particular topic in geophysics. *Prerequisite:* graduate standing in geology and geophysics and permission of instructor.

5211. Seminar in Structural Geology and Tectonics. 1 (Max. 6). Selected topics in structural geology and tectonics. On-going research among undergraduate and graduate students is emphasized. Prerequisite: GEOL 4610 or equivalent course.

5212. Sedimentary Seminar. 1 (Max. 3). Seminar in selected topics in sedimentary geology. Designed to bring, and keep, graduate students up to date with the current literature and new, unpublished ideas. Visiting lecturers and presentations of student and faculty research. *Prerequisite:* graduate standing.

5213. Seminar in Tectonics. 2. Graduate topical seminar focused on tectonic. The class is a mixture of lectures, readings, and original research involving the compilation/generation, analysis, and interpretation of data to understand geodynamic processes and events. *Prerequisite:* graduate standing.

5214. Topics in Economic Geology. 1-2 (Max. 2). Seminar in economic geology: topics will be influenced by the interest of students who register. For undergraduates looking to enroll in GEOL 4214, it is highly suggested that you have taken GEOL 4270 Ore Deposits before taking this class. Dual listed with GEOL 4214.

5215. Inverse Theory. 3. Inverse theory is about learning the techniques to invert data for an acceptable model. The simplest example is least-squares fitting of a line. Covers inversion of both over and under-determined inverse problems, regularization techniques, bayesian theory, along with probabilistic viewpoints. Prerequisites: graduate standing in geology and geophysics; linear algebra, MATLAB programming.

5216. Global Seismology. 3. Introductory class in theoretical seismology with emphasis on wave propagation. Topics include elastic wave theory for body and surface waves, normal modes, anisotropic wave propagation, source processes, and derivation of the wave equation, the ray theoretical approximation, representation theorems, stress/strain constitutive relations, normal modes, surface waves, and attenuation operators. *Prerequisites:* graduate standing in geology or geophysics and permission of the instructor.

5217. Geodynamics. 3. Examines the fundamental physical processes necessary for the understanding of plate tectonics and a variety of other geological phenomena. Provides a solid grounding for future study and research covering plate tectonics, stress & strain, elasticity, isostasy & the flexural strength of the lithosphere, gravity, and thermal processes. *Prerequisites:* GEOL 1100, one year of college level Physics and MATH 2210.

5220. Vertebrate Morphology and Evolution. 2. Course for paleontology majors and vertebrate anatomists involving advanced concepts, recent literature, and research training in the areas of morphology and evolution of fossil vertebrates. Cross listed with ZOO 5220. Prerequisite: GEOL/ZOO 4150 or GEOL/ZOO 4160, or GEOL/ZOO 4170 or ZOO 4000.

5230. Vertebrate Paleobiogeography. 2. Lectures and discussions devoted to use of data from the fossil record of vertebrates in interpreting ancient distributions of landmasses and seaways, recognizing paleoclimatic changes, and documenting the evolution of zoogeographic provinces. *Prerequisite:* GEOL/ZOO 4150, or GEOL/ZOO 4160 or GEOL/ZOO 4170.

5270. Hydrogeophysics. 3. Estimating groundwater parameters, contaminant transport, porosity and other hydrologic properties using geophysics. Integrates literature review, discussion, exercises and writing to introduce students to hydrogeophysics research. Students will acquire skills at reading technical publications, writing, and grain knowledge about current trends in the field. Emphasis on critical thinking and analysis of writing. *Prerequisites:* 20 hours of geology or engineering courses.

5280. Paleobotany. 4. An examination of the ecology and evolution of land plants throughout Earth history that emphasizes the profound impact plants have had on Earth's surface and atmosphere. Through a combination of lecture, discussion, and laboratory, the course will explore fossilized plant communities, their ecological properties, and effects of major environmental upheavals. Dual listed with GEOL 4280. Cross listed with BOT 5280. *Prerequisite:* graduate standing.

5300. Sedimentary Basins. 4. Sedimentary basin evolution are examined from the view point of plate tectonics, thermal histories, and lithospheric processes. Quantitative basin modeling techniques are applied to understanding subsidence histories, sea level changes, and the primary controls on the formation of stratigraphic sequences. *Prerequisite:* 1 year of calculus.

5321. Engineering and Environment Geophysics. 3. Theoretical background for electrical, electromagnetic, georadar, and other near-surface geophysical measurements. Practical exercises focused on modeling, inversion, data analysis and experimental design. Discussion of applications to engineering and environmental problems. Basic knowledge of MATLAB programming language is helpful, but not required. Cross listed with CE 5321. *Prerequisite:* MATH 2250 or MATH 2200.

5330. Mechanics of Sediment Transport, Erosion and Deposition. 4. Erosion, transport, and deposition of sediments are examined from a first-principles basis. Physical processes are derived from fluid dynamics, statistical mechanics, and mass conservation. These topics are then used to explore landscape and seascape evolution, morphodynamics, and stratigraphic construction. *Prerequisites:* GEOL 2100 or equivalent.

5340. Advanced Tectonics and Sedimentation. 3. Lectures, seminars, and field observations on the relations between tectonism and the sedimentary record. Topics include a review of plate tectonic theory, characteristics of major types of sedimentary basins, techniques for evaluating tectonic activity from evidence in the sedimentary record and large-scale tectonosedimentary elements. *Prerequisites:* graduate standing, GEOL 2100, and GEOL 4610.

5410. Geochemical Analytical Methods. 3. Applied course in common geochemical analytical methods. Consists of lectures and laboratories with individual hands-on training. Includes sample handling, method development, and data interpretation for several analytical instruments including but not limited to inductively coupled argon plasma emission and ion chromatography. Other analytical methods are also treated. *Prerequisite:* GEOL 4490.

5420. Surfaces and Interfaces. 3. Examines the role of surfaces and solid-solution interfaces in regulating the chemistry of the Earth's surface. Subjects to be covered includes surface tension, capillarity, and the thermodynamics of surfaces; the equilibrium and kinetic chemistry of absorption-desorption; dissolution-precipitation kinetics and controlling factors; surface catalysis; and surface oxidation-reduction reactions. Presented in the context of geochemically and environmentally important processes such as chemical weathering, partitioning of solutes between water and surfaces, and the transport and degradation of pollutants. *Prerequisite:* One of the following: GEOL 4490, 4777, 5777, CHEM 3020, CHEM 4507.

5444. Geohydrology. 3. Examines the physical principles governing the occurrence, movement, and extraction of water in aquifers. Dual listed with GEOL 4444. *Prerequisite:* MATH 2205. (Normally offered fall semester)

5446. Introduction to Geostatistics. 3. The development of the basic principles of geostatistics and its practical applications in the geosciences will be presented. Main topics include: spatial analysis, kriging, cokriging, geostatistical simulations (unconditional, conditional). If time permits additional topics include: simple kriging, indicator kriging and block kriging. *Prerequisites:* MATH 2200, 2205, 2250 and STAT 2000.

5450. Geochemical Modeling. 3. Modeling of geochemical processes in fluid-rock systems of the Earth's crust. Emphasizes development and application of conceptual models as well as quantitative numerical models. Reinforces and expands fundamental skills in aqueous and fluid-rock geochemistry to better understand geochemical processes and solve problems in fluid-rock systems. *Prerequisite:* GEOL 4777/5777 or GEOL 5610 or GEOL 4490.

5470. [5460]. Introduction to Geomodeling. 3. Introductory course in numerical modeling in the geosciences, offering coding experience as well as insight into the generalities of modeling. We develop, in class, simple geo-models, which allow experience constructing and testing computer models. As a minimum we will develop one extensive Finite Difference model and one minimalistic Finite Element model; other techniques will depend on student interests. *Prerequisites:* at least one semester of college level calculus and one semester of college level physics.

5525. Environmental Data Analysis. 4. Explores fundamentals of environmental data analysis including the display and description of data, uncertainty propagation, statistical significance and power, t-tests, ANOVA, time series, serial correlation, multiple regression, and sample collection strategies. Students must enroll in a computer-based lab session and complete a term project involving real world problems in data analysis. Dual listed with GEOL 4525. Cross listed with ENR 4525/5525.

5550. Numerical Methods in Ground Water Geology I. 3. Numerical solution of ground water flow equations with emphasis on steady state and elementary time dependent finite difference techniques. *Prerequisites:* GEOL 4444 or 5444, competence in FORTRAN programming.

5560. Numerical Methods in Ground Water Geology II. 3. Time dependent digital simulation models designed to forecast impacts of ground water developments. *Prerequisite:* GEOL 5550.

5570. Advanced Geohydrology. 3. Aquifer performance and testing, ground water basin development and management, conjunctive use of ground and surface water, and regional water resource investigations. *Prerequisite:* GEOL 4444 or 5444.

5600. Theoretical Petrology. 3. Graphic and analytical techniques used to evaluate the genesis of igneous and metamorphic rocks. Principles of thermodynamics, activity-composition relations, and G-X diagrams will be reviewed. Igneous topics include: use of phase diagrams, heat and mass transfer, magma generation. Fluid rock equilibria and Schreinemakers' analysis will be used to evaluate the origin of metamorphic rocks. *Prerequisites:* GEOL 4490.

5610. Geological Thermodynamics I. 4. Laws of thermodynamics, conditions which constitute chemical equilibrium, and multiple component systems as applied in geologic problems. *Prerequisites:* MATH 2200, MATH 2205, CHEM 1030, consent of instructor.

5630. Electronic Microprobe. 3. Lectures cover the theory of X-ray emission analysis, microprobe instrumentation, and data reduction procedures. Labs cover various uses of microprobe in solving geological problems. *Prerequisites:* consent of instructor.

5640. Advanced Igneous Petrology Seminar. 1-3 (Max. 9). Advanced training in igneous petrology emphasizing applications of chemical principles to the study of ingneous rocks. Each year a different aspect of igneous petrology are covered in detail. *Prerequisites:* GEOL 4490, 5050.

5650. Advanced Metamorphic Petrology. 3. Review of the literature and study of the advanced concepts in metamorphic petrology. *Prerequisite:* GEOL 5150.

5660. Microstructural Analysis of Deformed Rocks. 4. The use of microscope in the interpretation of natural strain in rocks is emphasized. Lectures and extensive laboratory exercises are the principle components of the course. Microfabric analysis using the universal stage is introduced. *Prerequisites:* GEOL 4610 required, GEOL 5150 recommended.

5666. Plate Tectonics. 3. The theory of plate tectonics including a quantitative assessment of the observations which lead to its acceptance and limitations. Topics include: geometry of plate tectonics, plate boundaries and plate motions at present and in the past, evolution of plates including sea floor spreading and subduction processes, and driving mechanisms. Two lectures, one laboratory/discussion per week. Dual listed with GEOL 4666. *Prerequisites:* GEOL 4610, geology/geophysics math requirements.

5700. Seminar in Structure and Development of the Earth's Crust. 3. Seminar in structure and development of the Earth's crust. Topics include structure and geochemistry of the Precambrian plate tectonics in the Precambrian early history of the Earth, seismic refraction crustal models, seismic reflection crustal models, and crustal genesis. *Prerequisites:* admission is by consent of instructor, GEOL 4610 and one semester of geophysics.

5720. Ore Deposits. 4. Teaches principles of economic geology of ore minerals. Lectures cover geochemistry of ore minerals and environments in which various ore minerals are found. Labs include identification of ore minerals in hand sample and under microscope and methodology of economic geology. Dual listed with GEOL 4720. *Prerequisite:* GEOL 2010.

5730. Seismic Data Processing. 3. Fundamentals of seismic reflection data processing: processing of field tapes, cross-correlation, velocity analysis, stacking, and deconvolution. Statistics correct, migration, coherency filtering. *Prerequisites:* GEOL 5180, MATH 4430, MATH 4440.

5760. Rates and Timescales of Surface Processes. 3. Explores methods for quantifying rates and timescales of weathering, erosion, soil formation, nutrient cycling and other surface processes. Focus includes cosmogenic nuclides, tracer thermochronometry, U-series disequilibrium, fallout radionuclides, and optically stimulated luminescence. Course features a mix of instructor-driven lectures on fundamentals and student-driven discussion of cutting-edge research from recent literature. Dual listed with GEOL 4760. *Prerequisites*: GEOL2150 or GEOG 3010 or GEOL 4880 and MATH 2205 and CHEM 1020 and PHYS 1100.

5777. Geochemistry of Natural Waters. 3. Physical chemistry of solutions applied to natural waters. Chemistry of rock weathering,

controls on major, minor, and trace element contents of natural waters. Problems of introduced pollutants. Dual listed with GEOL 4777. *Prerequisites:* GEOL 2010, MATH 2205, and CHEM 1030.

5820. Advanced Geomorphology. 1-3 (Max. 6). Graduate reading and discussion seminar on current topics in surficial processes. An indepth analysis of the literature and work, with the subject matter determined by student interest. May include lectures. *Prerequisite:* senior or graduate standing in geology.

5835. Applied/Exploration Geophysics. 3. Discusses the fundamentals of Applied or Exploration Geophysics, encompassing lecture, laboratory classes and discussion of case histories. Covers the Seismic Refraction, Seismic Reflection, Gravity, and Magnetics methods. Provides a solid grounding about the exploration of the Earth's subsurface for mineral and hydrocarbon resources and environmental issues. Dual listed with GEOL 4835. *Prerequisite:* graduate standing in geology.

5850. Economic Geology. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5851. Environmental Geology. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5852. Geochemistry. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5853. Geomorphology. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5854. Geophysics. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5855. Ground Water Hydrology. 1-6 (Max. 7). *Prerequisite:* graduate standing in geology.

5856. Mathematical and Statistical Geology. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5857. Mineralogy and Crystallography. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5858. Paleontology. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5859. Petrology. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5860. Sedimentology. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5861. Stratigraphy. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5862. Structural Geology. 1-6 (Max. 6). *Prerequisite:* graduate standing in geology.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate standing.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). Prerequisite: advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1 - 2. (Max 16). Prerequisite: advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5980. Dissertation Research. 1-12. (Max. 48). Designed for students who are involved in research for their dissertation project. Also used for students whose coursework is complete and are writing their dissertation. *Prerequisite:* enrollment in a graduate level degree program.

5990. Internship. 1-12 (Max. 14). *Prerequisite:* graduate standing.

Department of History and American Studies

History

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Professor:

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

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

Assistant Professor:

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

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

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

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

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

Adjunct Faculty:

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

Professors Emeriti:

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

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

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

Learning Outcomes

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

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

Undergraduate Major

The History major requires a minimum of 36 credit hours in History courses or approved substitutions and an additional 12 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages. All courses used to satisfy major requirements – including the language requirement – must be completed with a grade of C or better. To complete the Bachelor of Arts (B.A.) degree in History, all University Studies Program (USP) and college requirements must also be satisfied.

Specific requirements for the History major are as follows:

Lower-Division Electives (12 hours)

Upper-Division Electives (15 hours)

Elective: any level (3 hours):

One additional History course at any level

Two required courses (6 hours):

1. HIST 3020, Historical Methods
2. HIST 4030, Senior Capstone Seminar

Language

Students must complete three semesters of a single foreign language or the equivalent as determined by the Department of Modern and Classical Languages. This requirement may be satisfied by American Sign Language.

Undergraduate Minor

The history minor must take at least 18 semester hours of history courses, 9 hours of which must be at the 3000-4000 level. These courses must be taken for letter grades with a minimum earned grade of C. For assistance in tailoring the minor content, contact the department office.

History/Social Studies Education Majors

Through a cooperative agreement with the College of Education, students can now earn concurrent majors or dual degrees in history and secondary education in social studies. Interested students should inquire with the Office of Teacher Education, McWhinnie Hall, room 100.

Graduate Study

The History Department offers a Master of Arts (MA) degree.

Program Specific Admission Requirements

General Regulations

The M.A. in History requires 18 hours of undergraduate history courses as minimum preparation for admission. The rules under which the student enters remain those governing the program for the duration of the student's continued enrollment. In accordance with university graduate regulations, students are responsible for meeting all deadlines and for fulfilling all requirements for the degree.

Application and Admissions

To be eligible for financial support in the form of a Graduate Assistantship, the Department of History must receive all materials by March 1. All other application materials must be received by the Department of History no later than May 1. The application process is now completely online. In addition to the application, applicants must upload the following documents via the UW Admissions website (www.uwyo.edu/admissions):

1. GRE EXAM with a score of at least 150 on the verbal reasoning section and a score of at least 141 on the quantitative reasoning section is required.
2. Three letters of recommendation that assess the student's academic and research abilities.
3. Transcripts from all undergraduate institutions and graduate programs.
4. A writing sample of 10-20 pages, typically either a portion of a senior thesis or an upper-level seminar paper.
5. A statement of purpose of 250-500 words, explaining the applicant's preparation, interests, and plans. Please indicate if you would like to be considered for a graduate assistantship.

Program Specific Graduate Assistantships

When applicants submit their materials to the program in History, they should indicate their wish to be considered for a Graduate Assistantship. Anyone receiving financial support must be registered as a full-time (9 hours per semester) student and must be making acceptable progress towards degree completion. Renewal of Graduate Assistantships is contingent on such progress. Support is not given for more than two academic years.

Program Specific Degree Requirements

Master's Program

Candidates for the MA in history are required to complete a minimum of 31 hours of graduate credit. Students must complete 27 hours of coursework, with at least 24 hours in history. This will include:

1. History 5880, History Theory.
2. 12 hours of history course work in 5000-level, non dual-listed courses (excluding HIST 5880).
3. 4 hours of thesis research (HIST 5960).
4. Students must demonstrate a reading knowledge of a foreign language appropriate to their research. Generally, the language requirement may be met by either of the following options:
   a. Passing a language exam administered by the Department of History.
   b. Completing the equivalent of the fourth semester of a language as offered at the University of Wyoming. All courses must be passed with a grade of C or better (may be taken pass/fail). In special cases other relevant historical tools may substitute for the language requirement upon approval of the thesis adviser and the Graduate Coordinator.

5. In the spring semester of the first year, typically in early February, as scheduled by the Department Chair, the student will publicly defend his/her thesis proposal, which must include a written research prospectus and bibliography.
6. The student will successfully defend the final thesis draft before the Graduate Committee.

History (HIST)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1110. Western Civilization I. 3. [CH◀▶H] Surveys basics of Western European civilization from decline of Roman Empire to 1700.

1120. Western Civilization II. 3. A broad survey of European history in the Western tradition from 1700 to present.

1210. United States History I. 3. Surveys U.S. history 1607-1865. Together with HIST 1220, it is the foundation on which all U.S. history courses offered by the department are based. Students cannot receive credit for both HIST 1210 and 1211.

1211. U.S. to 1865. 3. [V◀▶V] Surveys U.S. history through the Civil War which by itself meets the requirements of the Wyoming statutes providing for instruction in the provisions and principles of the constitutions of the United States and Wyoming. Students cannot receive credit for both HIST 1210 and 1211. (Normally offered fall semester)

1220. United States History II. 3. Surveys U.S. history from reconstruction to recent past. Together with HIST 1210, it is the foundation for all U.S. history courses offered by the department. Students cannot receive credit for both HIST 1220 and 1221.

1221. U.S. From 1865. 3. [V◀▶V] Surveys U.S. history from the Civil War to the present and meets the requirements of the Wyoming statutes providing for instruction in the provisions and principles of the constitutions of the U.S. and of Wyoming. Students cannot receive credit for both 1220 and 1221. (Normally offered spring semester)

1250. History of Wyoming. 3. A study of Wyoming from its beginning to the present. Students cannot receive credit for both HIST 1250 and 1251.

1251. Wyoming History. 3. [V◀▶V] A survey which encourages an understanding of Wyoming history, how it relates to the history of the West and the rest of America and how it has influenced the present. An important component is to learn about the U.S. and the Wyoming constitutions and how these two documents have influenced Wyoming history. Students cannot receive credit for both HIST 1250 and 1251.

1290. History of the U.S. West. 3. An introductory survey of the American West, with consideration of developments in both the 19th and 20th centuries.

1320. World History to 1500. 3. [CS,G◀▶H] A history of the world's peoples and societies from human prehistory to 1500, with an emphasis on the diversity and interconnectedness of human life in the past.

1330. World History since 1500. 3. [CS,G◀▶(none)] A history of the world's peoples and societies from 1500 to the present, with an emphasis on the diversity and interconnectedness of human life in the past.

2020. American Military History. 3. Surveys military experiences of U.S. from colonial period to the present. In addition to specific wars, examines military doctrines and political, social and economic forces that shaped conduct of war in American history.

2030. History and Environmental Science. 3. [(none)◀▶H] This course is designed as an introduction to both the historical work of environmental historians and the scientific work of environmental scientists. No previous background in either history or science is required. Cross listed with ENR 2030.

2040. Imperial China. 3. [CS,G◀▶(none)] Surveys China's social, intellectual, political, cultural, technological and ethnohistory from earliest historical period through the last imperial dynasty, and China's role in greater E. Asian and world history. Provides background for other Asia-related courses, and is part of year-long series; see HIST 2041.

2041. Modern China. 3. Surveys China's social, intellectual, political, cultural, and ethnohistory from mid-1800s to the present. Themes include colonialism, emergence of nation-state, Communist party, Mao's socio-political agenda, post-Mao reforms, and China's role in Asia. Background for other Asia-related courses, and part of year-long series; see HIST 2040.

2050. Introduction to Public History. 3. Introduces the student to the non-teaching, professional uses of history. Topics for consideration include archival work, museum management, public information and publications, historic site development, oral history interviewing, preparation of government reports, historic preservation general concepts and historical programming.

2060. Topics in History. 2-3 (Max. 6). Discusses special topics that fall outside traditional chronological and geographical framework of history; content varies from semester to semester in accordance with faculty interest and student demand.

2080 [4315]. Holocaust. 3. [CH◀▶(none)] Surveys the destruction of European Jewry, 1933-1945. Cross listed with RELI 2080.

2105 Medieval Europe in Film. 3. Historical depictions in films help to shape people's view of the past. Uses commercial films to study major themes in the development of western European civilization between 500 and 1500. Students view, discuss and write about films, learning to evaluate films historically and to view films critically, developing media literacy.

2120. Ancient Greece and the Near East. 3. Examines development of civilization in Eastern Mediterranean from prehistory to Alexander the Great. (Normally offered fall semester)

2130. Ancient Rome. 3. Studies history of the growth of Roman power from city-state to world power.

2225. History of Christianity. 3. Traces Christianity from its beginnings to late 20th century. Cross listed with RELI 2225.

2230. The History of Russia to 1855. 3. General survey of modern Russian history from earliest times to 1855.

2240. The History of Russia Since 1855. 3. General survey of modern Russian history from 1855 to the present.

2250. American Religious History I (To 1865). 3. [CH,D◀▶H] Traces the history of religion in America through the Civil War. We will pay particular attention to the intertwining of religion and colonialism; the tension between emerging Protestant hegemony and religious pluralism; and the roles religion has played in justifying oppression and pursuing liberty in American history. Cross listed with RELI 2250.

2252. American Religious History II (1865-1945). 3. [CH,D◀▶H] Traces American religious history from the Civil War through WWII. Focuses on how race/ethnicity, class, gender, and national origin affected religion, and explores how Americans used religion in oppressing and liberating people; marking and erasing difference; and exporting values abroad as well as reforming society at home. Cross listed with RELI 2252.

2280. Introduction to European Studies. 3. [(none)◀▶COM2] This class explores the historical development of notions of community and difference, territories and borders, race and identity, and nationalism and post-national integration in Europe between 1789 and the present. It draws upon history, politics, geography, cultural studies, and anthropology. Cross listed with INST 2280.

2290. History of North American Indians. 3. [CH,D◀▶(none)] Studies American Indian history through 500 years and across the continent. Considers Indian political, social and economic continuity and change. Focuses on how Indian peoples experienced and responded to times of dramatic change. Cross listed with NAIS 2290.

2315. History of Non-Western Religions. 3. [CH,G◀▶(none)] Introduces students to religions outside the Judeo-Christian realm familiar in the west. Each religion analyzed in its world views, its ways of life, and in its social organization. History of each religion and its changes. Cross listed with RELI 2315.

2320. History of Islam. 3. [CH,G◀▶COM2] Focuses on the origins of Islam and its early formation, its growth and spread across the world, and its intellectual, spiritual and historical character. Time will also be spent on the formation of Islam in the modern world and how that impacts the views and actions of its members.

2360. African-American History. 3. [CH,D◀▶COM2] Surveys African-American history in America, particularly emphasizing issues of identity, class, and progress as well as exploring African-Americans' quest for full participation in American life. Cross listed with AAST 2360.

2370. Chicano History: Origins to 1900. 3. [CS,D◀▶H] General survey of the history of the Mexican American Chicano people in the United States. Examines the origins and development of Mexican Americans, Chicanos through the major historical processes which have shaped their experience. Major themes include multicultural, multiethnic context, origins; changing identity, comparative relations to other social, ethnic groups, culture, social structure, politics, economy, immigration, and the influence of United States-Mexico relations. Cross listed with LTST/GEOG 2370.

2380. Latin American History 1500-2000. 3. [G◀▶H] Provides introduction to Latin American history, from colonial contacts to the present. Explores important themes and connections across the colonial and modern periods, such as race, national identity, foreign involvement, indigenous peoples' role in nation-states, religion, social movements, economic systems, and globalization.

2385. Chicano History : 1900 to Present. 3. General survey of the history of the Mexican American Chicano people in the United States. Examines the origins and development of Mexican Americans, Chicanos through the major historical processes which have shaped their experience. Major themes include multicultural, multiethnic context, origins; changing identity, comparative relations to other social, ethnic groups, culture, social structure, politics, economy, immigration, and the influence of United States-Mexico relations. Cross listed with LTST 2385.

2389. History of Women in the American West. 3. [D◀▶(none)] Surveys the roots of society's marginal historical depiction of women in the American West from the colonial period through the twentieth century. From the perspective of race, class, ethnicity, and gender, the course focuses on the development of a multi-dimensional understanding of women's roles using an interdisciplinary approach. Cross listed with WMST 2389.

2390. US West Between the World Wars. 3. Examines two pivotal decades (1918-1942) in the US West that encompasses prosperity, Depression, and reform, through the use of historical documents, art, film, literature, and music.

2460. Traditional Japan. 3. Surveys Japan's social, intellectual, political, cultural, technological and ethnohistory from earliest historical period to the 1800s. Topics include roles of China and Korea, the samurai warrior tradition, family structure, Buddhism and Shinto. Provides background for other Asia-related courses, and is part of a year-long series; see HIST 2461.

2461. Modern Japan. 3. Surveys Japan's social, intellectual, political, cultural, economic, technological and ethnohistory from the 1800s through the present. Topics include Japan's industrialization, Asian colonialism, post-WWII, and Japan as economic superpower. Provides background for other Asia-related courses, and is part of a year-long series; see HIST 2460.

2470. Civilization of India. 3-4 (Max. 4). Surveys Indian civilization from earliest times, including cultural aspects.

2500. The Impact of the Union Pacific on Wyoming History. 3. Students experience and interpret the impact of the building of the Union Pacific Railroad on the history and culture of Wyoming through the lens of three disciplinary perspectives. Students explore how the railroad impacted Wyoming geography, economic development and the people of the state through personal research projects. Cross listed with ECON 2500.

2600. Forgotten Africa: Intro to African Civilizations. 3. [(none)◀▶H] This survey course introduces students to African states and empires, dating from classical to modern times. The course challenges depictions of Africa as timeless and underdeveloped within contemporary narratives by highlighting the continent's vibrant cultures, sophisticated technologies, dynamic and complex political systems and participation in long-distance trade. Cross listed with ANTH 2600.

2700. Introduction to Museology. 3. [CH◀▶(none)] Explores the historical, cultural, and contemporary roles of museums and preservation institutions in society. Introduces students to the museum professions, collection and exhibition installation strategies, and ethical problems of governance and collection. Field trips to regional collections are included. Cross listed with ART/AMST/ANTH 2700.

3000. Plains Culture and History. 3. [D◀▶(none)] An ethnohistorical study of those Native peoples inhabiting the plains region of the U.S. from prehistory to the present. Cross listed with NAIS 3000. *Prerequisite:* 6 hours of HIST or NAIS.

3020 [4020]. Historical Methods. 3. [WB,L◀▶(none)] An introduction to the concepts, methods, and techniques used by historians. The main emphasis will be on methods of historical research and analysis, demonstrated through writing. Students will write a number of short papers building skills in various areas of research, analysis, and argumentation, and one longer paper reflecting individual research. Total pages for the semester: 30-45. *Prerequisites:* junior standing, 12 hours of HIST, and COM1.

3050. Athenian Democracy. 3. Examines democratic government in ancient Athens: its origins and development, its practical workings, how politics were conducted and power was gained and exercised, citizen participation, law courts, and evaluations of democracy in the ancient world and since. Cross listed with CLAS/POLS 3050. *Prerequisite:* WB or COM2.

3110. Modern Germany. 3. A cultural, social, and political history of German-Speaking Europe from 1789 to the present. *Prerequisite:* 6 hours of HIST or INST.

3160. "What Killed Socrates?". 3. This course will reexamine Socrates' trial in 399 BCE, widely regarded as a miscarriage of justice, in its total historic context, seeking to understand the reasons for Socrates' conviction. In the process, it will impart a broad understanding of the cultural, philosophical, political, and legal life of classical Athens. Cross listed with CLAS/PHIL 3160. *Prerequisite:* WB or COM2.

3220. History of the Modern Middle East. 3. [G◀▶(none)] Surveys the Middle East from 1700 to the present. Emphasizes the demise of the Ottoman Empire, the rise of domination by European colonial powers, transformations in political, social, religious and cultural life, the rise of nationalist movements, the influence of oil, the growth of Islamist political groups

and the Israeli-Palestinian conflict. Cross listed with RELI 3220. *Prerequisite:* 6 hours of HIST, RELI, or INST.

3230. Early Christianity. 3. Considers the development of the Christian religion from a small Jewish sect to its place as the official religion of the Roman Empire and beyond. It examines the development of creeds, doctrines and institutions, placing them within their historical context. *Prerequisite:* RELI 1000, RELI/HIST 2225, or HIST 2113.

3235. Medieval Christianity. 3. Traces the development of 'Christendom' in Europe between about 500 - 1500 CE, concentrating on the Latin West. It examines the growth of Christian institutions and practices, the Church's role as sole governing entity, along with conflicts with secular governments as they developed in later centuries. Cross listed with RELI 3235. *Prerequisites:* RELI/HIST 2225, HIST 1110, or RELI 1000.

3240. Reformation and Englightenment Christianity. 3. The years between about 1500 and 1800 saw the permanent dismantling of Christianity in the West as a unified force, as Protestantism brought new ways of viewing the relationship between God and humanity. Once the fragmentation began, it accelerated repidly as Enlightenment thinking challenged Christianity in new and complex ways. Cross listed with: RELI 3240. *Prerequisites:* RELI 1000, RELI/HIST 2225.

3275. World Christianities. 3. [CH,G◆▸(none)] Examines the development of Christianity primarily in Africa, Asia and South America. Cross listed with RELI 3275. *Prerequisites:* WB and CH.

3300. Secret History of Science. 3. Explores developments in science from prehistory to the present. It focuses on the lesser-known men and women who contributed to science, as well as on seemingly superstitious beliefs that were nonetheless important to advances in knowledge. Restricted to junior standing or higher. *Prerequisite:* 6 hours in HIST or 6 hours of PN coursework, or a combination of both.

3400. Mongol Empire. 3. Examines the history of the Mongol Empire from a world history perspective. Major themes: structure of a nomadic empire, how that empire interacted with the various settled states it conquered and ramifications of the Mongol conquest on trade, technology, and social and intellectual developments across Eurasia, between the years 1200 to 1450 ce. *Prerequisite*: 6 hours of HIST.

3500. Colonial America. 3. This course covers the history of European colonization from roughly 1492 to 1763. Our geographic focus will be on the (future) United States, but will also learn how transatlantic forces influenced its people. *Prerequisite:* 12 hours of HIST courses or permission of instructor.

3670. African Diaspora. 3. Examines process through which aspects of African culture have endured in Diaspora. Analyzes social relations between Diaspora Africans and non-African populations in N. and S. America, the Caribbean, Britain, Asia and the Mediterranean. Discusses cultural hybridization as a product of culture contact. Cross listed with AAST 3670. *Prerequisite:* AAST 1000, any AAST 2000-level course, or AAST/HIST 2360.

3880. Comparative History. 3. Explores comparative history from a variety of topics, such as colonialism, memory, nationalisms, frontiers, or cultural history. This course will introduce students to at least one of these themes from at least two regions, time periods, or groups of people to understand patterns and change in human societies through time. *Prerequisite:* 6 hours of HIST.

4000. Indians of Wyoming. 3. [D◆▸(none)] Examines Native American culture in Wyoming from pre-history to the 21st century. Analyzes social, political, and economic developments of Native peoples of Wyoming before, during, and after contact with Europeans. Discusses interaction between these diverse societies and explores the changing relationships between Indians and Euro-Americans through the periods after contact. Cross listed with NAIS 4000. *Prerequisite:* 9 hours of HIST or NAIS.

4020. The Black West. 3. [CH,D◆▸(none)] This course explores the historical experiences and contributions of people of African descent to the American West from their earliest recorded presence in the 16th Century through the present. Cross listed with AAST 4020. *Prerequisites:* AAST 1000, any AAST 2000-level course, junior/senior standing, or three hours of any level of HIST course.

4030. Senior Capstone Seminar. 3 (Max. 6). [WC◆▸COM3] For undergraduate departmental majors; presented in a small group, non-lecture setting. Under close instructor supervision, students write reviews and essays, present critiques and oral reports and lead discussion on materials read by class. *Prerequisite:* advanced standing as a History major and HIST 3020.

4055. Archival Research Methods. 3. Students will master advanced research strategies with interdisciplinary applications. Focuses on primary research and the development of advanced skills in information literacy, critical analysis of sources, verification of evidence, techniques for researching underdocumented populations, and interpretation of historical evidence. Advanced writing and oral presentation skills are emphasized. Dual listed with HIST 5055. *Prerequisite:* 9 hours of HIST, including 2050 or HIST 2700.

4060. Independent Study. 1-3 (Max. 6). Credit not to exceed 6 hours maximum, to be arranged in either European or American history. Primarily for juniors and seniors who can profit from independent work with minimal supervision. *Prerequisites:* 12 semester hours in history; written permission of instructor required.

4077. Book History: Topics. 3 (Max. 6). An in-depth, hands-on study of books within their historical contexts. The topic will vary each time and focus on a particular theme, time period, place, or culture. Taught at the Rare Books Library, American Heritage Center, using original books or facsimiles. May be repeated once for credit. Dual listed with HIST 5077. *Prerequisite:* 9 hours of HIST.

4100. Early Medieval Europe. 3. Studies development of European civilization from decline of Rome to 12th century. Dual listed with HIST 5100. *Prerequisite:* 9 hours of HIST.

4110. The High Middle Ages. 3. Studies history of European civilization between the 12th and 15th centuries. Dual listed with HIST 5110. *Prerequisite:* 9 hours of HIST.

4112. History of the Medieval City. 3. After the fall of the Western Roman Empire, cities virtually disappeared from Western Europe. Around 1000 Europe began its rise to world prominence and cities contributed to that rise. Examines development of cities in medieval Europe and explores life within those cities. Dual listed with HIST 5112. *Prerequisite:* 9 hours of HIST.

4113. Medieval Religious Dissent. 3. Religious dissent in the Middle Ages included what some would call heresy, but also encompasses such marginal groups as Jews and witches. Examines development of orthodoxy and persecution of religious diversity between eleventh and 16th centuries within the historical context of the times. Dual listed with HIST 5113. Cross listed with RELI 4113. *Prerequisite:* 9 hours of HIST or RELI.

4120. Europe During the Renaissance. 3. Intensely studies European history in 14th and 15th centuries. *Prerequisite:* 9 hours of HIST.

4130. Europe During the Reformation. 3. Intensely studies European history in the 16th century. *Prerequisite:* 9 hours of HIST.

4140. Europe During the Age of the Baroque. 3. Intensely studies European history in 17th century. *Prerequisite:* 9 hours of HIST.

4150. Europe During the Age of the Enlightenment. 3. Intensely studies European history in 18th century. *Prerequisite:* 9 hours of HIST.

4170. Europe in the Nineteenth Century. 3. An intensive study of European history from the beginning of the nineteenth century through to the origins of the First World War in 1914. Dual listed with HIST 5170. *Prerequisite:* HIST 1120.

4174. Judaism from Ezra to Jesus. 3. This course focuses on the religious and historical development of Judaism during the centuries between the end of the Old Testament and the New Testament, studying the arrival of Greek and then Roman culture and the changes Judaism underwent during that time that endure today. Cross listed with RELI 4174. *Prerequisites:* WB or COM2, and RELI 1000 or RELI 2110.

4175. Judaism at the Dawn of Christianity. 3. Judaism is the only Mediterranean religion that was practiced in the ancient world as well as in Late Antiquity and beyond. This course helps students analyze how Judaism was able to change and adapt at key moments to provide its adherents with an active, living religion that addressed their needs. Cross listed with RELI 4175. *Prerequisites:* RELI 1000 or RELI 2110, and junior standing.

4180. Europe in the 20th Century. 3. An intensive study of European history from 1914 through 2000. Dual listed with HIST 5180. *Prerequisite:* 9 hours of HIST.

4270. France: Old Regime and Revolution. 3. The social, political and cultural history of early modern France (1598-1789), from the rise of the Absolutist state under Louis XIV to the outbreak of the Revolution. Explores the cultural and intellectual shifts from court culture at Versailles, to the Enlightenment, to the rise of revolutionary ideologies. Dual listed with HIST 5270. *Prerequisite:* 9 hours of HIST.

4290. History of the Soviet Union. 3. Depicts Russia under Communism, including particularly the development of totalitarian dictatorship in its political, economic, social and cultural manifestations. Dual listed with HIST 5290. *Prerequisite:* 9 hours of HIST. (Offered based on sufficient demand and resources)

4305. Global History. 3. [G◀▶(none)] Thematically focused examinations of interactions or parallel phenomena in multiple world regions. Courses may be comparative (comparing two empires, or multiple revolutions), or may examine the growth of a particular trend globally (e.g. abolition of slavery), or the interaction of many states (e.g. the Cold War). Dual listed with HIST 5305. *Prerequisite:* 9 hours of HIST, INST, or POLS.

4310. World War II in Europe. 3. Covers the origins, course and consequences of one of this century's defining global developments. World War II in Europe was a transnational development which shaped the world as it is known today. Dual listed with HIST 5310. *Prerequisite:* 9 hours of HIST.

4315. History, Politics and Memory of the Holocaust in Europe. 3. Offers students the opportunity to learn about the history of the Holocaust through travel to various sites in Central Europe where the events themselves occurred, such as Berlin, Warsaw, Krakow and Auschwitz-Birkenau. Dual listed with HIST 5315. Cross listed with INST 4315. *Prerequisites:* 9 hours of HIST or INST.

4320. Memory and National Identity in Twentieth Century Europe. 3. Europe in the twentieth century saw a century of unprecedented violence. Examines the public representation of such historical trauma through the concept of "collective memory" and focuses in particular on how memory has become a contested part of defining identity in modern-day Europe. Dual listed with HIST 5320. *Prerequisite:* 9 hours of HIST.

4330. European Gender and Women's History. 3. The experiences of women and the history of gender from the Renaissance through the 19th century. Focuses on the changing notions of the masculine and the feminine through such historical episodes as the Reformation, the Enlightenment, the French Revolution and the Industrial Revolution. Cross listed with WMST 4330. *Prerequisite:* 9 hours of HIST.

4335. Women and Islam. 3. Examines women's lives in Islamic societies from the seventh century to the present in the Middle East and throughout the world. Themes include women's position in Islamic law, society and culture, Western images of Muslim women, veiling and Islamist movements, theoretical readings on power, gender and agency. Cross listed with RELI 4335 and WMST 4335. *Prerequisite:* 9 hours of HIST, WMST, INST, or RELI.

4340 [4840]. The Social History of American Women. 3. [(none)◀▶H] Explores everyday life experiences of American women from the 17th century to the present. Focuses on the complex influence of gender, race and class in shaping those experiences; also, analyzes the ways in which women's dissatisfaction with their position in society formed the basis for the development of American feminism and led to the formation of an organized women's movement. Dual listed with HIST 5340. *Prerequisite:* 9 hours of HIST or WMST.

4380. International History of Human Rights. 3. Examine the modern history of human rights in the global system, with particular empahsis on developments since the Second World War. Topics include the philosophy of human rights ideas; the histories of rights and rights violations in various regions; and the resulting international responses. Dual listed with HIST 5380; cross listed with INST 4380. *Prerequisites*: 9 hours of HIST or INST.

4400. Internship. 1-12 (Max. 12). The internship allows students to gain hands-on experience that will help to bridge the gap between history as an academic discipline and history as practiced in museums, public history agencies and historic sites. Specific arrangements must be made in advance to identify the academic component of the internship and the grading criteria. Such planning will be done in consultation with the department's internship director. *Prerequisites:* 9 hours of HIST.

4405. American Encounters to 1850. 3. [D◀▶H] The history of America as a history of continuous encounters. Examines the history of the American people by focusing on a series of critical encounters between Native American, European, African and Asian people from pre-contact through the mid-19th century. Dual listed with HIST 5405. *Prerequisite:* 9 hours of HIST.

4406. American Encounters from 1850. 3. [D◀▶H] The history of America as a history of continuous encounters. Examines the history of the American people by focusing on a series of critical encounters between Native American, European, African, and Asian people from the mid-19th century to the present. *Prerequisite:* 9 hours of HIST.

4410. America in an Early Modern World. 3. [CS,G◀▶H] Explores the American colonial experience as part of a worldwide process of colonial encounters with indigenous peoples between 1400 and 1800. Compares the experiences of early modern colonization in North and South America, Asia, and the Pacific and examines the nature of the colonial societies created by these cross-cultural relationships. Dual listed with HIST 5410. *Prerequisite:* 9 hours of HIST.

4412. Global Environment History. 3. [(none)<>H] This course is designed to introduce undergraduate and graduate students to the new field of global environmental history. The Global Environmental History course will provide a new way of looking at humans, animals, and the lives they've built in the environment and the costs of their decisions to the environment. Dual listed with HIST 5412; cross listed with ENR 4412. *Prerequisite:* 9 hours of HIST or ENR.

4415. Entangled Worlds, Entangled Lives: Indigenous People and Colonizers Before 1850. 3. [CS, G◀▶H] The experiences of indigenous people and colonizers in Africa, Eurasia, the Americas, and the Pacific as they forged new colonial societies in the first global

age (1400-1850). Emphasis throughout the course will be on the often-overlooked role of indigenous people in creating colonial societies. Dual listed with HIST 5415. *Prerequisitie*: 9 hours of HIST.

4425. Britain's Global Empires: 1558 to the Present. 3. Britain's four distinctive empires from Elizabeth I through the present. Emphasis throughout the course will be on the creation and operation of these distinctive but related empires with a special focus on the impact empires had on both colonized people and the people of Britain. Dual listed with HIST 5425. *Prerequisite:* 9 hours of HIST.

4450. The Civil War and Reconstruction. 3. Studies crisis of the Union, 1861- 1877. Examines experiences of both the North and South during the Civil War and restoration of the Union after the war. Dual listed with HIST 5450. *Prerequisite:* 9 hours of HIST.

4460. Post-Civil War America: The Gilded Age. 3. Intensively covers economic, cultural and political developments which marked the U.S. in post-Civil War era, such as rise of industry, emergence of distinctive national culture and party struggles shaping America's Gilded Age. Dual listed with HIST 5460. *Prerequisite:* 9 hours of HIST.

4462. American Indian History to 1783. 3. [(none)◀▶H] Surveys the history of American Indians from the period before contact to the end of the American Revolution. Examines the various contacts between American Indians and Europeans and considers what the American Revolution meant to the continent's Native peoples. Dual listed with HIST 5462; cross listed with NAIS 4462. *Prerequisite:* 9 hours of HIST or NAIS.

4463. American Indian History 1783-1890. 3. Surveys the history of American Indians during the era of westward expansion. Examines the impact of American westward movement and also the manifold changes that accompanied moving west. Dual listed with HIST 5463; cross listed with NAIS 4463. *Prerequisite:* 9 hours of HIST or NAIS.

4464. American Indians in the Twentieth Century. 3. [(none)◀▶H] Surveys the history of American Indians during the twentieth century. Examines the development of new cultural, social and political forms that help create an American Indian identity. Dual listed with HIST 5464; cross listed with NAIS 4464. *Prerequisite:* 9 hours of HIST or NAIS.

4466. American Indian Ethnohistory. 3. Surveys ethnohistorical methods and concepts and provides students concrete opportunities to use these methodologies in writing exercises. American Indian ethnohistory explores Native American experiences within their own cultural contexts. Cross listed with NAIS 4466. *Prerequisite:* 9 hours of HIST, NAIS, or ANTH.

4468. American Indians in the North American West. 3. One of the defining features of the North American West is the presence of American Indians. Through the discussion of varied readings and primary document research, the history of American Indians in the West is examined, with particular emphasis on the Great Plains and California. Cross listed with NAIS 4468. *Prerequisite:* 9 hours of HIST or NAIS.

4470. The Birth of Modern America, 1890-1929. 3. Studies political and diplomatic developments in the U.S. in the wake of industrialization and massive immigration. Some attention to cultural and social themes. Emphasizes shifting nature of reform between depression of the 1890s and that of the 1930s. Dual listed with HIST 5470. *Prerequisite:* 9 hours of HIST.

4475 [4670]. American Environmental History. 3. Explores history of American attitudes and actions toward the land and natural resources. Dual listed with HIST 5475. *Prerequisite:* 9 hours of HIST.

4480. Growth of Modern America, 1929-1960. 3. Studies political and diplomatic developments in the U.S. in Depression, World War II and early Cold War periods. Some attention to cultural and social themes. Emphasizes economic crisis, growth of government, reform traditions, anti-communism and civil rights. Dual listed with HIST 5480. *Prerequisite:* 9 hours of HIST.

4485. U.S. Latino Diaspora. 3. Combines classroom activities and a week-long stay abroad in examining the historical creation and contemporary spread of the Latino Diaspora from the Caribbean to the Yucatan and beyond. U.S. Latina/o history, multiculturalism, pan-Latino identity, assimilation, migration trends and natives responses are stressed. Cross listed with LTST/INST 4485. *Prerequisite:* 9 hours of LTST, HIST, and/or INST related coursework.

4490. Modern America, 1960-Present. 3. Studies political and diplomatic aspects of the U.S. since 1960. Emphasizes impact of Cold War, social and political tensions at home, civil rights and government policies. Dual listed with HIST 5490. *Prerequisite:* 9 hours of HIST.

4492. Revolutions in Latin America. 3. [CS,G◀▶(none)] Explores the meaning and impact of revolution in Latin America's modern history, focusing on political ideology, cultural expression, foreign relations, human rights, and globalization. Offers in-depth analysis of revolutions from the early nineteenth century to the present. Cross listed with LTST 4492; dual listed with HIST 5492. *Prerequisite:* 9 hours of HIST or INST.

4494. The U.S. in Latin America. 3. [(none)◀▶H] This course explores Latin America's experiences with the United States during the twentieth century. The class addresses U.S.-Latin American relations from a variety of angles, covering topics from military intervention and government policies, to informal imperialism and cultural exchanges through film and literature. Dual listed with HIST 5494. *Prerequisite:* 9 hours of HIST or INST.

4495 [4720]. Borderlands in Latin America. 3. Examines borderlands and frontiers in Latin American history, focusing on the U.S.-Mexico border region, the Southern Cone, and the Caribbean. Key issues include cultural contact zones, colonialism, military expansion and conflict, and nation-building. Dual listed with HIST 5495. *Prerequisite:* 9 hours of HIST or INST.

4496 [4800]. History of Mexico. 3. Intensive course in Mexican development. Emphasizes the 20th century especially the Mexican Revolution of 1910, showing how this nation transformed itself into a modern nation-state. Includes diplomatic relations with the U.S., incorporation of Indians, church-state relations, uses of land and other natural resources, role of the military and growth of Mexican nationalism. Dual listed with HIST 5496; cross listed with LTST 4496. *Prerequisite:* 9 hours of HIST or INST.

4505 [4500]. The Old South, 1820-1861. 3. Studies history of the South from emergence of southern identity to the Civil War. Emphasizes southern society and culture. Dual listed with HIST 5505. *Prerequisite:* 9 hours of HIST.

4510 [4950]. Modern East Asia. 3. Focuses on the emergence of the modern East Asian states China, Japan, Korea and Vietnam as individual states and members of this important region historically and in contemporary era, understanding the emergence of those states as responses to internal forces and external pressures such as imperialism, nationalism, Communism and Capitalism. Dual listed with HIST 5510. *Prerequisite:* 9 hours of HIST.

4515 [4710]. American Legal History. 3. An intensive course in the history of American law, the judicial system, the legal profession and legal administration from colonial times to the present. Dual listed with HIST 5515. *Prerequisite:* 9 hours of HIST.

4530 [4630]. 19th Century American West. 3. A study of the westward movement with emphasis on the trans-Mississippi West. Dual listed with HIST 5530. *Prerequisite:* 9 hours of HIST.

4535. History of Oil. 3. Intensive study of the history of oil development throughout the world. Emphasizes comparative studies of the industry as it developed in various parts of the world and during various time periods, from pre-historic times to the present. The Wyoming oil/energy mineral history is an important component. Dual listed with HIST 5535. *Prerequisite:* 9 hours in history.

4540 [4640]. 20th Century American West. 3. A study of the modern American West, with consideration of social, economic and political continuity and change. Dual listed with HIST 5540. *Prerequisite:* 9 hours of HIST.

4545. The Multicultural West. 3. Explores the American West as a meeting ground of diverse peoples and their diverse cultures. Focuses on the sustained cross-cultural interchange between Native Americans, Euro-Americans, African Americans, Latin Americans, and Asian Americans from trans-Appalachia to the Pacific Coast from the eighteenth century to the present. *Prerequisite:* 9 hours of HIST.

4560. American Social History in the 20th Century. 3. Explores history of social mobility and conflict in 20th century. Emphasizes impact of industrialization, rapid urbanization, massive immigration, ethnic minorities, race, religion, women and the family, painting and architecture. Dual listed with HIST 5560. *Prerequisite:* 9 hours of HIST.

4582. 20th Century U.S. Foreign Relations. 3. Studies Twentieth Century United States foreign relations with a focus on the Cold War period. Examines economic sources of policy decisions, elites and mass public opinion, as well as cultural, religious, ethnic, racial, and gender issues. Cross listed with INST 4582; dual listed with HIST 5582. *Prerequisite:* 9 hours of HIST or INST.

4610. Seminar Topics in the History of Wyoming I. 3. An intensive research and writing course dealing with topics in the period before statehood in 1890. *Prerequisite:* 9 hours of HIST, including HIST 1251.

4620. Seminar Topics in the History of Wyoming II. 3. Allows students to do intensive research and writing dealing with topics in Wyoming history from 1890 to present. *Prerequisite:* 9 hours of HIST, including HIST 1251.

4965. Senior Thesis. 3. Working closely with a faculty advisor, a history major will develop a research proposal that, after approval by the History department faculty, will lead to in-depth research and writing, producing a minimum 50-page thesis that demonstrates an excellent grasp of historical methods and a high degree of writing skill. *Prerequisites:* 12 hours of HIST; senior class standing; HIST major.

4990 [4080]. Topics in _____. 1-6 (Max. 12). Affords students opportunity to study in- depth various topics in history not offered in regular courses or independent study. *Prerequisite:* 9 hours of HIST.

5000. Indians of Wyoming. 3. Examines Native American culture in Wyoming from pre-history to the 21st century. Analyzes social, political, and economic developments of Native peoples of Wyoming before, during, and after contact with Europeans. Discusses interaction between these diverse societies and explores the changing relationships between Indians and Euro-Americans through the periods after contact. Dual listed with HIST 4000; cross listed with NAIS 4000. *Prerequisite:* 6 hours of HIST or NAIS.

5055. Archival Research Methods. 3. Students master advanced research strategies with interdisciplinary applications. Focuses on primary document research and the development of advanced skills in information literacy, critical analysis of sources, verification of evidence, techniques for researching under-documented populations, and interpretation of historical evidence. Advanced writing and oral presentation skills are emphasized. *Prerequisite:* graduate standing.

5077. Book History: Topics. 3. An in-depth, hands on study of books within their historical contexts. The topic varies each time, and focuses on a particular theme, time period, place, or culture. Taught at the Rare Books Library, American Heritage Center, using original books or facsimiles. May be repeated once for credit. *Prerequisite:* graduate standing.

5100. Early Medieval Europe. 3. The study of the development of European civilization from the decline of Rome to the twelfth century. Dual listed with HIST 4100. *Prerequisite:* graduate standing.

5110. The High Middle Ages. 3. Studies history of European civilization between the 12th and 15th centuries. Dual listed with HIST 4100. *Prerequisite:* graduate standing.

5112. History of the Medieval City. 3. After the fall of the Western Roman Empire, cities virtually disappeared from Western Europe. Around 1000, Europe began its rise to world prominence, and the birth of the cities contributed to that rise. This course examines the development of cities in medieval Europe and explores life within those cities. Dual listed with HIST 4112. *Prerequisite:* graduate standing.

5113. Medieval Religious Dissent. 3. Religious dissent in the Middle Ages included what we would call heresy, but also encompasses such marginal groups as Jews and witches. This course examines development of orthodoxy and the persecution of religious diversity between the 11th and 16th centuries. It also studies the historical context of the times. Dual listed with HIST 4113; cross listed with RELI 4113. *Prerequisite:* graduate standing.

5170. Europe in the 19th Century. 3. An intensive study of European history from the beginning of the nineteenth century through to the origins of the First World War in 1914. *Prerequisite:* graduate standing.

5180. Europe in the 20th Century. 3. An intensive study of European history from 1914 through 2000. Dual listed with HIST 4180. *Prerequisite:* graduate standing.

5270. France: Old Regime and Revolution. 3. The social, political and cultural history of early modern France (1598-1789), from the rise of the Absolutist state under Louis XIV to the outbreak of the Revolution. Explores the cultural and intellectual shifts from court culture at Versailles, to the Enlightenment, to the rise of revolutionary ideologies. *Prerequisite:* graduate standing.

5290. History of the Soviet Union. 3. Russia under Communism, including particularly the development of totalitarian dictatorship in its political, economic, social, and cultural manifestations. Dual listed with HIST 4290. *Prerequisite:* graduate standing.

5305. Global History. 3. Thematically focused examinations of interactions or parallel phenomena in multiple world regions. Courses may be comparative (comparing two empires, or multiple revolutions), or may examine the growth of a particular trend globally (e.g. abolition of slavery), or the interaction of many states (e.g. the Cold War). Dual listed with HIST 4305. *Prerequisite:* graduate standing.

5310. World War II in Europe. 3. Covers the origins, course, and consequences of one of this century's defining global developments. World War II in Europe was a transnational development which shaped the world as we know it today. Dual listed with HIST 4310. *Prerequisite:* graduate standing.

5315. History, Politics and Memory of the Holocaust in Europe. 3. Offers students the opportunity to learn about the history of the Holocaust through travel to various sites in Central Europe where the events themselves occurred, such as Berlin, Warsaw, Krakow and Auschwitz-Birkenau. Dual listed with HIST 4315. Cross listed with INST 5315. *Prerequisites:* graduate standing.

5320. Memory and National Identity in 20th Century Europe. 3. Europe in the twentieth century saw a century of unprecedented violence. Examines the public representation of such historical trauma through the concept of "collective memory" and focuses in particular on how memory has become a contested part of defining national identity in modern-day Europe. *Prerequisite:* graduate standing.

5340. The Social History of American Women. 3. Explores the everyday life experiences of American women from the seventeenth century to the present with a focus on the complex influence of gender, race, and class in shaping those experiences. The course then turns to an analysis of the ways in which woman's dissatisfaction with the position in society formed American feminism and lead to the formation or an organized women's movement. Dual listed with HIST 4340. *Prerequisites:* graduate standing.

5380. International History of Human Rights. 3. Examine the modern history of human rights in the global system, with particular empahsis on developments since the Second World War. Topics include the philosophy of human rights ideas; the histories of rights and rights violations in various regions; and the resulting international responses. Dual listed with HIST 4380; cross listed with INST 5380. *Prerequisites*: 9 hours of HIST or INST.

5381. Seminar in Recent United States History. 3 (Max. 12). *Prerequisite:* graduate standing.

5400. Graduate Topics in History. 1-6 (Max. 12). Opportunity to study in-depth various topics in history not offered in regular graduate seminars or graduate reading courses. *Prerequisite*: graduate standing.

5405. American Encounters to 1850. 3. The history of America as a history of continuous encounters. Examines the history of the American people by focusing on a series of critical encounters between Native American, European, African, and Asian people from pre-contact to the mid-19th century. *Prerequisite:* graduate standing.

5406. American Encounters from 1850. 3. The history of America as a history of continuous encounters. Examines the history of the American people by focusing on a series of critical encounters between Native American, European, African, and Asian people from the mid-19th century to the present. Dual listed with HIST 4406. *Prerequisite:* graduate standing.

5410. America in an Early Modern World. 3. Explores the American colonial experience as part of a worldwide process of colonial encounters with indigenous peoples between 1400 and 1800. Compares the experiences of early modern colonization in North and South America, Asia, and the Pacific and examines the nature of the colonial societies created by these cross-cultural relationships. Dual Listed with HIST 4410. *Prerequisite:* graduate standing.

5412. Global Environment History. 3. [(none)<>H] This course is designed to introduce undergraduate and graduate students to the new field of global environmental history. The Global Environmental History course will provide a new way of looking at humans, animals, and the lives they've built in the environment and the costs of their decisions to the environment. Dual listed with HIST 4412 *Prerequisite:* graduate standing.

5415. Entangled Worlds, Entangled Lives: Indigenous People and Colonizers Before 1850. 3. The experiences of indigenous people and colonizers in Africa, Eurasia, the Americas, and the Pacific as they forged new colonial societies in the first global age (1400-1850). Emphasis throughout the course will be on the often-overlooked role of indigenous people in creating colonial societies. Dual listed with HIST 4415. *Prerequisite:* graduate standing.

5425. Britain's Global Empires: 1558 to the Present. 3. Britain's four distinctive empires from Elizabeth I through the present. Emphasis throughout the course will be on the creation and operation of these distinctive but related empires with a special focus on the impact empires had on both colonized people and the people of Britain. Dual listed with HIST 4425. *Prerequisite:* graduate standing.

5450. The Civil War and Reconstruction. 3. A study of the crisis of the Union, 1861-1877. Examination of the experiences of both the North and the South during the Civil War and restoration of the Union after the war. Dual listed with HIST 4450. *Prerequisite:* graduate standing.

5460. Post-Civil War America: The Gilded Age. 3. An intensive study in the economic, cultural, and political developments which marked the U.S. in post-Civil War era, the rise of industry, the emergence of a distinctive national culture and the party struggles that shaped America's Gilded Age. Dual listed with HIST 4460. *Prerequisite:* graduate standing.

5462. American Indian History to 1783. 3. Surveys the history of American Indians from the period before contact to the end of the American Revolution. Examines the various contacts between American Indians and Europeans and considers what the American revolution meant to the continent's Native peoples. Dual listed with HIST 4462; cross listed with NAIS 5462. *Prerequisite:* graduate standing.

5463. American Indian History to 1890. 3. Surveys the history of American Indians during the era of westward expansion. Examines the impact of American westward movement and also the manifold changes that accompanied Indians moving west. Dual listed with HIST 4463; cross listed with NAIS 5463. *Prerequisite:* graduate standing.

5464. American Indians in the 20th Century. 3. Surveys the history of American Indians during the twentieth century. Examines the development of new cultural, social and political forms that help create an American Indian identity. Dual listed with HIST 4464; cross listed with NAIS 5464. *Prerequisite:* graduate standing.

5470. The Birth of Modern America, 1890-1929. 3. Studies political and diplomatic developments in the U.S. in the wake of industrialization and massive immigration. Some attention to cultural and social themes. Emphasizes shifting nature of reform between the depression of the 1890s and that of the 1930s. Dual listed with HIST 4470. *Prerequisite:* graduate standing.

5475. American Environmental History. 3. History of American attitudes and actions toward the land and natural resources. Dual listed with HIST 4475. *Prerequisite:* graduate standing.

5480. Growth of Modern America, 1929-1960. 3. A political and diplomatic overview of the United States in Depression, World War II and early Cold War periods. Some attention to cultural and social themes. Emphasis on economic crisis, growth of government, reform traditions, anti-communism, and civil rights. Dual listed with HIST 4480. *Prerequisite:* graduate standing.

5490. Modern America, 1960 to Present. 3. A political and diplomatic overview of the United States since 1960 with emphasis on impact of Cold War social and political tensions at home, civil rights, and government policies. Dual listed with HIST 4490. *Prerequisite:* graduate standing

5492. Revolutions in Latin America. 3. Explores the meaning and impact of revolution in Latin America's modern history, focusing on political ideology, cultural expression, foreign relations, human rights, and globalization. Offers in-depth analysis of revolutions from the early nineteenth century to the present. Dual listed with HIST 4492. *Prerequisite:* graduate standing.

5494. The U.S. in Latin America. 3. This course explores Latin America's experiences with the United States during the twentieth century. The class addresses U.S.-Latin American relations from a variety of angles, covering topics from military intervention and government policies, to informal imperialism

and cultural exchanges through film and literature. Dual listed with HIST 4494. *Prerequisite:* graduate standing.

5495. Borderlands in Latin America. 3. Examines borderlands and frontiers in Latin American history, focusing on the U.S.-Mexico border region, the Southern Cone, and the Caribbean. Key issues include cultural contact zones, colonialism, military expansion and conflict, and nation-building. Dual listed with HIST 4495. *Prerequisite:* graduate standing.

5496. History of Mexico. 3. Intensive course in Mexican development. Emphasizes the 20th century especially the Mexican Revolution of 1910, showing how this nation transformed itself, into a modern nation state. Includes diplomatic relations with the U.S., incorporation of Indians, church-state relations, uses of land and other an natural resources, role of the military and growth of Mexican nationalism. Dual listed with HIST 4496. *Prerequisite:* graduate standing.

5500. Readings in Women's Studies. 3. An interdisciplinary course at the graduate level focusing on feminist criticism and theory, which draws on current debates in feminist analysis from the general areas of history, literature, and social science, to inform students of reformulations of research and unresolved issues. Dual listed with WMST 5500. *Prerequisites:* graduate standing.

5505. The Old South, 1820-1861. 3. The history of the South from the emergence of southern identity to the Civil War, with emphasis on southern society and culture. Dual listed with HIST 4505. *Prerequisite:* graduate standing.

5510. Modern East Asia. 3. Focuses on the emergence of the modern East Asian states China, Japan, Korea and Vietnam as individual states and members of this important region historically and in contemporary era, understanding the emergence of those states as responses to internal forces and external pressures such as imperialism, nationalism, Communism and Capitalism. Dual listed with HIST 4510. *Prerequisite:* graduate standing.

5515. American Legal History. 3. An intensive study in the history of American law, the judicial system, the legal profession, and legal administration from colonial times to the present. Dual listed with HIST 4515. *Prerequisite:* graduate standing.

5530. 19th Century American West. 3. A study of the westward movement with emphasis on the trans-Mississippi West. Dual listed with HIST 4530. *Prerequisite:* graduate standing.

5535. History of Oil. 3. An intensive study in the history of oil development throughout the world. Emphasizes comparative studies of the industry as it developed in various parts of the world and during various time periods, from pre-historic times to the present. The Wyoming oil/energy mineral history will be an important component of the course. Dual listed with HIST 4535. *Prerequisite:* graduate standing.

5540. 20th Century American West. 3. A study of the modern American West, with consideration of social, economic and political continuity and change. Dual listed with HIST 4540. *Prerequisites:* graduate standing.

5555. American Encounters. 3. Examines the centrality of cross-cultural interchange in American history by focusing on a series of critical encounters between American, European, African, and Asian people from the 16th century to the present. *Prerequisite:* graduate standing.

5560. American Social History in the 20th Century. 3. History of social mobility and conflict in the 20th century. Special emphasis on impact of industrialization, rapid urbanization, massive immigration, ethnic minorities, race, religion, women and the family, painting, and architecture. Dual listed with HIST 4560. *Prerequisite:* graduate standing.

5582. 20th Century U.S. Foreign Relations. 3. Studies Twentieth Century United States foreign relations with a focus on the Cold War period. Examines economic sources of policy decisions, elites and mass public opinion, as well as cultural, religious, ethnic racial and gender issues. Dual listed with HIST 4582; cross listed with INST 5582. *Prerequisite:* graduate standing.

5585. Conference on U.S. History. 1-3 (Max. 6). A reading and writing course designed to allow advanced students to investigate shifting ideas about important topics in 20th century American history. Primary focus varies from semester to semester, but will be designated in the class schedule. *Prerequisite:* graduate standing.

5600. Graduate Readings. 1-6 (Max. 12). Fulfills two purposes in our graduate program in history. It allows students to do independent directed reading in preparation for their graduate examination in history and provides students with a flexible alternative to their programs to meet and complete requirements. *Prerequisite:* graduate standing.

5605. Conference on Wyoming and the West. 1-4 (Max. 9). *Prerequisite:* graduate standing.

5620. Conference on Middle-Period and United States History. 1-4 (Max. 9). *Prerequisite:* graduate standing.

5630. Seminar on Western American History. 3. *Prerequisite:* graduate standing.

5645. Seminar on American Indian History. 3. Research seminar on American Indian history. The focus of the seminar may vary, but emphasis will usually be given to American Indians of the western United States in the nineteenth and twentieth centuries. *Prerequisite:* graduate standing.

5660. Conference on Early Modern Europe. 1-4 (Max. 9). The student, in consultation with the instructor, chooses a topic on which he/she reads extensively. The instructor provides bibliographical guidance. Normally the student discusses the reading at length with the instructor once a week. Written analysis of the reading may also be required. The course may be offered to a group of students who need extensive reading to go with the research experience they are receiving in seminars. *Prerequisite:* graduate standing.

5670. Seminar on Early American History. 3. *Prerequisite:* graduate standing.

5675. Seminar on Middle-Period U.S. History. 3. *Prerequisite:* graduate standing.

5685. Conference on European 19th and 20th Century History. 1-4. Available for a maximum of 9 hours. *Prerequisite:* graduate standing.

5810. Seminar on Latin American History. 1-4 (Max. 12). Students will select a topic of interest within the general field of Latin America and read the published works which deal with the subject. Instructor will direct this reading through the preparation of bioliography. Students then prepare an in-depth research paper based on primary source documents. Research paper will treat an aspect of the subject under investigation that has not been dealt with in published materials. *Prerequisite:* graduate standing.

5880. History Theory. 3. Intensive reading and writing course, designed to introduce graduate students to influential recent historical works, and to the faculty of the department and their research areas. Students will explore historical theories and the historiography of particular topics. *Prerequisite:* graduate standing.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Students are expected to give some lectures and gain classroom experience. *Prerequisite:* graduate standing.

5910. Seminar in History Profession. 3. This seminar introduces graduate students to the profession of history through targeted readings, projects, guest speakers, and workshops. Topics covered include: archival research and source analysis, schools of thought and methodologies used by professional historians, career options in history, college teaching

and course design, grant applications, and professional networking. *Prerequisite:* graduate standing in history.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

American Studies

Cooper House, (307) 766-3898
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Professor:
FRIEDA E. KNOBLOCH, B.A. Cornell University 1985; Ph.D. University of Minnesota 1994; Professor of American Studies 2014, 1997.

Associate Professors:
ULRICH ADELT, Magister Artium, University of Hamburg 2000; M.A. University of Iowa 2005; Ph.D. 2008; Associate Professor of American Studies 2015, 2009.
LILIA SOTO, B.A. University of California-San Diego 2000; M.A. University of California-Berkeley 2003; Ph.D. 2008; Associate Professor of American Studies and Latina/o Studies 2017, 2010.

Academic Professional Research Scientist
ANDREA GRAHAM, B.A. University of Pennsylvania 1978; M.A. 1980; Associate Academic Professional Research Scientist 2016, 2009.

Professors Emeriti:
John Dorst, Eric Sandeen

Adjunct Faculty:
(See Catalog section following name for academic credentials)

R. McGreggor Cawley, Political Science
Fred Chapman, public historic preservation consultant
Catherine Connolly, Gender and Women's Studies
Colleen Denney, Art
Anthony Denzer, Architectural Engineering
Michael Harkin, Anthropology
Tammy Heise, Religious Studies
Isa Helfgott, History
Scott Henkel, English and Wyoming Institute for Humanities Research
Jeanne Holland, English
Mary Humstone, public historic preservation consultant
Michelle Jarman, Wyoming Institute for Disabilities
Mary Keller, Religious Studies
Rachel Sailor, Art

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

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

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

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

Undergraduate Major

The American Studies B.A. frames and develops each student's individual interests, and allows students to include courses from any program and department that sustain a student's engagement with their particular emphasis. Individual programs of study are as varied as our students.

We value each student as a person, and understand that an education is much more than a list of courses. Our advising is central in supporting each student's path and success through the major and beyond the degree.

Examples of concentrations that draw on courses outside American Studies - interests which we then integrate in our independent studies, internships, and the senior seminar – include sports studies, popular music history, comparative ethnic studies, marketing, military history, sustainability, disability advocacy, museum studies, philosophy of science, environmental studies, public health and social justice, and the U.S. in international perspectives. Each student develops a concentration of study with their American Studies advisor with ample room to combine courses and interests into a coherent undergraduate education.

The American Studies B.A. can be an attractive second major for students in any UW degree program where cultural context enriches and expands work in their professional or scholarly field. The flexible nature of our B.A. allows us to work effectively with students changing majors at any point in their undergraduate experience as well as transfer students.

Program Learning Outcomes

Students graduating with a B.A. in American Studies integrate study from several fields with their study in American Studies courses, in individual programs of study. The American Studies B.A. prepares students to enter graduate and profressional programs, enter education certification programs, and work in community organizations and other public professional settings. Coursework in American Studies prepares students to:

- Interpret American cultural experiences and creative expressions by applying appropriate approaches to interpreting words, narratives, images, material objects, communities, built environments, cross-cultural comparison, continuities and discontinuities with the past in a range of American cultural settings.

- Understand the processes of diversity in American experience including their own, through study of identity formation, performance of identity, stereotyping, cultural contact, cultural memory, and national identity.
- Demonstrate critical analysis, interpretation, or insight, through effective communication primarily in writing, but also in speaking (when appropriate, performance or display may embody these qualities as well), as demonstrated in analytically coherent interpretive writing, authoritative, informed oral presentation, and well-documented, visually effective performance or display (where appropriate).
- Apply American Studies methods in field-based courses and/or internships, through use of American Studies approaches and competencies in non-classroom settings, as demonstrated in field course or internship evaluations and students' final reports.

Because American Studies is both an international field with scholars all over the world, and the U.S. has transnational significance, **we strongly encourage students to take 2 years of language study** to achieve meaningful access to skills as readers, scholars, and travelers, and consider participating in an international exchange. Some languages currently in demand by American Studies students include Spanish, Arabic, and Japanese.

Through the following curriculum, students develop individual programs of study, with their advisers, to understand and engage American cultures.

1. Foundation (12 credits):

- AMST 2010
- Two courses at the 1000- or 2000-level in interdisciplinary fields, optionally including one in American History, from programs and departments such as African and American Diaspora Studies, American Indian Studies, Environment and Natural Resources, International Studies, Gender and Women's Studies, Latina/o Studies, Religious Studies, or appropriate courses transferred from other institutions, to be named in the program of study in consultation with an American Studies advisor.
- Two courses at any level from programs in The School of Culture, Gender, and Social Justice or appropriate substitutes in consultation with an American Studies advisor.

2. Concentration (27 credits)

Core. Each student must take three AMST courses at the 3000-4000 level, excluding the senior seminar. These seminars are designed to maintain an interdisciplinary view of American culture and to foster an American Studies community (9 credits).

Theme. An American Studies theme is devised, in consultation with the student's adviser, and is presented to the American Studies core faculty in writing as a proposed course of study. This proposal is usually made at the end of the second year of study (or upon completion of 60 hours of course work toward graduation), since the document guides the student through an exploration of American culture. Typical themes include: American diversity, environment and society, material culture and everyday life, visual culture and media, American cultural history, American institutions and public culture, the United States in international perspective. The theme must include a minimum of 6 credits and a maximum of 9 credits in a single discipline. Up to 3 credits can be granted for courses at the 1000-2000 level (18 credits).

3. Capstone (6 credits):

Senior seminar plus an individual project stemming from either AMST 4010 (independent study) or AMST 4970 (internship).

Students pursuing Program honors should also write an undergraduate thesis.

Internships

The internship experience is essential for students specializing in public sector American studies. The American Studies program has an active program of scholarship-supported internships that can place students in work environments in Wyoming, other parts of the U.S., or in selected foreign countries.

Exchanges

The program has established semester or academic year exchanges with universities in Great Britain, the Netherlands, Denmark and New Zealand in order to encourage an international understanding of American culture. The Elaine Kay Clatterbuck Fund supports majors who are spending this valuable time abroad.

Financial Aid

The William Robertson Coe Fellowship supports undergraduate tuition. The Long-Findeisen Fund supports individual research or exhibition projects. The Elaine K. Clatterbuck Fellowship assists students engaged in an international research or exchange. The internship program provides students with a stipend while engaged in a program-approved internship.

Teacher Education

Teacher certification in elementary or secondary (social studies) is available by arrangement with the College of Education. Students will be assigned an adviser from the College of Education, as well as from American Studies.

Certificate

The certificate program allows students to choose from undergraduate and graduate courses in American Studies, literature, geography, music, art, history, philosophy, sociology, folklore, anthropology, American Indian studies, political science, environmental studies, and media studies. The program encompasses two semesters of full time work: a total of at least 24 semester hours, or approximately 8 courses. Of these, 6 hours (2 courses) must be selected from the following list:

AMST 2010 3

and

Any AMST course at the 4000- or 5000-level 3

An additional 18 hours (6 courses) are chosen in consultation with an American Studies faculty adviser. The final 3 credit hours, completed during the summer months, are devoted to an internship (AMST 4970) or field experience in American culture (AMST 4900).

Undergraduate Minor

Students may minor in American Studies through a program of 24 credit hours of study, with credit hours evenly distributed between lower and upper division courses, which include at least 3 courses in American Studies (with the AMST course prefix), at any level (except AMST 1101), in consultation with and depending on approval by a faculty advisor in American Studies. Coursework for the minor may be matched with a student's major requirements in related disciplines and fields.

Graduate Study

The American Studies M.A. is an interdisciplinary professional development degree in a committed learning community that builds on students' research interests, accomplishments, experiences, and career goals working with American cultraul contexts past and present. After the M.A., our alums seeks further professional specialization in law, education, writing, library and information science, and other fields; pursue Ph.D.s in academic careers in American Studies and other scholarly areas including ethnic studies, cultural geography, literature, religious studies, anthropology, history, ethnomusicology, among others; and work professionally in public settings, including historic preservation orgranizations, historic sites, museums, collections, and other non-profit, community or governmental organizations.

The M.A. is a 2-year program for students enrolled full-time, culminating in a major research project, either a "Plan A" thesis, or a "Plan B" non-thesis portfolio of work. We work frequently with part-time M.A. students to accommodate other demands on students' time. We encourage the development of emergent, innovative formats and project types as valuable contributions to contemporary American studies practice, relevant to a student's professional development plans.

Because American Studies is an international field with scholars all over the world, and the U.S. has significant impacts transnationally, M.A. Students from outside the U.S. are a regular part of our M.A. cohort, and we encourage our M.A. students to consider semester exchanges abroad. The Program also supports American Studies M.A. student and faculty participation in the annual biennial international conferences. Every two years, we welcome the winner of the British Association of American Studies' Peter Boyle Award into the M.A. cohort.

All M.A. students complete at least 15 credit hours in American Studies courses: 2 required theory and methods courses in the Program (AMST 5500 and AMST 5510), and 3 graduate seminars in American Studies. The remainder of coursework - 12 credits for those completing a thesis, or 15 credits for those completing non-thesis portfolios - can be drawn from graduate-level coursework in any area of study. Most of our M.A. students complete 1-3 credit internships as part of their coursework, in public or organizational sites in Laramie, elsewhere in Wyoming or the U.S., and occasionally abroad as well. M.A. students' paths through their programs of study are as varied as our students.

Applicants to the M.A. program do not have to have prior majors in American Studies. The American Studies program does not require the GRE in applications to our M.A. program.

Financial Aid

The American Studies M.A. is generously supported by endowment funds that allow us to award significant financial aid to M.A. students enrolled full time, through teaching, research, or community organization assistantship placements, as well as scholarship support as appropriate for students' own M.A. research.

Program Specific Admission Requirements

A significant writing sample (usually a seminar paper or, for those coming from technical fields, a major report) that demonstrates potential for graduate study.

Program Learning Outcomes

Students graduating with an M.A. in American Studies integrate their educational backgrounds, research and professional interests, and coursework at the M.A. level inside and outside American Studies, in individual programs of study, to professionally engage American cultural production and communities in preparation for professional work or advanced graduate study. Students earning the M.A. in American Studies, either completing a thesis or pursuing the non-thesis Plan B project, are prepared to:

- Interpret a variety of objects significant to the study of American cultures, including words, narratives, images, material objects, communities, built environments, identities, cross-cultural and/or international perspectives, continuities and discontinuities with the past in a range of cultural settings.
- Demonstrate professional competence in writing and speaking in error-free expository prose, authoritative oral presentation, insightful use of relevant source material reflecting critical reading skill, prose style commensurate with professional responsibility, and prose content commensurate with professional responsibility.
- Produce professional research for a well-defined community (scholarly, public, or an appropriate combination), by identifying and using primary sources, building approaches from a relevant matrix of secondary sources, and understanding scholarly traditions within the field of American Studies that supports, expands, and connects research to professional goals.
- Make effective plans for advanced graduate study or professional employment by developing competencies listed above, including the opportunity to complete appropriate internship or field course work in an area of the student's professional plans.

Program Specific Degree Requirements

Degree requirements based on university minimum requirements. Successful completion of the following: AMST 5500 and AMST 5510 with a grade of B or better, 9 additional credit hours in American Studies graduate-level courses, 12 credit hours (Plan A thesis) or 15 credit hours (Plan B non-thesis) of graduate-level coursework in any field, and either a Thesis (Plan A) or a non-thesis project (Plan B).

American Studies (AMST)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1030. Social Justice in the 21st Century. 3. [I,D◀▶(none)] Appropriate for students interested in diversity and social justice. Topics covered through an interdisciplinary study of people and society range from identity, critical thinking, empowerment, role models, stereotyping, institutional discrimination, and tolerance. The key lynchpin is active participation in the development and maintenance of just communities. Cross listed with AAST/NAIS/WMST/LTST 1030. Enrollment preference will be given to We The People FIG students.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2010. Introduction to American Studies. 3. [CH,WB◀▶H] Introduces the interdisciplinary study of American culture. Focuses on themes, values and ideas which continue to reverberate through U.S. cultural experience. (Offered at least once each year)

2400. Introduction to Historic Preservation. 3. Online course introduces students to historic preservation theory and philosophy, the history of the preservation movement

and contemporary historic preservation as practiced in the public, nonprofit and private realms. Assignments include reading, research, online discussion and lectures (podcasts, videos or PowerPoint presentations), as well as directed field work.

2700. Introduction to Museology. 3. [CH◀▶(none)] Explores the historical, cultural, and contemporary roles of museums and preservation institutions in society. Introduces students to the museum professions, collection and exhibition installation strategies, and ethical problems of governance and collection. Field trips to regional collections are included. Cross listed with ART/ANTH/HIST 2700.

3050. Cultures of Nature in the United States. 3. Uses artistic, philosophical, historical and literary material to investigate how ideas about and representations of nature have changed over time in the U.S. Culminates in an examination of a wide range of contemporary environmental ideas within this broad historical and cultural context. Cross listed with ENR/WMST 3050. *Prerequisite:* 2000-level course in one of the following departments: AMST, American history, American literature, or a 2000-level course approved for the ENR program, or instructor approval.

3100. Food in American Culture. 3. [C◀▶(none)] An interdisciplinary exploration of food as a medium of cultural expression, social interaction, and aesthetic experience in American life, both past and present. Examines food as, among other things, a symbolic system, a vehicle of social communication, and an arena for the performance of regional ethnic, gender, etc. identities. *Prerequisite:* any 2000-level course in American Studies, or ANTH 1200, or instructor approval.

3800. Chicanas/os in Contemporary Society. 3. [CS,D◀▶(none)] Focuses on three major movements within the Chicana/o community; labor, nationalism, and feminism. Students will assess these three movements to determine what role they have played in transforming the social conditions and political identity of the Chicana/o and Latina/o population in the US. Cross listed with LTST/WMST 3800. *Prerequisites:* LTST 1100 or WMST 1080 or AMST 2010.

3400. Popular Music and Sexualities. 3. [CH,D◀▶(none)] Looks at ways in which popular music has intersected with sexual and gendered identities as a means and expression of both oppression and liberation. Cross listed with WMST 3400. *Prerequisite:* WA.

4010. Independent Study. 1-3 (Max. 6). For upper division students in any major who can benefit from independent study in American Studies with minimal supervision. Dual listed with AMST 5010. *Prerequisites:* 3 hours in American Studies and approval of instructor.

4020. American Folklife. 3. Introduces materials and methods of folklife research, examining both verbal and nonverbal expressions of traditional cultures in America. Topics include material culture, belief systems, traditional events and celebrations, and folk performances of many kinds. Dual listed with AMST 5020. *Prerequisite:* Any six hours from among AMST 2010, ENGL 2400, NAIS 2340, AAST 2450, 2730, 3000, 3010. (Offered once each year)

4030. Ecology of Knowledge. 3. Examines the development of "disciplines" and explores definitions, theories, methods and practices of interdisciplinary work. Cross listed with ENR 4030. Dual listed with AMST 5030. *Prerequisite:* 3 hours in any interdisciplinary program.

4040. Historic Preservation and Sustainability. 3. Explores the historic preservation and sustainability movements and contemporary practices in these inter-related fields. Through reading, lectures, discussions and site visits, students will study how the historic preservation and the building industry professions can address advanced issues in sustainability related to the environment, culture and economics. Cross listed with ARE 4040. *Prerequisites*: 6 hours in AMST or ARE.

4051. Environmental Politics. 3. Analyzes environmentalism as a political phenomenon. Provides a basic understanding of how to analyze political issues by: (1) examining the historical and contemporary issues that produce controversy over environmental matters; and (2) surveying the impacts of these issues on the formulation and implementation of laws, policies, and regulations. Cross listed with POLS/ENR/GEOG/REWM 4051. *Prerequisite:* POLS 1000.

4052. Federal Land Politics. 3. Examines the political forces that have shaped and continue to shape federal land policy and management. Explores the interactions between democratic decision making and science in the management of federal lands. Surveys the sources of controversy over federal land management and methods for harmonizing public demands with technical expertise. Cross listed with POLS/ENR/GEOG/REWM 4052. *Prerequisite:* POLS 1000.

4250. The Harlem Renaissance. 3. [D◀▶(none)] Examines the florescence of African American creativity, centered in Harlem, New York, between the end of World War I and the onset of the Great Depression. This movement had a tremendous impact on African American culture in and outside of the U.S., including Africa and the Caribbean. Dual listed with AMST 5250; cross listed with AAST 4250. *Prerequisites:* AAST 1000, AMST 2010, any AAST 2000-level course, junior or senior standing, or nine credit hours in any level AMST course.

4300. American Culture and the Public Sector. 3. Surveys American culture studies in the public sector. Topics include history and theory of public sector humanities and social sciences; types of public sector jobs and institutions where public humanists work; and public sector work in specific disciplines, such as history, anthropology, folklore, archaeology and art history. Dual listed with AMST 5300. *Prerequisite:* 12 credits in humanities or social science courses having to do with American culture. (Offered once a year)

4430. Queer Theory. 3. [(none)◀▶H] Introduces students to the intellectual lens used to evaluate the messages regarding gender and sexuality of many institutions and the way in which some actual experiences fall out of line with those norms. Dual listed with AMST 5430; cross listed with WMST 4430. *Prerequisite:* Consent of instructor.

4500. American Civilization. 1-8 (Max. 8). Explores various interdisciplinary approaches to the American experience, past and present. May include topical, thematic, historical, literary and cultural integrations; for a given semester, the course's precise focus will be indicated in the class schedule.

4640. Art and Ecology. 3. Focuses on the intersection of contemporary art with ecological concerns. Readings present philosophical, historical and cultural aspects of the art/ecology relationship; students reflect and question their own beliefs. Examples of art/artists are reviewed as well as how ecological artwork is developed. Students propose solutions and/or create art in, out of, or about the environment; local sites are encouraged. *Prerequisite:* 6 hours of ART and/or AMST or consent of the instructor.

4650. Women, Gender & Migration. 3. From an international context and perspective, this course examines the gendered transformations immigrant women experience. Gender, theories of international migration, assimilation, race, ethnicity, and identity transformation serve as categories of analysis. From a cross-discipline comparative approach, we focus on women's lives to examine differences and similarities to complicate notions of immigration. Cross listed with LTST/INST/WMST 4650. Dual listed with AMST 5650.

Prerequisites: Junior standing and 6 hours of AMST, LTST, INST, and/or WMST coursework or instructor approval.

4800. Historic Preservation. 3. Review of the roots of historic preservation in Western culture with an emphasis on the historical and legal context of architectural conservation in America. Current issues in preservation are examined through case studies and guest presentations. Cross listed with ENR 4800. Dual listed with AMST 5800. *Prerequisite:* ARE 3020 or AMST 5400.

4900. Field Studies in Historic Preservation. 1-4 (Max. 4). Acquaints students with current issues in historic preservation by visiting places of importance in U.S. and Europe. Agencies and institutions involved in building conservation provide specific expertise at sites visited. *Prerequisite:* 3 hours of architectural history or 6 hours of art history. (Offered based on sufficient demand and resources)

4970. Internship. 1-3 (Max. 6). Gives undergraduate students practical experience by working on a project at a public institution, agency or educational/cultural organization. Offered for S/U only. *Prerequisites:* junior standing, completion of AMST 2010 and 12 hours in major and consent of instructor.

4985. Senior Seminar. 3. [WC◀▶(C3)] With AMST 4010 or 4970, completes the capstone coursework in AMST. Identifies a broad intellectual tradition in American Studies as foundation for student's research interests; builds a specific scholarly context appropriate to student's research; culminates in a substantial piece of written research appropriate in an identified subfield of American Studies. *Prerequisite:* senior standing in American studies or consent of program director.

5010. Independent Study. 1-6 (Max. 6). For graduate students in any graduate program who can benefit from independent research and writing in American Studies. Dual listed with AMST 4010. *Prerequisites:* 3 hours in American Studies and consent of instructor.

5020. American Folklife. 3. Introduces materials and methods of folklife research, examining both verbal and nonverbal expressions of traditional cultures in America. Topics include material culture, belief systems, traditional events and celebrations, and folk performances of many kinds. Dual listed with AMST 4020. *Prerequisites:* any six hours from among: AMST 2010, ENGL 2400, NAIS 2340, AAST 2450, 2730, 3000 or 3010.

5030. Ecology of Knowledge. 3. Examines the development of "disciplines" and explores definitions, theories, methods and practices of interdisciplinary work. Cross listed with ENR 5030. Dual listed with AMST 4030. *Prerequisite:* graduate status.

5200. Material Culture. 3. Designed to introduce advanced students to the theory, methods, and practice of material culture study. A significant portion of the course will be devoted to a studio exercise in which students collectively document and analyze a material culture form that has been designated by the instructors. *Prerequisite:* graduate status or consent of instructor.

5250. The Harlem Renaissance. 3. Examines the florescence of African American creativity, centered in Harlem, New York, between the end of World War I and the onset of the Great Depression. This movement had a tremendous impact on African American culture in and outside of the U.S., including Africa and the Caribbean. Dual listed with AMST 4250; cross listed with AAST 5200. *Prerequisites:* AAST 1000, AMST 2010, any AAST 2000-level course, junior or senior standing, or nine credit hours in any level AMST course.

5300. American Culture and the Public Sector. 3. A survey of American culture studies in the public sector. Topics covered include the history and theory of public sector humanities and social sciences, types of public sector jobs and institutions where public humanists work, and public sector work in specific disciplines such as history, anthropology, folklore, archaeology, and art history. Dual listed with AMST 4300. *Prerequisite:* graduate status.

5400. American Built Environment. 3. Examination of America's built environment from pre-Colonial times to the present day. Factors affecting the architecture and built form of a given period are discussed together with what the material legacy says about the culture of the period. *Prerequisite:* ARE 3020.

5430. Queer Theory. 3. Introduces students to the intellectual lens used to evaluate the messages regarding gender and sexuality of many institutions and the way in which some actual experiences fall out of line with those norms. Dual listed with AMST 4430; cross listed with WMST 5430. *Prerequisite:* Consent of instructor.

5500. Topics in American Studies. 3. Selected problems in the theory, practice, and bibliography of American studies. Required of graduate majors in the program and is recommended for students with an interdisciplinary interest in American Culture. *Prerequisites:* survey knowledge of American literature and history; graduate standing or consent of instructor.

5510. Readings in American Studies. 3. Selected readings in the theory, practice, and bibliography of American Studies. Surveys scholarship in the field and is designed to help graduate students develop thesis topics. *Prerequisites:* graduate standing in American studies or related field; consent of instructor.

5550. Varieties of Literary Evidence. 3. Selected problems in the use of literary evidence for American studies scholarship. *Prerequisites:* graduate standing in American studies or a related field; consent of instructor.

5560. Black Popular Culture. 3. Approaches African American popular culture from theoretical perspectives which include black feminist, postcolonial, and poststructuralist analyses. Cross listed with AAST 5560. *Prerequisites:* graduate standing; instructor consent for undergraduate students.

5650. Women, Gender & Migration. 3. From an international context and perspective, this course examines the gendered transformations immigrant women experience. Gender, theories of international migration, assimilation, race, ethnicity, and identity transformation serve as categories of analysis. From a cross-discipline comparative approach, we focus on women's lives to examine differences and similarities to complicate notions of immigration. Cross listed with LTST/INST/WMST 5650. Dual listed with AMST 4650. *Prerequisites*: Junior standing and 6 hours of AMST, LTST, INST, and/or WMST coursework or instructor approval.

5800. Historic Preservation. 3. Review of the roots of historic preservation in Western culture with an emphasis on the historical and legal context of architectural conservation in America. Current issues in preservation are examined through case studies and guest presentations. Cross listed with ENR 5800. Dual listed with AMST 4800. *Prerequisite:* ARE 3020 or AMST 5400.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate status.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: Credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Graduate level course designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisites:* enrolled in a graduate degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Languages – Modern and Classical

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

Professor:

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

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

Associate Professors:

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

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

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

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

Assistant Professors:

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

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

Senior Academic Professional Lecturers:

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

MARK W. PERSON, B.A. University of Wyoming 1983; M.A. 1986; Senior Academic Professional Lecturer in German 2017, 2008.

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

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

Associate Academic Professionals Temporary Lecturers:

Xuan-Xabier Huynh, Noah Miles

Professors Emeriti:

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

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

Foreign Language Requirements

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

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

Undergraduate Major

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

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

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

Students will meet the following learning outcomes to:

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

French

Required courses for the major in French are 2040, 2140, 3005, 3050, 3060, plus 15 hours of electives at the 3000 or 4000 level.

German

Required courses for the major in German are 2040, 3050, 3060 plus 21 hours of electives in German above 2030.

Spanish

Spanish offers two major tracks:

(1) The culture, literature, and cinema track requires 2040, 2140, 3030 or 3050, 3100 or 3110 or 3120, 3140 3300, plus an additional 12 hours of electives above SPAN 2030.

(2) The language-linguistics track requires 2040, 3030/3050, 3060, 3140, 3300, 4080 or 4090, plus an additional 12 hours of electives above SPAN 2030.

Highly recommended electives for the language-linguistics track are SPAN 3040, 3080, 4070, 4080, 4090. It is possible to take one class from the following: SPPA 3160; ANTH 4775; ANTH 4785; ANTH 4795.

Minor

In general, students desiring to complete a minor in a foreign language will be required to complete a program of 18 semester hours above 2030. The requirements for individual languages are as follows:

Chinese

CHIN 2040 4
CHIN 2041 3
CHIN 3050 3
CHIN 3065 3
CHIN 3055 3
CHIN 4070 or CHIN 3160 3
Total ***19***

Note: Study abroad is required for completion of 12 credit hours of coursework for this minor.

Classical Civilizations

CLAS 2020 or HIST 2120 3
CLAS 2040 or HIST 2130 3
Electives 12
12 hours chosen from Classics 3000-level or above. Up to 6 hours of Latin at the 3000-level or above may be counted as electives. Other courses about ancient Mediterranean cultures that are not taught under Classics may be submitted for approval as electives to the advisor for the minor.
Total ***18***

French

FREN 2040 3
FREN 2140 3
FREN 3050 3
Electives 9
9 hours chosen from French at the 3000 or 4000 level.
Total ***18***

German

GERM 2040 3
GERM 3050 3
GERM 3060 3
Electives 9
9 hours chosen from German at the 3000 or 4000 level.
Total ***18***

Japanese

JAPN 2040 4
JAPN 3050 3
Electives 12
Electives to be chosen from: LANG 2150; LANG 3105; LANG 3140; HP 2151/4151; HIST 2460; HIST 2461; JAPN 3060; JAPN 4070; JAPN 4080; JAPN 4990.
Total ***19***

Latin

LATN 3110 3
LATN 3140 2
LATN 4120 3
LATN 4130 3
Electives 7
Electives chosen from Latin at the 3000-level or above.
Total ***18***

Spanish

Electives 18
18 hours of electives in Spanish at the 2000-level or above (excluding SPAN 2030).
Total ***18***

Teaching Certification

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

Native Language Credit

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

Study Abroad

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

Suggested Curriculum for B.A. in a Foreign Language

(for students with no prior background in the language)

FRESHMAN YEAR: Fall **Hrs.**
Language 1010 4

FRESHMAN YEAR: Spring **Hrs.**
Language 1020 4

SOPHOMORE YEAR: Fall **Hrs.**
Language 2030 4

SOPHOMORE YEAR: Spring **Hrs.**
Language 2040 ..... 3 or 4
Language 2140 3

JUNIOR YEAR: Fall **Hrs.**
Language 3050 3
Language 3000-4000-level 3

JUNIOR YEAR: Spring **Hrs.**
Language 3060 3
Language 3000-4000-level 3

SENIOR YEAR: Fall **Hrs.**
Language 4200 3
Language 3000-4000-level 3

SENIOR YEAR: Spring **Hrs.**
Language 4000-5000-level.....6

Graduate Study

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

Program Specific Admission Requirements

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

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

Program Specific Degree Requirements

Degree requirements are based on the university minimum requirements.

Chinese (CHIN)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1010. First Year Chinese I. 4. [(none)◀▶H] Fundamentals of grammar, conversation, and reading. Introduction to Chinese culture through the language.

1020. First Year Chinese II. 4. [(none)◀▶H] Fundamentals of grammar, conversation, and reading. Introduction to Chinese culture through the language. *Prerequisite:* CHIN 1010 or equivalent.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2030. Second Year Chinese I. 4. Grammar, composition, conversation and more vocabulary in Chinese. *Prerequisite:* CHIN 1020 or equivalent.

2040. Second Year Chinese II. 4. Further studies in grammar composition, conversation and more vocabulary in Chinese. *Prerequisite:* CHIN 2030 or equivalent.

2041. Contemporary and Traditional Chinese Culture. 3. Designed to provide those with a serious interest in China and Chinese language with a cultural context for learning Chinese language. Incorporates economic and social material to give students a clear view of Chinese culture with an emphasis on Chinese language instruction. *Prerequisite:* CHIN 2030.

3050. Intermediate Composition and Conversation. 3. Develop abilities to read and write complex Chinese texts with an intermediate level of understanding, including texts in both conversational and narrative styles. Reading and writing skills will build considerably on the skills learned in two years of university study in Chinese language. *Prerequisite:* CHIN 2040 or equivalent.

3055. Business Chinese. 3. [G◀▶COM2] Comprehensive course on business language skills. For students with proficiency in Mandarin at the Intermediate Mid level or higher. Focus is on language functions for the workplace. Productive skills, both spoken and written, will include the composition of extended frequently-used business documents Prerequisite: CHIN 3050 or equivalent.

3065. Intermediate Composition and Conversation II. 3. Students will not only understand and construct complex speech and writing but will gain the ability to do so effectively to persuade, discuss and communicate accurately with native Chinese speakers. Students will be able to relate topics such as personal experience, daily routine, reports, opinions and judgment in well-written Chinese paragraphs. *Prerequisite:* CHIN 3050 or equivalent.

3160. See Movies, Touch China. 3. [(none)◀▶H] This course combines exploration of classical and contemporary Chinese cultures through prominent Chinese films. The audio-video materials selected will be discussed in their historical context. Students will explore the transformations China has undergone, and will seek to understand the Chinese mindset. *Prerequisite:* COM1.

4070. Business Chinese II. 3. Apply previously acquired skills in complex Chinese language and business topics to the thorough analysis of case studies in Chinese business scenarios. Students will be able to read, discuss, and reach conclusions based on case studies of international companies in China and Chinese companies in international markets. *Prerequisite:* CHIN 3055.

Classics (CLAS)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

2020. Classical Greek Civilization. 3. [WB,C◀▶H] Examines some of the most important developments of ancient Greek culture. Includes development of government in the city-states, with particular attention to Athenian democracy; tragedies of Aeschylus, Sophocles and Euripides; comedies of Aristophanes; crisis of values of the Peloponnesian War; and philosophy of Plato. *Prerequisite:* WA or COM1.

2040. Classical Roman Civilization. 3. [WB,CH◀▶(none)] Examines some of the most interesting political, legal, artistic, literary, and engineering developments of the Republic and Principate (510 BC-AD 212). These include representational government, citizens' rights, sanctioned violence, Rome's infrastructure, and major literary works of oratory, comedy, history, epic, and philosophy. *Prerequisite:* WA or COM1.

3050. Athenian Democracy. 3. Examines democratic government in ancient Athens: its origins and development, its practical workings, how politics were conducted and power was gained and exercised, citizen participation, law courts, and evaluations of democracy in the ancient world and since. Cross listed with HIST/POLS 3050. *Prerequisite:* WB or COM2.

3160. "What Killed Socrates?" 3. This course will reexamine Socrates' trial in 399 BCE, widely regarded as a miscarriage of justice, in its total historic context, seeking to understand the reasons for Socrates' conviction. In the process, it will impart a broad understanding of the cultural, philosophical, political, and legal life of classical Athens. Cross listed with HIST/PHIL 3160. *Prerequisite:* WB or COM2.

4230. Greek Tragedy. 3. Reading and discussion of major plays by Aeschylus, Sophocles, and Euripides, together with examination of the performance and social context of Greek drama, its use of traditional myths, and selected issues in contemporary scholarship on the tragedies. Cross listed with ENGL/THEA 4230. *Prerequisite:* WB or COM2.

4270. Classical Epic Poetry. 3. Reading and discussion of major works of Greek and Latin epic poetry, centered on Homer and Vergil. Also includes consideration of the background of these works (both mythological and historical) and the development of the epic tradition in the ancient world. Cross listed with ENGL 4270. *Prerequisite:* WB or COM2.

4975. Independent Study. 1-4 (max. 12) Specialized study in aspects of Greek or Roman civilization of interest to the student, with topic and plan of work to be worked out by the student and the instructor together. *Prerequisite:* 6 hours of Classics courses or consent of instructor. (Offered based on sufficient demand and resources)

4990. Topics in Classical Civilization. 1-4 (max. 12) Study in depth of special areas in ancient civilization that are not covered in regularly offered courses. *Prerequisite:* 6 hours of Classics courses or consent of the instructor. (Offered based on sufficient demand and resources)

French (FREN)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1010. First Year French I. 4. [(none)◀▶H] Fundamentals of grammar, composition, conversation and reading.

1020. First Year French II. 4. [(none)◀▶H] Fundamentals of grammar, composition, conversation and reading. *Prerequisite:* FREN 1010 or two years of high school French.

2030. Second Year French I. 4. [(none)◆H] Emphasizes the development of communication skills (listening, speaking, reading and writing) so as to help students function effectively in real-life contexts. Provides a systematic review of grammatical structures necessary for successfully communicating in French. *Prerequisite:* FREN 1020 or three years of high school French.

2040. Second Year French II. 3. [(none)◆H] A course stressing the usage of the language through composition, conversation, oral presentations and grammar review. *Prerequisite:* FREN 2030, three years of high school French or FREN 1010, 1020 with grade of B or better.

2130. Contemporary French Culture. 3. [(none)◆H] Designed as an introduction to contemporary French culture. It gives students an in-depth insight into contemporary French life. It also deals with issues affecting the French-speaking world in general: Quebec, Africa, New Caledonia, Switzerland, Monaco, etc. *Prerequisite:* FREN 1020 or equivalent.

2140. Introduction to Reading. 3. [CH,G◆(none)] Introduction to the literature of France; analysis of major literary types and elements of criticism. *Prerequisite:* FREN 2030.

3005. French Phonetics and Pronunciation. 3. Focus on the phonetic structures of French through systematic pronunciation drills and phonetic transcriptions. Varied oral activities and exercises will help develop an awareness of spoken French and improve students' pronunciation. *Prerequisite:* FREN 2040 or equivalent.

3050. Third Year French I. 3. [WB◆COM2] A course stressing the usage of the language through composition, conversation, oral presentations and grammar review. *Prerequisite:* FREN 2040.

3060. Third Year French II. 3. A course stressing the usage of the language through composition, conversation, oral presentations and grammar review. *Prerequisite:* FREN 3050.

3110. Contemporary French Civilization. 3. Emphasizes the institution and values of contemporary France. Deals with the major political, social, cultural and economic aspects of today's France. Will be taught in French. *Prerequisite:* FREN 3050.

3990. Independent Study. 1-4 (Max. 4). Books or periodicals of special interest to the student, selected in consultation with a member of the staff; independent reading and reports. *Prerequisite:* FREN 2030.

4080. Studies in the French Language. 3 (Max. 9). The topics explored under this general heading include: translation, history of the French language, French of the media and conversation. Dual listed with FREN 5080. *Prerequisite:* FREN 3060.

4100. A Survey of French Literature I. 3. A study of French Literature and civilization from the Middle Ages through the 18th century. *Prerequisite:* FREN 2140 or equivalent.

4110. A Survey of French Literature II. 3. A study of French Literature and civilization from the 19th century to the present. *Prerequisite:* FREN 2140 or equivalent.

4120. Medieval French Literature. 3. A survey of medieval French literature: epic, courtly poetry, Arthurian romance, theatre and the poetry of Villon. Dual listed with FREN 5120. *Prerequisites:* FREN 3050; FREN 4100 and 4110 strongly recommended.

4140. 17th Century French Literature. 3. [WC◆(none)] A survey of representative works from the major literary genres from the formative period to classicism and its aftermath. Dual listed with FREN 5140. *Prerequisites:* FREN 3050; FREN 4100 and 4110 strongly recommended.

4200. Introduction to Research. 3. [(none)◆COM3] Senior seminar on a topic varying from year to year. *Prerequisites:* COM2 (FREN 3050), Survey I and II courses (FREN 4100 and 4110).

4250 [4150]. 19th Century French Literature. 3. Development of romanticism from Rousseau on with excerpts from Chateaubriand and romantic poets like Hugo and Vigny. The period of realism-naturalism focuses on novels of Flaubert and Zola, while the symbolist school of poetry is represented by Baudelaire, Verlaine and Rimbaud. Dual listed with FREN 5250. *Prerequisites:* FREN 3050; FREN 4100 and 4110 strongly recommended.

4260 [4160]. 20th Century French Literature. 3. The era since 1900 is divided into four parts: pre-World War I, between the wars, post-World War II and the New Wave. These periods are represented by authors including Valery, Proust, Malraux, Saint-Exupery, Camus, Sartre and others. Dual listed with FREN 5260. *Prerequisite:* FREN 3050; FREN 4100 and 4110 strongly recommended.

4350. Studies in French and Francophone Literatures. 3. An intensive study of a topic, period or author (pertaining to French or Francophone literature), to be selected according to interest and currency). Dual listed with FREN 5350. *Prerequisites:* FREN 3060; FREN 4100 and 4110 strongly recommended.

4990. Advanced Independent Study. 1-3 (Max. 6). Special projects designed to meet the needs of individual students, designed in consultation with instructor. *Prerequisites:* FREN 3050 and consent of instructor.

5080. Studies in French Language. 3. (Max 9). Topics explored include: French translation, history of the French language, French of the media, and conversation. *Prerequisite:* FREN 3060.

5120. Medieval French Literature. 3. A survey of medieval French literature: Epic, courtly poetry, Arthurian romance, theatre, and the poetry of Villon. Dual listed with FREN 4120. Prerequisites: FREN 3050; FREN 4100 and 4110 strongly recommended.

5140. 17th Century French Literature. 3. A survey of representative works from the major literary genres from the formative period to classicism and its aftermath. Dual listed with FREN 4140. *Prerequisites:* FREN 3050; FREN 4100 and 4110 strongly recommended.

5160. Graduate Readings. 1-5 (Max. 6). *Prerequisite:* undergraduate major or minor in the subject.

5170. Special Problems. 1-2 (Max. 6). *Prerequisite:* undergraduate major or minor in the subject.

5250. 19th Century French Literature. 3. Development of romanticism from Rousseau on with excerpts from Chateaubriand and romantic poets like Hugo and Vigny. The period of realism-naturalism will focus on novels each of Flaubert and Zola while the Symbolist School of poetry will be represented by Baudelaire, Verlaine and Rimbaud. Dual listed with FREN 4250. *Prerequisites:* FREN 2050; FREN 4100 and 4110 strongly recommended.

5260. 20th Century French Literature. 3. The era since 1900 is divided into 4 parts: Pre-World War I, between the wars, post-World War II and the New Wave. These periods are represented by such authors as Valery, Proust, Malraux, Saint-Exupery, Camus, Sartre and others. Dual listed with FREN 4260. *Prerequisites:* FREN 3050; FREN 4100 and 4110 strongly recommended.

5350. Studies in French and Francophone Literatures. 3. An intensive study of a topic, period or author (pertaining to French or Francophone literature, to be selected according to interest and currency). Dual listed with FREN 4350. *Prerequisites:* FREN 3060; FREN 4100 and 4110 strongly recommended.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate standing.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1 - 3 (Max 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

German (GERM)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1010. First Year German I. 4. [(none)◀▶H] Explores fundamentals of grammar, composition, conversation and reading.

1020. First Year German II. 4. [(none)◀▶H] Examines fundamentals of grammar, composition, conversation and reading. *Prerequisite:* GERM 1010 or two years of high school German.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2030. Second Year German I. 4. [(none)◀▶H] Includes reading simple novels, short stories, and dramas; grammar review; and conversation. Eight required laboratory exercises. *Prerequisite:* GERM 1020 or three years of high school German.

2040. Second Year German II. 3. [(none)◀▶H] Encompasses formal grammar review; weekly composition; as well as drill of oral skill including pronunciation, oral reports and free conversation. *Prerequisite:* GERM 2030 or three years of high school German.

3006. 20th Century German Culture and Civilization. 3. [WC,CH◀▶(none)] Major political, ideological and cultural developments in Germany between 1871 and the present. An interdisciplinary approach (history, art history, film and literature) allows students to explore and assess a nation's culture and civilization as well as far-reaching events (WWI, WWII and the Holocaust) from various perspectives. *Prerequisite:* junior standing.

3050. Third Year German I. 3. [WB◀▶COM2] Encompasses formal grammar review; weekly composition; as well as drill of oral skill including pronunciation, oral reports and free conversation. *Prerequisite:* GERM 2040.

3060. Introduction to German Literature. 3. Introduces literature of Germany. Analyzes major literary types and elements of criticism. Emphasizes compositions and corrective practice, stylistic analysis of representative texts and group discussion on prepared topics. *Prerequisite:* GERM 3050.

3150. German History and Culture. 3. [CH,G◀▶(none)] Taught in English, this class engages students both theoretically and practically with German history and culture throughout the ages from the Middle Ages to today. Reading content is complemented with outings to culturally and historically significant sites in Germany as part of a summer study abroad program. *Prerequisite*: WA or equivalent.

3990. Independent Study. 1-4 (Max. 4). Focuses on books or periodicals of special interest to the student selected in consultation with a staff member; independent reading and reports. *Prerequisite:* GERM 2030.

4070. Fourth Year German. 3. Emphasizes weekly compositions and corrective practice, stylistic analysis of representative texts and group discussion on prepared topics. Dual listed with GERM 5070. *Prerequisite:* GERM 3060. (Offered every other year)

4080. German-English and English-German Translation. 3. [WB◀▶(none)] Encompasses written translation exercises based on contemporary and relevant texts in both English and German. Addresses specific translation problems arising in both English and German, when translating into the other language. *Prerequisites:* GERM 3050 and/or 3060. (Offered fall semester)

4100. A Survey of German Literature I. 3. Studies German literature and civilization from the Middle Ages to the 17th century. Dual listed with GERM 5100. *Prerequisite:* GERM 2140 or equivalent.

4110. A Survey of German Literature II. 3. Studies German literature and civilization from the 18th century to the end of the 20th century. Dual listed with GERM 5110. *Prerequisite:* GERM 2140 or equivalent.

4145. Weimar Classicism. 3. Introduces student to Weimar Classicism, one of the crucial periods in German literature and culture. Explores the foundation of the movement, its cultural and historical contexts, aesthetic and philosophical principles, and significant works during this period. Primary language for instruction for this course is German. Dual listed with GERM 5145. *Prerequisite:* GERM 2140 or equivalent.

4180. German Poetry. 3. Surveys poetry from the Middle Ages to the present. Emphasizes poetry after 1600. Treats formal elements and genre categories. Dual listed with GERM 5180. *Prerequisite:* GERM 2140.

4200. Introduction to Research. 1-3 (Max. 9). Senior seminar on a topic varying from year to year. Includes study of standard bibliographical guides. Minimum of 3 hours recommended for majors. *Prerequisite:* 12 hours of 4000-5000-level courses.

4240. German Literature of the Romantic Period. 3. Introduces the philosophical bases of German Romanticism and analyzes representative works of prose and poetry. Dual listed with GERM 5240. *Prerequisite:* GERM 2140 or equivalent.

4255. 19th Century German Novellas. 3. Studies a wide selection of significant German novellas from the period when this genre flourished in the German-speaking world, with a popularity unparalleled in the rest of Europe. Examines the form's origins, evolution, reception, and theory. Dual listed with GERM 5255. *Prerequisite:* GERM 2140 or equivalent.

4275. Contemporary Migration Literature. 3. Introduces students to a range of recent cultural production by artists identified with immigrant communities or communities of color. Topics examined include intersections of gender, race, nation, culture, and class; experiences of different minorities; question of national and transnational identity, self-representation, immigration, multiculturalism and integration debates. Course is taught in German. Dual listed with GERM 5275. *Prerequisite:* GERM 2140 or equivalent.

4285. 20th/21st Century German Film. 3. Introduces students to classical German films, and thereby enhances their skills to conduct research in the Humanities. Themes to be discussed: representation of authority, issues of race and gender, German culture and history, the Americanization of German culture, minorities in contemporary Germany. Dual listed with GERM 5285. *Prerequisite:* WB.

4990. Advanced Independent Study. 1-3 (Max. 6). Encompasses special projects designed to meet needs of individual students, designed in consultation with instructor. *Prerequisites:* GERM 2140 and consent of instructor.

5070. 4th Year German. 3. Emphasizes weekly compositions and corrective practice, stylistic analysis of representative texts, and group discussions on prepared topics. Dual listed with GERM 4070. *Prerequisite:* GERM 3060.

5100. A Survey of German Literature I. 3. A study of German literature and civilization from the Middle Ages to the seventeenth century. Dual listed with GERM 4100. *Prerequisite:* GERM 2140 or equivalent.

5110. A Survey of German Literature II. 3. A study of German literature and civilization from the eighteenth century to the end of the twentieth century. Dual listed with GERM 4110. *Prerequisite:* GERM 2140 or equivalent.

5145. Weimar Classicism. 3. Introduces students to Weimar Classicism, one of the crucial period in German literature and culture. Explores the foundation of the movement, its cultural and historical contexts, aesthetic and philosophical principles, and significant works written by Goethe and Schiller during this period. Taught in German. Students are expected to read, write and discuss in German. Dual listed with GERM 4145. *Prerequisite:* graduate standing.

5160. Graduate Readings. 1-5 (Max. 6). *Prerequisite:* undergraduate major or minor in the subject.

5180. German Poetry. 3. A survey of poetry from the Middle Ages to the present. Emphasis on poetry after 1600. Treatment of formal elements and genre categories. Dual listed with GERM 4180. *Prerequisite:* GERM 2140.

5240. German Literature of the Romantic Period. 3. An introduction to the philosophical bases of German Romanticism and analysis of representative works of prose and poetry. Dual listed with GERM 4240. *Prerequisite:* GERM 2140 or equivalent.

5255. 19th Century German Novellas. 3. Studies a wide selection of German novellas from the period when this genre flourished in the German-speaking world, with a popularity unparalleled in the rest of Europe. Examines the form's origins, evolution, reception, and theory. Dual listed with GERM 4255. *Prerequisite:* GERM 2140 or equivalent.

5275. Contemporary Migration Literature. 3. Introduces students to a range of recent cultural productions by artists identified with immigrant communities or communities of color. Topics examined include: the intersections of gender, race, culture, and class; experiences of different minorities in unified Germany; question of national and transnational identity, self-representation, immigration, multiculturalism and integration debates. Taught in German. Students are expected to read, write and discuss in German. Dual listed with GERM 4275. *Prerequisite:* GERM 2140 or equivalent.

5285. 20th/21st Century German Film. 3. Introduces students to classical German films, and thereby enhances their skills to conduct research in the Humanities. Themes to be discussed: representation of authority, issues of race and gender, German culture and history, the Americanization of German culture, minorities in contemporary German. Taught in English. Dual listed with GERM 4285. *Prerequisites:* graduate standing.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Greek (GRK)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1010. First Year Greek I. 4. Studies fundamentals of grammar, composition and reading in Classical Greek. (Offered based on sufficient demand and resources)

1020. First Year Greek II. 4. Studies grammar, composition and reading in Classical Greek. *Prerequisite:* GRK 1010. (Offered based on sufficient demand and resources)

2030. Second Year Greek. 4. Explores reading simple texts, stories and dramas, as well as grammar review. *Prerequisite:* GRK 1020 or equivalent. (Offered based on sufficient demand and resources)

2040. Second Year Greek II. 4. Further studies in grammar and reading simple texts, stories, and dramas. (Offered based on sufficient demand and resources.) Prerequisites: GRK 2030 or the equivalent.

3990. Independent Study. 1-4 (Max. 12). Encompasses independent reading, selected in consultation with instructor. *Prerequisite:* GRK 1020 or equivalent. (Offered based on sufficient demand and resources)

Japanese (JAPN)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1010. First Year Japanese I. 4. [(none)◀▶H] Studies fundamentals of grammar, composition, conversation and reading. Introduces Japanese culture through the language. (Offered fall semester)

1020. First Year Japanese II. 4. [(none)◀▶H] Studies fundamentals of grammar, composition, conversation and reading. Introduces Japanese culture through the language. *Prerequisite:* JAPN 1010 or equivalent. (Offered spring semester)

2030. Second Year Japanese I. 4. Encompasses reading, speaking and writing in original Japanese syllabaries, including elementary kanji characters for daily practical application. *Prerequisite:* JAPN 1020 or equivalent. (Offered fall semester)

2040. Second Year Japanese II. 4. Encompasses reading, speaking and writing in original Japanese syllabaries, including elementary kanji characters for daily practical application. *Prerequisites:* JAPN 1020 and 2030 or equivalent. (Offered based on sufficient demand and resources)

2070. Conversational Japanese Abroad. 4. Japanese language and cultural study in Japan led by UW faculty. *Prerequisite:* JAPN 1020.

3050. Third Year Japanese I. 3. Stresses usage of the language through composition, conversation, oral presentation and grammar review. *Prerequisite:* JAPN 2040 or equivalent. (Offered based on sufficient demand and resources)

3060. Third Year Japanese II. 3. Stresses usage of the language through composition, conversation, oral presentation and grammar review. *Prerequisites:* JAPN 2040 and 3050 or equivalent. (Offered based on sufficient demand and resources)

3990. Independent Study. 1-4. Projects in language or literature designed to meet specific student needs or interests, selected in consultation with faculty; independent reading and reports. *Prerequisite:* JAPN 2030.

4070. Fourth Year Japanese I. 3. Incorporates intensive grammar review and combination skill development. Also emphasizes specialized lexicons, written and oral translations, conversational fluency and additional kanji characters. *Prerequisite:* JAPN 3060. (Offered based on sufficient demand and resources)

4990. Advanced Independent Study. 1-3 (Max. 6). Encompasses special projects pertaining to Japanese language or literature to meet needs of individual students designed in consultation with instructor. *Prerequisites:* JAPN 3050 and consent of instructor. (Offered based on sufficient demand and resources)

Language (LANG)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2150. Manga: History and Culture. 3. [(none)◀▶COM2] Manga is one of the most important art forms to emerge from Japan. Its importance as a medium of visual culture and storytelling cannot be denied. Through reading and examination of texts, students will understand the relevance of comics in Japanese society. *Prerequisite:* COM1.

3105. Major Themes in Chinese and Japanese Literature. 3-4 (Max. 4). Explores mindsets of two rich and ancient civilizations, China and Japan. Considers distinctive characters of each civilization, while illuminating basic elements that we share with these peoples. *Prerequisite:* ENGL 1010.

3140. Anime: History and Culture. 3. [G,WB◀▶(none)] An introduction to the history, development, and cultural significance of Japanese animation. Through the examination of a variety of anime genres, students will gain insight into contemporary Japan as well as important historical periods. We will read analyses of particular anime, emphasizing the unique characteristics of the art and the mystery of its popularity in the US. *Prerequisite*: completion of WA.

4485. Latin Diaspora: Comparative History of U.S. 3. History of U.S. Latino peoples including Mexican Americans, Puerto Ricans, Cubans, Dominicans, Central Americans, South Americans and Spaniards. Historical context, origins, development of Latin American national, cultural identities, regional characteristics, immigration; nativist responses; assimilation, cultural continuity and change. Similarities, general patterns and differences, Hispanic and Pan Latino identities and probable future trends. *Prerequisite:* HIST 2370 or 2380 or LTST 1100.

4785. Linguistics, Language Teaching and Social Context. 3. Introduces prospective teachers of English as second language to the basic components of language and to the social aspects of human language use. Explores a variety of concepts about language: how it is used and perceived, how languages change, how diverse cultures respond to such changes. Cross listed with ENGL 4785. *Prerequisite:* WB.

4800. Advanced Instruction In: ___. 1-3 (Max. 12). Advanced study and projects designed to meet special needs and interests of students, to be selected in consultation with a suitable member of the faculty. *Prerequisite:* consent of instructor.

4975. Independent Study In:__. 1-3 (Max. 12). Further work in a less commonly taught language, for students who have at least four semesters of study or comparable proficiency. *Prerequisite:* LANG 2040 or equivalent.

5300. Advanced Linguistics. 3. Data is offered to provide the opportunity to analyze phonological, morphological, and syntactic materials from languages throughout the world. Attention is given to the limits within which these aspects of human language appear to vary. *Prerequisite:* ANTH/ENGL/LANG 4750.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Students are expected to give some lectures and gain classroom experience. *Prerequisite:* graduate standing.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

Other Languages (LANG)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

Modern languages not listed above are offered under the following listings in the class schedule:

1010. First Semester in __. 1-4 (Max. 12).

1020. Second Semester in __. 1-4 (Max. 12). *Prerequisite:* LANG 1010.

2030. Third Semester in __. 1-4 (Max. 12). *Prerequisites:* LANG 1010, LANG 1020.

2040. Fourth Semester in:__. 3. [(none)◀▶H] Encompasses formal grammar introduction and review; periodic composition; as well as drill of oral skill including pronunciation, oral reports and free conversation. *Prerequisite:* Satisfactory completion of corresponding study in LANG 2030.

Latin (LATN)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1010. First Year Latin I. 4. [(none)◀▶H] Studies fundamentals of grammar, composition and reading. (Offered fall semester)

1020. First Year Latin II. 4. [(none)◀▶H] Studies fundamentals of grammar, composition and reading. *Prerequisite:* LATN 1010 or equivalent. (Offered spring semester)

2030. Second Year Latin. 4. Reading simple texts, short stories and dramas, as well as grammar review and conversation. *Prerequisite:* LATN 1020 or equivalent. (Offered fall semester)

3110 [2110]. Vergil, The Aeneid I. 3. Reading portions of the Aeneid and consideration of its literary interpretation. *Prerequisite:* LATN 2030 or equivalent.

3120 [2120]. Vergil, The Aeneid II. 3. Reading further portions of the Aeneid and consideration of its literary interpretation. *Prerequisite:* LATN 3110. (Offered based on sufficient demand and resources)

3140. Caesar. 2. Acquaints students with war-memoir genre of Latin literature. *Prerequisite:* LATN 2030 or equivalent. (Offered based on sufficient demand and resources)

3150. Livy. 3. Reading portions of Livy's historical works, and consideration of the history he covers and how the Romans viewed their past. *Prerequisite:* LATN 2030 or equivalent. (Offered based on sufficient demand and resources)

3160. Ovid. 2. *Prerequisite:* LATN 2030 or equivalent. (Offered based on sufficient demand and resources)

3990. Independent Study. 1-4 (Max. 12). Books or texts of special interest to the student, selected in conjunction with the instructor; independent reading and reports. *Prerequisite:* LATN 2030 or equivalent. (Offered based on sufficient demand and resources)

4110. Horace. 3. *Prerequisite:* LATN 2030 or equivalent. (Offered based on sufficient demand and resources)

4115. Latin Philosophers. 3. An introduction to Latin philosophical traditions. Readings will be selected either from one author, such as Lucretius (ca. 99-55 BCE) or Seneca the Younger (ca. 4 BCE-65 CE), or from different authors about a given theme. *Prerequisite:* LATN 2030 or equivalent. (Offered based on sufficient demand and resources)

4120. Catullus and the Elegiac Poets. 3. Discusses Latin lyric poetry of late Republic and early Empire, excluding works of Horace and Ovid, and elegiac tradition in Latin. *Prerequisite:* LATN 2030 or equivalent. (Offered based on sufficient demand and resources)

4130. Cicero. 3. Introduction to the prose of the statesman Marcus Tullius Cicero (106-43 BCE). Readings will be selected from his political speeches, correspondences, or treatises on philosophical, rhetorical, and religious topics. *Prerequisite:* LATN 2030 or equivalent. (Offered based on sufficient demand and resources)

Spanish (SPAN)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1010. First Year Spanish I. 4. [(none)◀▶H] Studies fundamentals of grammar, composition, conversation and reading.

1020. First Year Spanish II. 4. [(none)◀▶H] Studies fundamentals of grammar, composition, conversation and reading. *Prerequisite:* SPAN 1010 or two years of high school Spanish.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2030. Second Year Spanish I. 4. [(none)◀▶H] Encompasses reading, grammar review, compositions and conversation. *Prerequisite:* SPAN 1020 or three years of high school Spanish.

2040. Second Year Spanish II. 4. [(none)◀▶H] Stresses usage of the language through composition, conversation, oral presentation and grammar review. *Prerequisite:* SPAN 2030 or three years of high school Spanish.

2140. Introduction to Reading. 3. [CH,G◀▶(none)] This course introduces a varied selection of readings and other cultural media in an immersive, intensive language class. Through the study of short stories, media articles, films, etc., students learn cultural aspects of the Spanish-speaking world and are able to practice and improve their communicative abilities. *Prerequisite:* SPAN 2030 or equivalent.

3030. Spanish for Heritage Speakers. 3. [(none)◀▶COM2] Stresses academic use of the Spanish language by native or near-native speakers, through composition, cultural readings, oral presentations, and digital interactions. This class will prepare native and near-native speakers for Spanish upper division classes. It will review spelling rules, grammatical terminology, dialectal and register differences, and academic vocabulary. *Prerequisites:* SPAN 2040 and consent of instructor.

3040. Spanish Conversation. 3. Emphasizes speaking and listening comprehension through structured and monitored individual, pair, small group and class work, while providing socio-cultural competence, vocabulary acquisition and grammar review. Provides enhanced language skills in a manner that otherwise could only be attained through an extended stay in a Hispanic country. *Prerequisite:* SPAN 2040; limited to Spanish majors/minors with no previous experience abroad.

3050. Third Year Spanish I. 3. [WB◀▶COM2] Stresses usage of the language through composition, conversation, oral presentation and grammar review. *Prerequisite:* SPAN 2040.

3060. Third Year Spanish II. 3. Intensively reviews grammar and composition-skill development. Also emphasizes specialized lexicons, written and oral translation, as well as conversational fluency. *Prerequisite:* SPAN 3050.

3070. Intensive Spanish Abroad. 3 (Max. 9). Spanish language and cultural study in Spanish-speaking countries led by UW faculty. *Prerequisite:* SPAN 2030 or consent of instructor.

3080. Spanish Language in the USA. 3. [(none)◀▶H] This course studies the Spanish language in its social context as a language of the United States, through concepts such as: social and individual bilingualism, Spanglish, dialects, language contact, borrowings, code switching, language policy, or language ideology. Cross listed with LTST 3080. *Prerequisite:* SPAN 3050 or SPAN 3060 or instructor's consent.

3100. Survey of Spanish Literature. 3. Studies Spanish literature from the Middle Ages to the end of the 17th century. *Prerequisite:* SPAN 2140 or equivalent. SPAN 3140 strongly recommended.

3110. Survey of Contemporary Spanish Literature. 3. Studies Spanish literature from the 18th to the 21st century. SPAN 3110 is a continuation of SPAN 3100, which studies Spanish literature from the Middle Ages to the end of the 17th century. In order to take 3110, students do not need to take 3100. SPAN 3140 strongly recommended. *Prerequisite:* SPAN 2140 or equivalent.

3120. Survey of Spanish American Literature. 3. [G◀▶(none)] Surveys Spanish American literature from colonial period to the present. *Prerequisite:* SPAN 2140 or equivalent.

3140. Introduction to Literature. 3. This course introduces literary analysis by focusing on different genres from the Hispanic tradition. The course if focused on developing interpretation strategies and it introduces key elements of literary criticism. Students are required to produce complex ideas about the texts, give oral presentations, and write essays on the texts read. *Prerequisite:* SPAN 2140 or SPAN 3030 or SPAN 3050.

3200. Spanish Culture and Civilization. 3. Studies the evolution of Spanish culture through its main artistic, sociological and intellectual expressions. *Prerequisite:* SPAN 2040, 2140.

3220. Spanish-American Cultures in Context. 3. Introduction to the Spanish-speaking cultures of Latin America and the United States through a historical overview and a focus on contemporary politics and culture. *Prerequisite*: SPAN 2040 or SPAN 2140 or consent of instructor.

3300 [4310]. Introduction to Hispanic Linguistics. 3 (Max. 9). Overview of basic concepts and approaches to linguistics with examples from and emphasis on Spanish description. Basic concepts in semiotics, formal and non-formal linguistics, core areas in linguistics (phonetics & phonology, morphosyntax, semantics & pragmatics), as well as an overview of subfields of linguistics (psycholinguistics, sociolinguistics, computational linguistics, etc.). *Prerequisites:* SPAN 3050 or equivalent proficiency.

3990. Independent Study. 1-4 (Max. 4). Encompasses books or periodicals of special interest to the student, selected in consultation with a staff member. Includes independent reading and reports. *Prerequisite:* SPAN 2030.

4070. Spanish Variation and Change. 3. Provides a general overview of issues in language change in the contemporary Spanish-speaking world. General topics include language vs. dialect, social factors affecting language variation/acquisition/maintenance, mechanisms of change, language contact effects, language attitudes, policy and planning, style and register and mixing of languages and bilingualism, among other, as they are seen in the Spanish language. Dual listed with SPAN 5070. *Prerequisite:* SPAN 3300 or LANG 4750 or consent of instructor.

4080. Spanish Advanced Grammar. 3 (Max. 9). Intensive practice of Spanish grammar through syntactic analysis to raise language awareness. Study of Spanish grammar in connection with information theory and semantic roles, with a focus on complex sentences and different phenomena such as preposition requirements, word order, emphatic structures, etc. Dual listed with SPAN 5080. *Prerequisite:* SPAN 3300 or LANG 4750 or consent of instructor.

4090. Spanish Phonetics and Phonology. 3. Provides a description of Spanish sound system and general survey of the language's major dialectical variations. Will touch upon acustic phonetics and focus on articulatory phonetics. Practice of phonological processes that affect the pronunciation of the language. It includes an explanation of main sources for a foreign accent in Spanish. Dual listed with SPAN 5090. *Prerequisite:* SPAN 3300 or LANG 4750 or consent of instructor.

4095. Advanced Translation. 3 (Max. 6). A practical approach to translating techniques and elements of oral interpretation. *Prerequisite:* SPAN 3060.

4125. Spanish-Language Literatures of the Americas. 3 (Max. 9). Examines Spanish American literature from a wide variety of perspectives: geographical regions (e.g. Caribbean, Andean, greater Mexico), theme

(e.g. revolution, borders), period (e.g. Colonial, 19th century), or genre (e.g. poetry, theatre, film, non-fiction). *Prerequisite:* SPAN 3050 or equivalent. SPAN 3120 highly recommended.

4130. Masterpieces of Spanish Renaissance Literature. 3. Studies Spanish Renaissance, taking into consideration social, political, economic, religious, philosophical and aesthetic aspects of the culture as a context for and as reflected in the literature. Dual listed with SPAN 5130. *Prerequisites:* SPAN 3030 or SPAN 3050, and SPAN 3140.

4140. Masterpieces of Spanish Baroque Literature. 3. Studies Spanish Baroque, taking into consideration social, political, economic, religious, philosophical and aesthetic aspects of the culture as a context for and as reflected in the literature. Also covers relationship between Spanish Renaissance and Baroque. Dual listed with SPAN 5140. *Prerequisites:* SPAN 3030 or SPAN 3050, and SPAN 3140.

4150. Spanish Romanticism. 3. Comprehensively studies romantic movement in Spain. Includes close reading and commentary of texts by authors such as Espronceda, Rivas, Zorrilla, Becquer and de Castro. Dual listed with SPAN 5150. *Prerequisites:* SPAN 3030 or SPAN 3050, and SPAN 3140.

4170. Contemporary Spanish Prose. 3. Examines contemporary prose fiction of Spain. Studies authors who gained recognition before and after the 1936 Spanish Civil War. *Prerequisites:* SPAN 3030 or SPAN 3050, and SPAN 3140.

4180. Advanced Cultural Studies in Hispanic Lit/Media. 3. Advanced analysis of Hispanic cultural phenomena. Focus on the Spanish-speaking cultures of Spain or the Spanish-speaking Americas or both. The Texts consulted vary according to instructor and may include the visual arts, such as film, paintings, and performance, academic theory, websites, and other fiction and non-fiction readings. Dual listed with SPAN 5180. *Prerequisites:* SPAN 2140 or equivalent and one 4000-level course.

4190. 20th and 21st Century Spanish-American Texts. 3. Provides students the opportunity to study representative literary texts that reflect the tendencies and trends in 20th and 21st Century Spanish-language works of the Americas. Dual listed with SPAN 5190. *Prerequisite:* 6 hours of Spanish literature at 4000-level.

4200. Introduction to Research. 3 (Max. 9). [WC◀▶COM3] Senior seminar on a topic varying from year to year. Includes study of standard bibliographical guides. Minimum of 3 hours recommended for majors. *Prerequisites:* SPAN 3030 or SPAN 3050 and 3 hours of 4000 or 5000-level courses.

4260. The Realist Novel in Spain. 3. Studies major novelists of 19th century Spain from 1850 until Generation of '98. Dual listed with SPAN 5260. *Prerequisite:* SPAN 3030 or SPAN 3050, and SPAN 3140.

4600. Special Topics in Spanish. 1-6 (Max. 12). Presents a variety of significant literature, language, or cultural topics in Latin American, Peninsular, and other Spanish-speaking communities. *Prerequisite:* SPAN 3030 or SPAN 3050.

4990. Advanced Independent Study. 1-3 (Max. 6). Encompasses special projects to meet needs of individual students, designed in consultation with instructor. *Prerequisites:* SPAN 3030 or SPAN 3050.

5070. Spanish Variation and Change. 3. Provides a general overview of issues in language change in the contemporary Spanish-speaking world. General topics include language vs. dialect, social factors affecting language variation/acquisition/maintenance, mechanisms of change, language contact effects, language attitudes, policy and planning, style and register and mixing of languages and bilingualism, among other, as they are seen in the Spanish language. Dual listed with SPAN 4070. *Prerequisite:* graduate standing.

5080. Spanish Advanced Grammar. 3 (Max. 9). Intensive practice of Spanish grammar through syntactic analysis to raise language awareness. Study of Spanish grammar in connection with information theory and semantic roles, with a focus on complex sentences and different phenomena such as preposition requirements, word order, emphatic structures, etc. Dual listed with SPAN 4080. *Prerequisite:* graduate standing.

5090. Spanish Phonetics and Phonology. 3. Provides a description of Spanish sound system and general survey of the language's major dialectical variations. Will touch upon acustic phonetics and focus on articulatory phonetics. Practice of phonological processes that affect the pronunciation of the language. It includes an explanation of main sources for a foreign accent in Spanish. Dual listed with SPAN 4090. *Prerequisite:* graduate standing.

5100. Hispanic Thought. 3. intensive study of a topic, author, or philosophical movement. Designed for upper level and graduate students. *Prerequisite:* 12 hours of Spanish literature at 4000-5000 level.

5110. Peninsular Spanish Literature. 1-3 (Max. 9). An intensive study of a topic or an author. Designed for upper level and graduate students. *Prerequisite:* 12 hours of Spanish literature at 4000-5000 level.

5120. Spanish American Literature. 1-3 (Max. 9). An intensive study of a topic or an author. Designed for upper level and graduate students. *Prerequisite:* 12 hours of Spanish literature.

5130. Masterpieces of Spanish Renaissance Literature. 3. A study of the Spanish Renaissance, taking into consideration social, political, economic, religious philosophical, and aesthetic aspects of the culture as a context for and as reflected in the literature. Dual listed with SPAN 4130. *Prerequisites:* SPAN 3030 or SPAN 3050, and SPAN 3140.

5140. Masterpieces of Spanish Baroque Literature. 3. Studies of the Spanish Baroque, taking into consideration social, political, economic, religious, philosophical, and aesthetic aspects of the culture as a context for and as reflected in the literature. Also covers the relationship between the Spanish Renaissance and the Baroque. Dual listed with SPAN 4140. *Prerequisites:* SPAN 3030 or SPAN 3050, and SPAN 3140.

5150. Spanish Romanticism. 3. A comprehensive study of the romantic movement in Spain. Close reading and commentary of texts by representative authors including Espronceda, Rivas, Zorilla, Becquer and de Catstro. Dual listed with SPAN 4150. *Prerequisites:* SPAN 3030 or SPAN 3050, and SPAN 3140.

5160. Graduate Readings. 1-5 (Max. 6). *Prerequisite:* graduate standing.

5170. Special Problems. 1-2 (Max. 6). *Prerequisite:* graduate standing.

5180. Advanced Cultural Studies in Hispanic Lit/Media. 3. Advanced analysis of Hispanic cultural phenomena. Focus on the Spanish-speaking cultures of Spain or the Spanish-speaking Americas or both. The Texts consulted vary according to instructor and may include the visual arts, such as film, paintings, and performance, academic theory, websites, and other fiction and non-fiction readings. Dual listed with SPAN 4180. *Prerequisite:* SPAN 2140 or equivalent and one 4000-level course.

5190. 20th and 21st Century Spanish-American Texts. 3. Provides students the opportunity to study representative literary texts that reflect the tendencies and trends in 20th and 21st Century Spanish-language works of the Americas. Dual listed with SPAN 4190. *Prerequisites:* 6 hours of SPAN at the 4000-level.

5260. The Realist Novel in Spain. 3. Studies of the major novelists of nineteenth century Spain from 1850 until the Generation of '98. Dual listed with SPAN 4260. *Prerequisite:* SPAN 3030 or SPAN 3050, and SPAN 3140.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate status.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Life Sciences Program

107 Aven Nelson Building, 766-4158
Web site: www.uwyo.edu/lifescience
Program Director: Jonathan Prather

The Life Sciences Program consists of all LIFE prefix courses. These courses support a wide range of life science majors and several non-life science majors across campus. The number of LIFE courses taken by students in each major is determined by the departments that offer the majors. The curriculum intends to provide science majors with both breadth and depth in the basic life sciences, and non-science majors with exposure to key concepts in biology and an understanding of the connections between science and society. The program courses also expose students to the fields of cell and molecular biology, genetics, ecology, and evolution, and they familiarize students with the diversity of life on the planet. Courses within the curriculum address four fundamental goals at a level appropriate for each course:

1. Acquisition, Application and Synthesis of Knowledge
2. Communication Skills
3. Critical Thinking and Problem Solving
4. Research Skills

The Life Sciences courses listed below were previously offered under the BIOL prefix. All courses listed below are now offered through the LIFE prefix.

Life Sciences (LIFE)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

LIFE 1101. Introduction to Ecological Research. 3. [{none}<>FYS] Learn science by doing science! This course-based undergraduate research experience (CURE) will focus on beaver pond ecosystems in Medicine Bow National Forest. Students will engage in outdoor fieldwork in addition to classroom learning. They will carry out hands-on projects and gain experience in ecological sampling, lab work, data analysis, and scientific writing. Students who complete the course are encouraged to continue research and are eligible for summer internships.

1002 [BIOL 1002]. Discovering Science. 3. [S◀▶PN] Integrates Biology, Chemistry, Physics, and Earth Science and is intended for non-science majors. Fundamental concepts from each discipline are discussed through lectures and in-class activities, and students learn how to understand science and its importance in larger societal issues. There is no laboratory component of this course. Meets the S requirement in USP 2003 and the PN requirement in USP 2015. (Normally offered fall semester)

1003 [BIOL 1003]. Current Issues in Biology. 4. [SB◀▶PN] Emphasizes central themes of biology – cell biology, genetics, evolution, ecology – and scientific methodology by focusing on current issues in biology. Fundamental concepts are addressed through classroom and laboratory activities and discussions. This course is intended for non-science majors. Students cannot receive duplicate credit for LIFE 1010 or 1020. (Normally offered spring semester)

1010 [BIOL 1010]. General Biology. 4. [SB◀▶PN] Fundamental concepts of biology, including basic chemistry of living systems, cell structures and functions, energy relations, genetics, molecular biology, ecology, population dynamics and evolutionary theory. Living invertebrate and vertebrate organisms studied during some lab meetings. Laboratory is required. If you take LIFE 1010, you cannot get duplicate credit for LIFE 1000, 1003, or 1020. *Prerequisite:* Math ACT score of 23 or above, or concurrent enrollment or eligibility for concurrent enrollment in MATH 1400 or higher.

1020 [BIOL 1020]. Life Science. 4. [SB◀▶PN] An integrated lab and lecture emphasizing fundamental principles of biology including cell structure and function, genetics, ecology, evolution and organismal biology. Considers applications of these principles to societal issues such as the conservation of biodiversity, overpopulation and global environmental changes, biotechnology, and human wellness and disease. If you take LIFE 1020, you cannot get duplicate credit for LIFE 1000, 1003, or 1010. *Prerequisites:* elementary education majors only; concurrent enrollment in EDEL 1430.

2002 [BIOL 2002]. Global Ecology. 3. [SB,G◀▶(none)] Provides a global perspective on ecological processes, biodiversity, climate change, and the environmental consequences of human actions. Students develop a global awareness of the role of ecology in international human affairs, and how this influences relationships between the developed and developing worlds. For majors and non-majors. *Prerequisite:* LIFE 1002, 1003, or 1010.

2022 [BIOL 2022]. Animal Biology. 4. An integrative course addressing the evolution, anatomy, physiology, and ecology of animals. Continues building upon the four themes in LIFE 1010, cell and molecular biology, genetics, evolution, and ecology. Preserved animal specimens are dissected during some labs. Intended for students majoring in the life sciences. Laboratory is required. *Prerequisite:* LIFE 1010 with a grade of C or better. (Normally offered spring semester)

2023 [BIOL 2023]. Biology of Plants and Fungi. 4. An integrated course dealing with the central themes of biology including cell and molecular biology, genetics, evolution and ecology of plants and fungi. Intended for students majoring in the life sciences. Laboratory is required. *Prerequisite:* LIFE 1010 with a grade of C or better. (Normally offered fall semester).

2050 [BIOL 2050]. Biology of Aging and Human Development. 3. Reviews cellular, physiological, endocrine, anatomical and nutritional aspects to aging. Format relates topics, such as exercise, nutrition and evolution, to aging. Students gain insight to problems related to research in aging and its potential impact on society. Uses video-taped lectures from field experts. *Prerequisite:* LIFE 1010. (Normally offered spring semester)

2100. Introduction to Research and Analysis. 4. [(none)◀▶Q] Students gather and analyze data in the context of life science research projects. provides a foundation in research design, probability and inference, and basic computational skills to support graphical and formal analyses of research data. *Prerequisite:* LIFE 1010 with a grade of C or better.

2300 [AS 2100]. Scientific Communication. 3. [(none)◀▶COM2] The course is primarily designed for undergraduate students in STEM (science, technology, engineering, and math) disciplines who are conducting, or intend to

conduct, independent research projects. Sharing research findings with the public is an essential, though often overlooked, part of the job of those in STEM fields. We will hone these techniques through a variety of written assignments, practice talks, group discussions and feedback, visits from guest speakers, and a semester-long research project. The overarching goal is for you to be able to deliver an engaging research talk. *Prerequisite:* C or better in COM1.

3050 [BIOL 3050/BIOL 4000]. Genetics. 4. Introduces principles of heredity and variation in living organisms, including a study of the nature of the genetic material and its transmission, influence of heredity and environment on the development of individual characters, as well as evolution of organisms and artificial selection of plant and animal varieties. Emphasizes application to today's society. *Prerequisite:* completion of LIFE 1010 and one of LIFE 2022, 2023, MICR/MOLB 2021, or MICR/MOLB 2240 with a grade of C or higher in each.

3400 [BIOL 3400/ BIOL 2400]. General Ecology. 3. Presents fundamental concepts in population and ecosystem ecology. Emphasizes basic principles and their use in manipulated ecosystems. *Prerequisite:* completion of LIFE 1010 and one of LIFE 2022, 2023, MICR/MOLB 2021, or MICR/MOLB 2240 with a grade of C or higher in each.

3410 [BIOL 3410/BIOL 2410]. Introduction to Field Ecology. 2. Field and laboratory course. Introduces methods used in plant and animal ecology. *Prerequisite:* LIFE 3400 (may be concurrently enrolled). (Normally offered fall semester)

3500 [BIOL 3500]. Evolutionary Biology. 3. Presents modern evolutionary theory. Examines evolution and evolutionary mechanisms from several viewpoints, with particular attention given to genetic mechanisms underlying processes of evolution and speciation. *Prerequisites*: completion of LIFE 1010 and LIFE 3050 with a grade of C or higher in each. (Normally offered fall semester)

3600 [BIOL 3600/ BIOL 4600]. Cell Biology. 4. Focuses on cell structure, cell function and the regulation of cell processes. Examines many levels of organization, ranging from single molecules and individual cells to multi-cellular systems and the whole organism. Discussion section is required. *Prerequisites:* completion of LIFE 1010 and one of LIFE 2022, 2023, MICR/MOLB 2021, or MICR/MOLB 2240 with a grade of C or higher in each.

4975 [BIOL 4975]. Practicum in Laboratory Teaching. 1-3 (Max. 3). Intended to give undergraduate students experience teaching in a laboratory setting. Working closely with an instructor and a graduate teaching assistant, students will assist in the teaching of biology laboratories during the semester and participate in weekly sessions centered on teaching, learning and assessment. 1 to 3 credits of Satisfactory/Unsatisfactory credit. *Prerequisites:* completion of a 1000-level LIFE course and consent of instructor.

4976 [BIOL 4976]. Practicum in Laboratory Teaching II. 1-3 (Max 3). Intended to build on the foundations of LIFE 4975. Students work under the dual supervision of the course instructor and the graduate teaching assistant to gain further first hand experience with teaching in life sciences laboratories during this semester. 1 to 3 credit hours of Satisfactory/Unsatisfactory credit. *Prerequisite:* LIFE 4975.

Department of Mathematics and Statistics

Mathematics

202 Ross Hall, (307) 766-4221
FAX: (307) 766-6838
Web site: www.uwyo.edu/mathstats/
Department Head: Jason Williford

Professors:

MYRON B. ALLEN III, A.B. Dartmouth College 1976; M.A. Princeton University 1978; Ph.D. 1983; Professor of Mathematics 1992, 1983.

HAKIMA BESSAIH, M.S. University of Algiers 1992; Ph.D. Scuola Normale Superiore of Pisa 1999; Professor of Mathematics 2015, 2004.

CRAIG C. DOUGLAS, B.A. University of Chicago 1977; M.S. Yale University 1978; M.Phil. 1981; Ph.D. 1982; SER Professor of Mathematics 2008.

VICTOR GINTING, B.S. Institut Teknologi Bandung Indonesia 1995; M.S. Texas A&M University 1998; Ph.D. 2004; Professor of Mathematics 2017, 2007.

STEFAN HEINZ, B.S. Humboldt University 1985; M.S. 1986; Ph.D. Heinrich-Hertz Institute 1990; Professor of Mathematics 2013, 2004.

FARHAD JAFARI, B.S. University of Wisconsin-Madison 1978; M.S. 1980; Ph.D. 1983; M.A. 1986; Ph.D. 1989; Professor of Mathematics 1999, 1991.

LONG LEE, B.S. National Taiwan University, Taipei 1988; M.A. University of Maryland 1998; Ph.D. University of Washington 2002; Professor of Mathematics 2018, 2005.

G. ERIC MOORHOUSE, B.S. University of Toronto 1980; M.S. 1984; Ph.D. 1987; Professor of Mathematics 2011, 1989.

BRYAN L. SHADER, B.S. University of Wyoming 1984; M.S. University of Wisconsin-Madison 1987; Ph.D. 1990; Professor of Mathematics 2000, 1990.

Associate Professors:

MICHELLE T. CHAMBERLIN, B.S. Colorado State University 1997; M.S. 1999; Ph.D. Purdue University 2002; Associate Professor of Mathematics 2012, 2007.

FREDERICO da CUNHA FURTADO, B.S. Federal University of Minas Gerais 1979; M.S. Federal University of Rio de Janeiro 1984; Ph.D. Courant Institute 1989; Associate Professor of Mathematics 2002, 1997.

RONGSONG LIU, B.A. Henan Normal University 1999; M.A. Fudan University 2002; Ph.D. York University 2006; Associate Professor of Mathematics and Program in Ecology 2015, 2009.

ZHUANG NIU, B.S. Wuhan University 1998; M.S. 2001; Ph.D. University of Toronto 2005; Associate Professor of Mathematics 2015, 2012.

TYRRELL McALLISTER, B.S. University of California, Davis 2001; Ph.D. 2006; Associate Professor of Mathematics 2015, 2009.

DAN STANESCU, B.Eng. Polytechnic Institute, Romania 1986; M.Eng. McGill University, 1994; Ph.D. Concordia University 1999; Associate Professor of Mathematics 2008, 2003.

JASON WILLIFORD, B.A. University of Pennsylvania 1998; Ph.D. University of Delaware 2004; Associate Professor Mathematics 2014, 2009.

MAN-CHUNG YEUNG, B.S. Jinan University, China 1986; M.Ph. University of Hong Kong 1990; Ph.D. University of California-Los Angeles 1997; Associate Professor of Mathematics 2005, 2001.

Assistant Professor:

PING ZHONG, B.S. Huanzhong University 2005; M.S. Peking University 2008; Ph.D. Indiana University 2014; Assistant Professor of Mathematics 2018.

Senior Lecturers:

DAVID ANTON, B.S. North Dakota State University 2001; M.S. University of Wyoming 2007; Senior Lecturer in Mathematics 2017, 2005.

WILLIAM WEBER, B.S. Colorado State University 1979; B.S. University of Wyoming 1988; M.S. 1992; Senior Lecturer in Mathematics 2012, 2001.

Associate Lecturer:

NATHAN CLEMENTS, B.S. Brigham Young University-Idaho 2007; M.S. Idaho State University 2009; D.A. 2012; Associate Lecturer in Mathematics 2019, 2012.

Assistant Lecturer:
ERIC QUADE, B.S. University of Wyoming 2005; Ph.D. 2012; Assistant Lecturer in Mathematics 2016.

Adjunct Professors:
Saman Aryana, Li Deng Douglas, Benedetta Ferrario, Maria Garrido-Atienda, John Hitchcock, Robert Kansky, David Meyer, Bjorn Schmalfuss, Gerald Schuster, Dongwoo Sheen, Marie-Agnés Tellier

Professors Emeriti:
Charles Angevine, Leonard Asimow, Robert Buschman, Benito M. Chen-Carpentier, George C. Gastl, John H. George, Sylvia A. Hobart, Syed Husain, Peter Polyakov, A. Duane Porter, Ben G. Roth, John Rowland, Chanyoung Lee Shader, Raymond Smithson, John Spitler.

"For the things of this world cannot be made known without a knowledge of mathematics."--Roger Bacon

Virtually every student at UW will take one or more math courses to fulfill graduation requirements. The intent is to illustrate the esthetics inherent in mathematics, and to provide students with the quantitative skills needed for today's careers.

Mathematics majors receive a broad and deep view of the mathematical sciences. They develop their mathematical thinking and communications skills in algebra, analysis, and applied math. They learn a variety of technological tools necessary for jobs in education, business, government, and industry. In addition to our math classes, the department offers a variety of opportunities to enrich the undergraduate experience. Students can participate in weekly seminars, summer research projects, Putnam Team competitions, and the math club.

Mathematics Placement

All UW math courses have prerequisites which are detailed in the course listings below. These are to assure that each student has the best possible opportunity for success in the course. In accordance with this, *all students registering for a math course will have their records checked in order to determine whether the prerequisite is satisfied.*

A computerized prerequisite check is run prior to the start of every semester. *Students who preregistered for a math course but have not satisfied the prerequisites at the time of the check will be automatically dropped from the course.*

Prerequisites for courses numbered 0921-1100, 1400-1450, 2200, 2350, and 2355 may be satisfied in one of four ways:

1. Obtain a grade of C or better in a prerequisite course. Note that non-credit courses from out-of-state colleges are not accepted as prerequisites.
2. Pass the Mathematics Placement Exam (MPE) at the stated level within one year of the start of the course.
3. Obtain a sufficiently high score on one of the following standardized exams within three years of the start of the course: ACT math score or SAT math score.
4. Obtain a sufficiently high score on one of the following standardized exams: AP Calculus, CLEP, or IB.

More information on mathematics placement may be obtained from 766-6831, mathregistration@uwyo.edu, or at www.uwyo.edu/mathstats/math-placement.

Duplication of Courses (MATH 1400, 1405, 1450)

To avoid loss of credit because of duplication of course content, please note the following: (a) students with credit for both MATH 1400 and MATH 1405 will not receive new credit by taking 1450; (b) students with credit for one of MATH 1400 or MATH 1405 will receive only 2 additional credits by taking MATH 1450; (c) students with credit for MATH 1450 will receive only 1 additional credit by taking both MATH 1400 and MATH 1405. Note that the GPA calculation for these situations is unusual, and students should ask the Registrar's Office for details.

Note that MATH 1450 counts as one attempt at each of MATH 1400 and 1405 for the purposes of repeating classes.

Undergraduate Major

The department offers both a B.S. and B.A. degree in Mathematics. A degree in mathematics should prepare students to enter either graduate studies or the workforce with a skill set that could only come from an intense study of both quantitative reasoning and rigorous proof. This can be accomplished by focusing on the following goals for our undergraduate major:

1. Develop mathematical thinking and communication skills
2. Develop skills with a variety of technological tools
3. Provide a broad view of the mathematical sciences
4. Require study in depth

The required lower division core courses for a mathematics major are Calculus 1, 2, and 3 (MATH 2200,2205,2210), Differential Equations (MATH 2310), Linear Algebra (MATH 2250), and the Math Major Seminar (MATH 2800).

At the upper division, all mathematics majors must take Analysis 1 (MATH 3205), Algebra 1 (MATH 3500) and Introduction to Scientific Computing (MATH 3340). These courses, known as the transition courses, introduce students to the three main areas of mathematics research currently represented in the department.

Every mathematics major must select one two-course sequence (MATH 4200/4205, MATH 4510/4520, or MATH 4340/4440) that builds on the corresponding transition course. This sequence provides the student with an opportunity to study one of these areas in greater depth.

Finally, an additional 12 credits of upper division math courses (3000 and above) are required. It is recommended that these courses be selected to provide a broad view of mathematics.

Two of the math electives may be chosen from a list of approved courses that have significant math content, upon approval by the student's advisor. More details about such courses are available on the math department's web site, www.uwyo.edu/mathstats/.

Only grades of C or better will be accepted for the major.

Undergraduate Minor

The minor in mathematics focuses on fundamental aspects of mathematics that are essential for further study in mathematics and are also useful in a variety of other disciplines. Students minoring in mathematics may customize the minor by choosing the appropriate transition course and upper-division electives to match their needs.

The required lower division core courses for a mathematics minor are Calculus 1, 2, and 3 (MATH 2200,2205,2210), Differential Equations (MATH 2310), Linear Algebra (MATH 2250), and the Math Major Seminar (MATH 2800).

At the upper division, all mathematics minors must take ONE of Analysis 1 (MATH 3205), Algebra 1 (MATH 3500) or Introduction to Scientific Computing (MATH 3340), as well as 6 additional credits of upper division math courses (3000 and above).

Two of the math electives may be chosen from a list of approved courses that have significant math content, upon approval by

the student's advisor. More details about such courses are available on the math department's web site, www.uwyo.edu/mathstats/.

Only grades of C or better will be accepted for the minor.

Undergraduate Interdisciplinary Computational Science Minor

In recognition of the importance of modeling and simulation in an increasing number of applications, the Undergraduate Interdisciplinary Computational Science Minor is intended to help prepare science, math, and engineering students for leading roles in their professions.

The Undergraduate Minor in Computational Science is based on the following requirements:

1. The student must earn 15 credit hours in specified courses.
2. Within the 15 credits, the student must earn 9 credits at the upper-division level (3000 or above).
3. Within the 15 credits, the student must earn 6 credits outside of her/his major.
4. Within the 15 credits, the student must earn at least 6 credits in core courses.
5. Only grades of C or better will be accepted for the minor.

The 15 hours of coursework are divided between core and elective courses as listed below.

Core Courses:

- Numerical Analysis (Math 4340/COSC 4340)
- High-Performance Computing (Offered as a topics course).
- Scientific Computing (MATH 3340/COSC 3340).
- Statistical Computing and Modeling (STAT 4460).

Elective Courses

- Computational Biology (BOT 4550/5550)
- Algorithms and Data Structures (COSC 3020)
- Mathematical and Computational Methods in Physics (PHYS 4840)
- Molecular Modeling (CHEM 4560/5560)
- C with Numerical Methods for Engineers (ES 3070)
- Mathematical Modeling (MATH 4300)
- Introduction to Finite Element Methods (ME 4040)
- Principles of Database Systems (COSC 4820)

Graduate Study

The Mathematics Program offers programs leading to the degrees of master of arts, master of science, master of arts in teaching, master of science in teaching, and the doctor of philosophy.

The requirements for these degrees reflect our belief that mathematicians should have a broad foundation in the core areas of algebra, analysis, and applied mathematics as well as the experience of a more intensive investigation of a specialized area. We provide this within a flexible structure that recognizes the individual interests and varied backgrounds of our students.

Program Specific Admission Requirements

To be competitive for admission, applicants must have strong backgrounds in mathematics. Generally, this means a bachelor's degree in mathematics or a closely related discipline. All applicants should have substantial coursework beyond the calculus sequence; courses in differential equations, linear algebra, and, in particular, courses in abstract algebra and analysis are highly recommended. A solid performance on the GRE Subject Test in Mathematics can demonstrate the applicant's mastery of these subjects. The GRE Subject Test in Mathematics is therefore recommended but is not required.

The GRE General Test is required, with a minimum Quantitative Reasoning score of 157 and Verbal score of 143. International applicants need a composite TOEFL score of 76 or an IELTS score of 6.5.

ETS only reports TOEFL scores taken within two years of the date of request.

Requirements for Admission for M.A.T. or M.S.T.

Applicants are required to have:

(a) A valid teaching endorsement in any state or educational requirements satisfied for secondary teaching;

(b) courses equivalent to MATH 3205, 3500, 4000 and 4600;

(c) a course in computer programming.

Students who enter the program with a deficiency in the courses listed in (b) must take them at UW, but these courses may not be counted toward the course requirements of the M.S.T./M.A.T. program.

Graduate Interdisciplinary Computational Science Minor

In recognition of the importance of modeling and simulation in an increasing number of applications, the Graduate Interdisciplinary Computational Science Minor is intended to help prepare science, math, and engineering students for leading roles in their professions.

Requirements

- The student must earn 15 credit hours in specified courses.
- Within the 15 credits, the student must earn at least 12 credits in graduate level classes (5000).
- Within the 15 credits, the student must earn 6 credits outside of her/his department.
- Only grades of B or better will be accepted for a course counting towards the minor.
- For all students, the 15 hours of coursework will be divided into 9 credit hours of core courses and 6 credit hours of electives.

Core Courses

- Computational Methods in Applied Sciences I (MATH 5310/COSC 5310), 3 hrs.
- Introduction to High-Performance Computing (COSC 5010), 3 hrs.
- Computational Methods II (MATH 5340/COSC 5340), 3 hrs.
- Computational Biology (BOT 4550/5550), 4 hrs.
- Groundwater Flow and Transport Modeling (GEOL 4030/5030), 3 hrs.
- Computational Fluid Dynamics I (ME 5461), 3 hrs.
- Computational Fluid Dynamics II (ME 5462), 3 hrs.
- Computational Methods in Statistics (STAT 5660), 3 hrs.

Electives

- Analysis of Algorithms (COSC 5110), 3 hrs.
- Advanced Bayesian Statistics (STAT 5680), 3 hrs.
- Bayesian Data Analysis (STAT 5380), 3 hrs.
- High-Performance Computing in Geosciences, 2 hrs.
- Mathematics Modeling of Processes (MATH 5320), 3 hrs.
- Molecular Modeling (CHEM 4560/5560), 3 hrs.

- Mathematical and Computational Methods in Physics (PHYS 4840), 3 hrs.
- Mathematical Modeling (MATH 4300), 3 hrs.

Graduate Assistantships

The mathematics program employs approximately 25 graduate assistants each year. Assistantships include a full tuition and fee waiver, a monthly living stipend, and health insurance. Ph.D. students normally receive a higher stipend than master's students.

Teaching assistants teach or assist with the teaching of an undergraduate course each semester.

Students may also compete for research assistantships, provided that their interests align with an externally funded research project.

Summer support is not guaranteed but is usually available through teaching and research opportunities.

Renewal of funding and continuation in the mathematics graduate program is dependent upon the student's adequate progress towards graduation and satisfactory completion of assistantship duties.

Program-Specific Degree Requirements

Master's Programs: M.A. and M.S. Plan A and Plan B

The math department maintains 4 tracks by which students may obtain a Master of Arts (M.A.) or Master of Science (M.S.) degree in mathematics.

The following requirements are common to all four tracks:

- The student must maintain a 3.000 cumulative GPA.
- The student must complete 30 hours of formal mathematics coursework at the 5000 level.
- As part of the 30 hours of formal 5000-level mathematics courses, the student must complete the following courses with a grade of B or better:
  - o MATH 5200: Real Variables I,
  - o MATH 5230: Complex Variables I,
  - o MATH 5310: Computational Methods I
  - o MATH 5400: Methods of Applied Mathematics I,
  - o MATH 5500: Advanced Linear Algebra, and
  - o MATH 5550: Abstract Algebra I..
- The student must pass the department's Foundation Exam. This exam covers material from advanced vector calculus and linear algebra at the upper-division undergraduate level and is offered before the beginning of each semester.
- Take one hour of the seminar 4970: Professional Development in Mathematics and one hour of the seminar 4970: Professional Development in Teaching.

In addition to the common elements above, students must select and complete one of the capstone experiences described in the tracks below.

Track #1: Master's Thesis (Plan A)

Within the 30 hours of 5000-level courses, the Plan A student must complete 4 hours of MATH 5960: Thesis Research. At least 26 hours of 5000-level coursework must be math-content courses (not thesis research).

The student must prepare a master's thesis (Plan A) and give an oral defense of the thesis. In the mathematics program, a Plan A thesis reports on the result(s) of independent and original research completed by the student under the direction of a faculty member. The thesis should describe the research and its results and be written to the standards of the appropriate area of mathematics.

Track #2: Master's Paper (Plan B)

The student must prepare a master's paper (Plan B) and give an oral defense.

To write a Plan B paper, the student must present an expository paper on a designated mathematical subject. Students are guided by their advisor in the subject matter and in the preparation of the paper. A successful paper and defense demonstrates that the student has mastered a substantial mathematical topic that is beyond those covered in formal foundational coursework.

Track #3: Coursework/Project (Plan B)

A second M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper, the student takes a sequence of three 5000-level courses that all address a common mathematical theme. The sequence must be approved by the student's advisor and the mathematics graduate committee. Two of the courses must be mathematics-department offerings, and the third may be either a mathematics course (including reading/topics courses) or a course from another department in a related field.

- The student must complete an additional 6 hours of courses at the 5000 level. Thus, Track #3 requires the completion of 36 hours of graduate-level coursework.
- Within the 36 hours, the student must propose and complete with a grade of B or better an appropriate 3-course sequence
- The student will write a short paper illustrating how the common mathematical theme of the sequence manifests itself in the content of each course and give a presentation/defense of the paper.

In approving the student's proposal for this option, the graduate committee and the advisor will consider how the writing and independent study spirit of the Plan B option are fulfilled within the recommended plan.

Track #4: Qualifying Exam (Plan B)

A third M.A. or M.S. option exists for the Plan B student. In lieu of writing a paper or taking additional coursework, the student must take and pass the department's PhD Qualifying Examination in one of the three areas: Analysis, Algebra, or Applied Mathematics. These examinations focus on the material in the required courses.

- Pass one of the department's qualifying exams in:
  - o Analysis (MATH 5200 and MATH 5230)
  - o Algebra (MATH 5500 and MATH 5550)
  - o Applied Mathematics (MATH 5310 and MATH 5400)
- The oral component of this Track will consist of a defense of the student's written answers to qualifying exam.

These examinations are given twice a year at the beginning of the fall and spring semesters. This option is intended for students who will continue for a PhD at UW.

Doctoral Program

The student must maintain a 3.0 cumulative GPA.

The student must teach two semesters of college mathematics.

The student must complete a combination of 72 hours of coursework and dissertation research. Within the 72 hours, a maximum of 12 hours can be at the 4000 level, and 42 hours must be formal courses at the 5000 level. The courses must be mathematics courses or

courses with significant mathematical content, as approved by the department's graduate committee.

Within the 42 hours of 5000-level courses, the student must:

- Complete MATH 5200, 5230, 5310, 5400, 5500, and 5550 with a grade of B or better.
- Take two hours of MATH 5800-02, Seminars and Colloquia.
- Complete the courses distributed in three areas: algebra, analysis, and applied mathematics. The student must take at least two courses in each of two categories and at least one course from the third category. The department maintains a list of course categories.

In addition, the student must:

- Pass the foundation exam, the qualifying exam in the student's research area, and the preliminary exam.
- Write a dissertation containing the student's original mathematical results and present an oral defense of the research.
- Take one hour of the seminar 4970: Professional Development in Mathematics and one hour of the seminar 4970: Professional Development in Teaching.

Mathematics (MATH)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000. Problem Solving. 3. [QA◀▶Q] For students not planning to enroll in MATH 1400, 1450 or a calculus course. Examines modern topics chosen for their applicability and accessibility. Provides students with mathematical and logical skills needed to formulate, analyze and interpret quantitative arguments in a variety of settings. Introduces statistics and stresses the use of a calculator. *Note:* MATH 1000 is neither a prerequisite nor suitable preparation for MATH 1400 (College Algebra). *Prerequisite:* grade of C or better in Math 0921 or Level 2 on the Math Placement Exam or Math ACT of 21 or Math SAT of 530 or concurrent enrollment in MATH 1080.

1080. Bridge Program Math. 3. This class is to assist students in refreshing their skills in Mathematics, from the fundamentals of arithmetic through college level algebra and trigonometry. If time and preparation allow, basic calculus concepts will be discussed. This class is largely self-paced, but with intrusive faculty support.

1100. Number and Operations for Elementary School Teachers. 3. [QA◀▶(none)] For prospective elementary school teachers; purpose is to prepare students to be competent in teaching the major concepts and skills related to the real number system and four arithmetic operations. Includes asking and answering critical questions about subsets of the real number system, including natural, integer, and rational numbers. *Prerequisite:* grade of C or better in MATH 0921 or Level 2 on the Math Placement Exam or Math ACT of 21 or Math SAT of 530.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

1105. Data, Probability, and Algebra for Elementary School Teachers. 3. [QB◀▶Q] Continuation of MATH 1100 for prospective elementary teachers; emphasis is on asking and answering critical questions about our world through algebra, probability, and data analysis to prepare students to be competent in teaching these major concepts. Explorations focus on representing, analyzing, and generalizing patterns and the chances of future events. *Prerequisite:* grade of C or better in MATH 1100.

1123. Math, Music and Acoustics. 3. [(none)◀▶Q] For music majors and minors not planning to enroll in MATH 1400, 1450 or a calculus course. Serves as an introduction to the mathematics and physics underlying music and develops quantitative reasoning in a musical context. Topics include the wave nature of sound, intervals, scales, temperment, acoustics and psychoacoustics. Note: MATH 1123 is neither a prerequisite nor suitable preparation for MATH 1400. *Prerequisites:* grade of C or better in MATH 0921 or Level 2 on the Math Placement Exam or Math ACT of 21 or Math SAT of 530 and grade of C or better in MUSC 1030.

1400. College Algebra. 3. [QA◀▶Q] Emphasizes aspects of algebra important in the study of calculus. Includes notation of algebra, exponents, factoring, theory of equations, inequalities, functions, graphing and logarithms. For students who plan to enroll in a calculus course (MATH 2200 or 2350). Students receiving credit for MATH 1450 may not receive credit for this course. *Prerequisite:* grade of C or better in Math 0925 or Level 3 on the Math Placement Exam or Math ACT of 23 or Math SAT of 560.

1405. Trigonometry. 3. [QA◀▶Q] Emphasizes aspects of trigonometry important in the study of calculus. Interplay between trigonometric expressions and their graphs. Students are expected to use a graphing calculator in the course and on exams. See instructor for specifications. Topics include: angle measurement, trigonometric functions, graphing, laws of sines and cosines, identities, equations, polar equations and graphs, vectors, complex numbers, DeMoivre's theorem. This course is designed for students with little or no prior knowledge of trigonometry who plan to enroll in MATH 2200. Students receiving credit for MATH 1450 may not receive credit for this course. *Prerequisite:* grade of C or better in MATH 1400 or Level 4 on the Math Placement Exam or Math ACT of 25 or Math SAT of 600.

1450. Algebra and Trigonometry. 5. [QA◀▶Q] Emphasizes aspects of algebra, trigonometry and problem solving important in the study of calculus. Functions and their applications to real world problems. Classes of functions including polynomial, exponential, logarithmic and trigonometric functions. Intuitive introduction to the idea of limit and sequence which are developed further in the calculus sequence. For the student with considerable prior exposure to trigonometry and algebra. Graphing calculators are used frequently in class and on assignments. See instructor for specifications. Students with both MATH 1400 and 1405 credit may not receive credit for this course. *Prerequisite:* grade of C or better in MATH 0925 or Level 3 on the Math Placement Exam or Math ACT of 23 or Math SAT of 560.

2120. Geometry and Measurement for Elementary School Teachers. 3. Continuation of MATH 1105 for prospective elementary teachers; emphasis is on asking and answering critical questions about spatial reasoning as evident in the real world. Includes investigations of two- and three-dimensional shapes and their properties, measurements, constructions, and transformations to prepare students to be competent in teaching these concepts. *Prerequisite:* grade of C or better in MATH 1105.

2200. Calculus I. 4. [QB◀▶Q] Emphasizes physical science applications. Includes plane analytic geometry, differentiation, applications of the derivative, differential equations, integration and applications. *Prerequisite:* grade of C or better in MATH 1405 or 1450 or Level 5 on the Math Placement Exam or Math ACT of 27 or Math SAT of 640.

2205. Calculus II. 4. [(none)◀▶Q] Continues MATH 2200. Includes elementary functions, derivatives, integrals, analytical geometry, infinite series and applications. *Prerequisite:* grade of C or better in MATH 2200 or Advanced Placement credit in MATH 2200.

2210. Calculus III. 4. Applies calculus to situations described by more than one variable. Includes vectors, multivariable equations and functions, parameterization of curves and

surfaces, partial derivatives, directional derivatives, the gradient, optimization methods, integration over curves and surfaces using Cartesian, polar, cylindrical, and spherical coordinates, vector fields, and Green's, Stokes's, and the Divergence Theorems. *Prerequisite:* grade of C or better in MATH 2205 or Advanced Placement credit in MATH 2205.

2250. Elementary Linear Algebra. 3. Studies linear equations and matrices, vector spaces, linear transformations, determinants, orthogonality, eigenvalues and eigenvectors. *Prerequisite:* grade of C or better in MATH 2200 or 2350.

2300. Discrete Structures. 3. Introduces the mathematical concepts that serve as foundations of computer science: logic, set theory, relations and functions, graphs (directed and undirected), inductively defined structures (lists and trees), and applications of mathematical induction. Provides an introduction to abstract and rigorous thinking in advanced mathematics and computer science. Cross listed with COSC 2300. *Prerequisite:* grade of C or better in COSC 1030 and in either MATH 2200 or 2350.

2310. Applied Differential Equations I. 3. Includes solution of ordinary differential equations, integral transforms. Emphasizes construction of mathematical models arising in physical science and other areas. *Prerequisite:* grade of C or better in MATH 2205.

2350. Business Calculus. 4. [QB◀▶Q] Primarily for students in the College of Business. Includes an introduction to limits; the definition of a derivative; derivatives and their applications; antiderivatives; definite integrals and their applications. The applications emphasize concepts of interest to business majors. *Prerequisite:* grade of C or better in MATH 1400 or Level 4 on the Math Placement Exam or Math ACT of 26 or Math SAT of 620.

2355. Mathematical Applications for Business. 4. Primarily for students in the College of Business. Includes the mathematics of finance; systems of linear equations and matrices; linear programming; sets, counting, and probability. Students will learn to use Excel spreadsheets to solve business application problems in a computer lab that meets one day per week. *Prerequisite:* grade of C or better in MATH 1400 or Level 4 on the Math Placement Exam or Math ACT of 26 or Math SAT of 620.

2800. Mathematics Major Seminar. 2. An introduction to modern mathematical reasoning and discourse, emphasizing the distinctive ways in which logic and language are used and the motivations behind them. Develops methods of precise definition and rigorous proof. Several topics are explored, illustrating mathematics as a living, dynamic subject with its own culture and conventions. Offered S/U only.

2850 [3800]. Putnam Team Seminar. 2 (Max. 8). Preparation for the William Lowell Putnam Mathematical Competition. Problem solving strategies and mathematical content appropriate for the Putnam Exam are emphasized with problem sets taken from previous Putnam or other international math contests. Offered S/U only. *Prerequisites:* MATH 2200, 2205. (Offered fall semester)

3205. Analysis I: Elementary Real Analysis. 3. An introduction to rigorous analysis in one real variable. Includes a rigorous reconsideration of the elements of calculus: the real number system, numerical sequences and series, limits, continuity, differentiability, and Riemann integrability for functions of one variable. Proof and mathematical writing are emphasized. *Prerequisites:* Grade of C or better in MATH 2205 and 2800.

3340. Introduction to Scientific Computing. 3. Introduces basic numerical methods to solve scientific and engineering problems. Topics include: code structure and algorithms, basic numerical methods for linear systems, eigenvalue problems, interpolation and data fitting, nonlinear systems, numerical differentiation and integration. Cross listed with COSC 3340. Prerequisites: grade of C or better in MATH 2210.

3341. Introduction to Scientific Computing Lab. 1. The objective of this lab is to expose students to the basic syntax and tools in MATLAB so that they succeed in writing correct computer code for the solution of scientific computing problems. Topics include: MATLAB syntax, variable types, code structure, function types, algorithm structure and design. Offered S/U only. *Prerequisite:* Concurrent or previous enrollment in MATH 3340.

3500. Algebra I: Introduction to Rings and Proofs. 3. Begins with common features of integers, rational numbers, and polynomials, leading to study of rings in general. Topics include divisibility, factorization, and modular arithmetic for integers and polynomials, and homomorphisms and ideals for rings. Proof techniques include direct proof, proof by contrapostive, mathematical induction, and proof by contradiction. *Prerequisites:* MATH 2800 and grade C or better in MATH 2250 or concurrent registration in MATH 2250.

3700. Combinatorics. 3. Provides an introduction to combinatorics and combinatorial algorithms, with applications to areas such as computer science and probability. Topics include general counting methods, recurrence relations, generating functions, inclusion-exclusion, partial orders, and graph theory. *Prerequisite:* grade of C or better in Math 2250. (Offered spring semester)

4000. History of Mathematics. 3. Explores the roots of mathematics and the people who made significant contributions to it. Mathematical subjects typically include algebra, calculus and number theory; both chronological and topical approaches are employed. *Prerequisite:* grade of C or better in MATH 2205. (Offered spring semester)

4100. Mathematics in the Elementary School. 1-6 (Max. 6). Acquaints prospective or experienced teachers of mathematics with newer developments in mathematics curriculum and materials. Emphasizes mathematical basis for courses in an elementary mathematics curriculum; organization and design of mathematics programs for grades K-7; and design and construction of curriculum and/or materials to meet specific needs of the teacher or school district. *Prerequisites:* grade of C or better in MATH 1105 and consent of instructor.

4150. Secondary School on Campus. 1-4 (Max. 8). Provides prospective teachers opportunity to study mathematics as it relates to the secondary school. Topics may vary from semester to semester. Emphasizes current trends and concerns of secondary school mathematics education. *Prerequisites:* grade of C or better in MATH 2205 and concurrent with EDSE 4271. (Offered fall semester)

4200. Analysis 2: Advanced Analysis. 3. [(none)◀▶COM3] A second course in analysis. Includes metric space topology, sequences and series of functions, and analysis in R^n. *Prerequisites:* grade of C or better in MATH 2210, 2250 and 3205. (Offered fall semester)

4205. Analysis 3: Undergraduate Topics in Analysis. 3. Special topics in analysis. Content varies. May be repeated for credit. *Prerequisite:* grade of C or better in MATH 4200. (Offered spring semester)

4230. Introduction to Complex Analysis. 3. Develops the theory of functions of one complex variable. Topics include the algebra and geometry of complex numbers, functions of one complex variable, elementary functions, limits, continuity and differentiation. Differentiability leads to the Cauchy theorem, integral theorems, power series, residue theory and applications to integration theory and boundary value problems. *Prerequisite:* grade of C or better in MATH 2210. (Offered spring semester)

4255 [4250]. Mathematical Theory of Probability. 3. Calculus-based. Introduces mathematical properties of random variables. Includes discrete and continuous probability distributions, independence and conditional probability, mathematical expectation, multi-

variate distributions and properties of normal probability law. Cross listed with STAT 4255. *Prerequisite:* grade of C or better in MATH 2210.

4265 [4260, 4010]. Introduction to the Theory of Statistics. Presents derivations of theoretical and sampling distributions. Introduces theory of estimation and hypothesis testing. Cross listed with STAT 4265. *Prerequisite:* MATH 4255.

4300. Introduction to Mathematical Modeling. 3. A model of a real world problem captures the essential features of the problem, while scaling it down to a manageable size. In this course, symbolic tools and mathematical techniques are used to construct, analyze and interpret various mathematical models which arise from problems in the physical, biological and social sciences. *Prerequisite:* grade of C or better in MATH 2250 or 2310. (Offered fall semester)

4340. Numerical Methods for Ordinary and Partial Differential Equations. 3. Further develops the skills needed for computational problem solving and numerical analysis. Topics addressed include: one-step and linear multistep methods for solving initial value problems; truncation errors, stability analysis, and convergence of the numerical methods; finite difference approximation for elliptic equations and initial boundary value problems; iterative methods for sparse linear systems. Students typically complete a final project in this course. Cross listed with COSC 4340. *Prerequisites*: grade of C or better in MATH 2310 and MATH 3340. (Offered spring semester)

4420. Advanced Logic. 3. Studies advanced topics in mathematical logic. Takes up such topics as: uninterpreted calculi and the distinctive contributions of syntax and semantics; metatheory, including completeness and consistency proofs; modal logic and semantics; logic as a philosophical tool. Dual listed with MATH 5420; cross listed with COSC/PHIL 4420. *Prerequisite:* PHIL 3420 or equivalent.

4440. Introduction to Partial Differential Equations I. 3. Survey of analytic methods for solving partial differential equations. Topics include: method of characteristics for solving first-order linear and quasi-linear equations; classification of second-order equations and canonical forms; background to separation of variables with applications; transform methods and Green functions; elliptic equations; heat and wave equations in one dimension. *Prerequisites:* grade of C or better in MATH 2210 and MATH 2310.

4500. Matrix Theory. 3. Continuation from MATH 2250 of the study of matrices, an important tool in statistics, physics, engineering and applied mathematics in general. Concentrates on the structure of matrices, including diagonalizability; symmetric, hermitian and unitary matrices; and canonical forms such as Jordan form. *Prerequisite:* grade of C or better in MATH 2250. (Offered fall semester)

4510. Algebra II: Introduction to Group Theory. 3. [(none)◆▸COM3] An introduction to the fundamental properties of groups including: binary operations, groups, permutation groups, subgroups, homomorphisms, and quotient groups. *Prerequisite:* grade of C or better in MATH 3500. (Offered spring semester)

4520. Algebra III: Topics in Abstract Algebra. 3. Further examples and structure of rings and fields. Finite fields and number fields. Special topics. *Prerequisite:* grade of C or better in MATH 4510. (Offered fall semester)

4550. Theory of Numbers. 3. Studies topics in mathematics which are motivated by questions about integers. Topics include divisibility, congruences, diophantine equations, quadratic residues, primitive roots, primes, and representations of positive integers. *Prerequisite:* grade of C or better in MATH 3500. (Offered spring semester)

4600. Foundations of Geometry. 3. Broadens the student's understanding of the many faces of geometry and provides a context for the specific case of Euclidean geometry. Various approaches will be presented, including axiomatic, synthetic, coordinate, and transformational methods. *Prerequisite:* grade of C or better in MATH 3205 or 3500. (Offered fall semester)

4800. Seminar in Mathematics. 1-3 (Max. 6). Exposes students to problems and thinking in mathematics which would otherwise be unavailable. *Prerequisite:* consent of instructor.

4970. Professional Development in Teaching. 1-6 (Max. 6). Undergraduate student will assist in classroom and discussion section teaching under the guidance of an instructor in Mathematics. Does not count towards Mathematics degree requirements. Offered Satisfactory/Unsatisfactory only. *Prerequisite:* Consent of instructor.

5090. Topics in the Foundations of Mathematics. 1-6 (Max. 9). *Prerequisites:* MATH 3000 and consent of instructor.

5140. Numbers, Operations, and Patterns for the Middle-level Learner. 3. Provides working middle-level mathematics teachers opportunities to understand and discuss numbers, their representations, and operations on them from an abstract perspective that includes elegant proof. Also emphasized is the role of language and purpose in composing definitions. Cross listed with NASC 5140. *Prerequisites:* admission to a university graduate program, in either degree or non-degree seeking status, and acceptance into the Middle-level Mathematics Program.

5150. Seminar in Secondary School Mathematics. 1-4 (Max. 18). Seminar in Secondary School Mathematics. *Prerequisite:* 6 hours of MATH 4150.

5160. Social and Historical Issues in Mathematics and the Middle-Level Learner. 3. Empowers teachers of middle-level mathematics to design more engaging experiences. Emphasizes the historical context for the development of mathematics, especially its symbols, tools, personalities, and classic problems. Cross listed with NASC 5160. *Prerequisites:* admission to a UW graduate program, in either degree or non-degree seeking status, and acceptance into the Middle-level Mathematics Program.

5170. Connecting Geometry with Problem-Solving for the Middle-Level Learner. 3. Showcases two aspects of 2D and 3D geometry: measurement and transformation. Emphasis reflects current state and national standards for middle-level mathematics classroom and teacher preparation, especially appropriate uses of technology, geometric tools, mathematical language, and problem-solving strategies. Cross listed with NASC 5170. *Prerequisites:* admission to a university graduate program, in either degree or non-degree seeking status, and acceptance into the Middle-level Mathematics Program.

5190. Mathematics of Change and the Middle-Level Learner. 3. Students gain a solid understanding of data and functions in the service of calculus. Course is hands-on, project-driven and focuses on the essential concepts of functions and calculus and their role in middle-level mathematics. Emphasis is on writing and technology (calculators and probeware). Cross listed with NASC 5190. *Prerequisites:* admission to a UW graduate program, in either degree or non-degree seeking status, and acceptance into the Middle-level Mathematics Program.

5200. Real Variables I. 3. Develops the theory of measures, measurable functions, integration theory, density and convergence theorems, product measures, decomposition and differentiation of measures, and elements of function analysis on Lp spaces. Lebesgue theory is an important application of this development. *Prerequisite:* MATH 4200.

5205. Real Variables II. 3. A continuation of MATH 5200. *Prerequisite:* MATH 5200.

5230. Complex Variables I. 3. Develops the function theory of holomorphic (analytic) and harmonic functions. Topics covered include the Cauchy-Riemann equations, Cauchy-Goursat theorem, Cauchy integral theorem, Morera's

theorem, maximum modulus theorem, Liouville's theorem, power series representation, harmonic functions, theory of singularities of functions of one complex variable, contour integration, analytic continuation, Riemann mapping theorem and topology of spaces of holomorphic functions. *Prerequisite:* MATH 4200.

5235. Complex Variables II. 3. A continuation of MATH 5230. *Prerequisites:* MATH 5230.

5255. Mathematical Theory of Probability. 3. Calculus-based. Introduces mathematical properties of random variables. Includes discrete and continuous probability distributions, independence, and conditional probability distributions, independence and conditional probability, mathematical expectation, multivariate distributions and properties of normal probability law. Dual listed with MATH 4255, cross listed with STAT 5255. *Prerequisites:* grade of C or better in MATH 2210 or 2355.

5265. Introduction to the Theory of Statistics. 3. Presents derivations of theoretical and sampling distributions. Introduces theory of estimation and hypothesis testing. Dual listed with MATH 4265, cross listed with STAT 5265. *Prerequisites:* STAT 4250/5250, MATH 4250.

5270. Functional Analysis I. 3. Topics include the geometry of Hilbert spaces, linear functions and operators on Hilbert spaces, spectral theory of compact normal operators, Banach space theory, the open mapping theorem, Hahn-Banach theorem, Banach-Steinhaus theorem, duality and linear operators on Banach spaces, and different topologies on Banach spaces and their duals. *Prerequisite:* MATH 5200.

5275. Functional Analysis II. 3. Topics may include discussion of topological vector spaces, locally convex spaces, F-spaces, spectral theory of non-compact operators on Hilbert spaces, semigroups or evolution operators, distribution theory, and applications to differential equations and Sobolev spaces. *Prerequisite:* MATH 5270.

5290. Topics in Analysis. 1-6 (Max. 18). Topics in analysis. *Prerequisite:* consent of the instructor.

5310. Computational Methods in Applied Sciences I. 3. First semester of a three-semester computational methods series. Review of iterative solutions of linear and nonlinear systems of equations, polynomial interpolation/approximation, numerical integration and differentiation, and basic ideas of Monte Carlo methods. Comparison of numerical techniques for programming time and space requirements, as well as convergence and stability. Identical to COSC 5310. *Prerequisite:* MATH 3310, COSC 1010.

5340. Computational Methods II. 3. Second semester of a three-semester computational methods series with emphasis on numerical solution of differential equations. Topics include explicit and implicit methods, methods for stiff ODE problems, finite difference, finite volume, and finite element methods for time-independence PDEs semi/fully discrete methods for time-dependent PDEs. *Prerequisite:* MATH 5310.

5345. Computational Methods III. 3. Third semester of a three-semester computational methods series with emphasis on numerical solution of problems displaying sharp fronts and interfaces (nonlinear conservation laws, Hamilton-Jacobi equations). Cross listed with COSC 5345. *Prerequisite:* MATH 5340.

5390. Topics in Numerical Analysis. 1-6. (Max 18). Topics in numerical analysis. *Prerequisite:* consent of the instructor.

5400. Methods of Applied Mathematics I. 3. First semester of a one-year survey of topics and methods of applied mathematics, with emphasis on applications from physics and engineering. The full sequence includes introductions to mathematical aspects of mechanics (e.g., conservation laws), asymptotic expansions, systems of ODE and stability, integral equations and calculus of variations, PDE with boundary value problems and generalized solutions (including wave, heat, and potential equations), numerical methods and stability. *Prerequisite:* MATH 2250, 4200 or 4400, and 2310 or 4430.

5405. Methods of Applied Mathematics II. 3. A continuation of MATH 5400. *Prerequisite:* MATH 5400.

5420. Advanced Logic. 3. Studies advanced topics in mathematical logic. Takes up such topics as: uninterpreted calculi and the distinctive contributions of syntax and semantics; metatheory, including completeness and consistency proofs; modal logic and semantics; logic as a philosophical tool. Dual listed with MATH 4420; cross listed with COSC/PHIL 5420. *Prerequisite:* PHIL 3420 or equivalent; graduate standing.

5430. Ordinary Differential Equations II. 3. Differential equations constitute the mathematical language for problems of continuous change. ODEs deal with evolutionary processes involving one independent variable. This course revisits solution techniques but emphasizes the theoretical framework. Topics include: existence and uniqueness, linear and nonlinear differential systems, asymptotics and perturbations, and stability. *Prerequisite:* MATH 4200, 4430.

5440. Partial Differential Equations II. 3. The theory of PDEs is important for abstract mathematics, applied science, and mathematical modeling. This course covers solution techniques but emphasizes the theoretical framework. Topics include: first order systems; characteristics; hyperbolic, elliptic and parabolic equations; separations of variables; series and transforms; integral relations; Green's functions, maximum principles; variational methods. *Prerequisite:* MATH 4200 and 4440.

5490. Topics in Applied Mathematics. 1-6 (Max. 18). Prerequisite: consent of instructor.

5500. Advanced Linear Algebra. 3. An introduction to the theory of abstract vector spaces and linear transformations from an axiomatic point of view, with applications to matrix theory. Topics include vector spaces, dimension, linear transformations, dual spaces and functionals, inner product spaces, and structure theorems. *Prerequisite:* MATH 3500 and MATH 4500.

5510. Combinatorial Theory. 3. An introduction to combinatorics covering both classical and contemporary topics. Includes some of the following: generating functions, recursion formulas, partially ordered sets, inclusion-exclusion, partitions, graph theory, Ramsey theory, combinational optimization, Latin squares, finite geometries, and design theory. *Prerequisite:* consent of the instructor.

5530. The Theory of Groups. 3. An in-depth study of various aspects of group theory, building on MATH 5550. Topics include some of the following: classical theory of finite groups (both Abelian and non-Abelian), infinite Abelian groups, free groups, permutation groups, group representations, endomorphism, extensions, and cohomology. *Prerequisite:* MATH 5550.

5550. Abstract Algebra I. 3. Studies the structure of groups, rings, and fields. For each, concepts of substructures, quotient structures, extensions, homomorphism, and isomorphism are discussed. *Prerequisite:* MATH 3500 or 5500.

5555. Abstract Algebra II. 3. A continuation of MATH 5550, examining in depth selected topics from the theory of rings, fields, and algebras, including Galois theory. *Prerequisite:* MATH 5550.

5570. Matrix Theory and Combinatorics. 3. An overview of matrix theory and its applications to combinatorics. Topics include Smith normal form, the Perron-Frobenius theory of non-negative matrices, location and perturbation of eigenvalues, and interlacing of eigenvalues. Applications include structure

theorems for (0,1)-matrices, network flows, spectra of graphs, and the permanent. *Prerequisite:* MATH 5500.

5590. Topics in Algebra. 1-6 (Max. 18). Topics in algebra. *Prerequisites:* consent of the instructor.

5600. Point-Set Topology. 3. Topics considered are metric spaces, open spheres, open sets, closed sets, continuous functions, limit points, topological spaces, homeomorphisms, compactness, connectedness, and separability. The familiar notion of distance on the real number line is generalized to the notion of a metric for an arbitrary set, which is in turn generalized to the concept of a set topology for a set. Certain applications to analysis and geometry are indicated. *Prerequisite:* MATH 3205.

5605. Algebraic Topology. 3. Topics in algebraic topology, including simplicial homology groups and their topological invariance, the Eilenberg-Steenrod axioms, singular homology theory, and cohomology. *Prerequisite:* MATH 3500.

5640. Differential Geometry. 3. Curve theory, theory of surfaces, and geometrics on a surface. *Prerequisite:* MATH 4200.

5690. Topics in Topology. 1-6 (Max. 9). *Prerequisite:* consent of instructor.

5700. Topics in Combinatorics. 1-6 (Max. 18). Selected topics in combinatorial analysis.

5800. Seminar in Mathematics. 1-3 (Max. 8). *Prerequisite:* consent of instructor.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate status.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate Program of Study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Graduate level course designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5980. Dissertation Research. 1-12 (Max. 48). Graduate level course designed for students who are involved in research for their dissertation project. Also used for students whose coursework is complete and are writing their dissertation. *Prerequisite:* enrollment in a graduate level degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Statistics

223 Ross Hall, (307) 766-4221
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Program Director: Ken Gerow

Professors:

RICHARD ANDERSON-SPRECHER, B.A. Carleton College 1974; M.A. University of Minnesota 1976; Ph.D. University of Iowa 1990; Professor of Statistics 2006, 1990.

KENNETH G. GEROW, B.S. University of Guelph, Canada 1981; M.Sc. 1984; Ph.D. Cornell University 1992; Professor of Statistics 2007, 1993.

TIMOTHY J. ROBINSON, B.S. James Madison University 1989; M.S. Virginia Polytechnic Institute and State University 1994; Ph.D. 1997; Professor of Statistics 2012

SHAUN S. WULFF, B.S. Montana State University 1991; M.S. 1994; Ph.D. Oregon State University 1999; Professor of Statistics 2019, 1999.

Assistant Professors:

PAVEL CHERNYAVSKIY, Ph.D. University of Nebraska-Lincoln 2018; Assistant Professor of Statistics 2018.

ANNALISA PICCORELLI, B.A. Miami University of Ohio 2003; M.S. Case Western Reserve University 2007; Ph.D. 2010. Assistant Professor of Statistics 2015.

Assistant Lecturer:

MICHELE BIRD, B.A. University of Nevada, Las Vegas 1996; M.A. 2000; Assistant Lecturer of Statistics 2019.

Adjunct Professors:

Legg, L. McDonald, T. McDonald, Nychka, Sain

Emeriti Faculty:

Stephen L. Bieber, Burke Grandjean

The curriculum in statistics includes a firm foundation in mathematics and computer science, in addition to course work in statistical theory and methodology. Statistics majors are also required to obtain a minor in an area of application. The nature of statistical work is to design and analyze research projects through the application of the principles of mathematics, computer science, and statistics. The student who wishes to make valid inferences from empirical data will find the field of statistics fascinating and rewarding.

The study of statistics as a separate professional field is comparatively recent. The wide demand for graduates with special training in research and development techniques has fostered development of statistical curricula in colleges and universities. A pioneer in this field, the University of Wyoming is one of the few schools in the nation where a coordinated undergraduate training program in statistics is available.

We expect that students graduating with a statistics degree will be able to: 1) recognize the importance of variation and uncertainty in the world, 2) understand how statistics improves decisions when faced with uncertainty, 3) become proficient with a broad range of statistical tools, 4) develop critical thinking skills that enable application of statistics in new and unusual settings, and 5) communicate effectively. With these skills, graduates will be able to work effectively as statistical professionals and, if desired, successfully pursue further training at the master's and doctorate levels.

Graduates with statistical training are employed in a broad spectrum of areas which include the business world, the sciences (social, biological, physical and health), as well as engineering and education. For this reason, an area of application is required of each student.

The statistics program also offers graduate programs leading to a minor in statistics, and to a Master of Science (Plan A, Plan B), and Doctor of Philosophy in statistics.

Undergraduate Major

In addition to university and college requirements, requirements for statistics majors include:

A. Statistics ..... at least 30
  2010/2050/2070/4220 3-4
  2110/3050/5050/5060/5070/5080 3
  4015, 4025, 4255, 4265 12
  Optional from 4045, 4070, 4115, 4155, 4300, 4350, 4360, 4370, 4460, 4880, 5320 9
  Senior thesis 4870 3
B. Mathematics 2200, 2205, 2210, 2250 15
C. Computer science 1010 and 1030 6
D. Electives—chosen so that at least 42 hours are at the 3000/4000/5000 level

Total hours: at least 120

Only grades of C or better will be accepted for the major.

Typical Freshman Year for Statistics Majors

Freshman Year: Fall

ECON	1010	3
ENGL	1010	3
MATH	2200	4
POLS	1000	3
Biological, physical or earth science		4
Physical Activity and Health requirement		1
	Total Hrs.	***18***

Freshman Year: Spring

ECON	1020	3
University Studies		3
MATH	2205	4
STAT 2010/2050/2070/4220		3-4
Biological, physical, or earth science		4
	Total Hrs.	***17-18***

Note: For several entry level courses such as STAT 2010, 2050, 2070 and 4220, a student cannot receive credit for more than one of these courses. The same is true for the second courses 2110, 3050 and 5050, 5060, 5070, 5080.

Statistics Minor

The following courses are required for a statistics minor:

MATH	1400	3
STAT	2010/2050/2070/4220	3-4
STAT	3050	3

And 9 additional hours from the following:

STAT	4015	3
STAT	4025	3
STAT	4045	3
STAT	4070	3
STAT	4115	3
STAT	4155	3
STAT	4255	3
STAT	4265	3
STAT	4350	3
STAT	4360	3
STAT	4370	3
STAT	4300	3
STAT	5320	3
	Total Hrs.	***18-19***

Only grades of C or better will be accepted for the minor.

Graduate Study

The Statistics Program offers graduate programs leading to a minor in statistics, to a master of science in applied statistics (Plan B Option 1), and to a doctor of philosophy in statistics. Students wishing to pursue a master of science in statistics with a thesis option (Plan A), should contact the department directly. The minor is designed to enhance the M.S. or Ph.D. program of any student enrolled in one of the graduate programs at the University of Wyoming. All of these programs emphasize the understanding and application of a broad variety of statistical methods on real projects. Students will be provided with numerous opportunities to perform analyses and communicate findings. The M.S. and Ph.D. programs in statistics are grounded in statistical theory.

Program Specific Admission Requirements

The prerequisite for admission to graduate study is an undergraduate degree from an accredited institution, including work in mathematics through calculus III, Linear Algebra and at least one second-level class in statistical methods. Prospective students are encouraged to have had Math Analysis and upper level introduction to probability and mathematical statistics. A score of at least 150 on the verbal reasoning section and a score of at least 141 on the quantitative reasoning section is required for the Master's Degree and the TOEFL exam is required for international students. The minimum score for the TOEFL is 540 (76 Internet-based Test) or for IELTS minimum score is 6.5. Students who do not have prerequisites in mathematics and statistics may make up this deficiency at the beginning of their graduate program; however, such work does not count toward graduation requirements.

Program Specific Degree Requirements

Minor

Twelve hours at the 4000 or 5000 level with the exception of STAT 4220, 5000, and 5185.

Master's Program
Plan B (Option 1)
Master of Science in Applied Statistics

Profile

The Master's Program in Applied Statistics will give the student an extensive and broad background in statistical methods, data analysis, and written and oral presentation skills. This degree is a terminal experience in graduate statistical education and should not be viewed as preparatory for entrance into a Ph.D. program in statistics. Graduates will have the necessary background to work as data management specialists, statistical analysts, and as project managers within a wide range of research organizations.

Coursework

In addition to the general requirements of the university all candidates for the MS (Plan B – Option 1) degree must successfully take and complete:

Required: 15 credit hours
- STAT 5210 Advanced Regression
- STAT 5220 Advanced Design
- STAT 5470 Data Analysis
- STAT 5380 Bayesian Data Analysis
- STAT 53XX Computational Methods

Electives: a minimum of 15 credit hours in other acceptable graduate courses. Acceptable courses include statistics courses numbered 5000 or higher, excepting 5000, 5050, 5060, 5070, 5080, and 5185. No more than 6 credits can come from STAT 5255, 5265, 5155, and 5025.

Total: 30 credit hours

Graduation Requirements: (1) successful completion of coursework and (2) a data analysis project (Plan B paper).

Doctoral Program
Program for a Doctor of Philosophy in Statistics

Profile

The Ph.D. Program in Statistics will give the student a solid background in statistical theory and in statistical methods, in technical reading and writing skills, and in conducting independent research. Most graduates from our doctoral program have been employed as tenure-track faculty at other universities. They also have the necessary background to work as lead researchers in industrial and research organizations.

Coursework

In addition to the general requirements of the Graduate School all candidates for the Ph.D. degree must successfully take and complete:

Prerequisites for the Required Courses
- STAT 5255 Theory of Probability
- STAT 5265 Theory of Statistics
- MATH 4200 Analysis 2: Advanced Analysis (or Analysis for Statisticians Topics Course)
- STAT 5025 Design and Analysis of Experiments
- STAT 5015 Regression Analysis

Required: 45 credit hours
- STAT 5210 Statistical Methods 1
- STAT 5220 Statistical Methods 2
- STAT 5230 Statistical Methods 3
- STAT 5380 Bayesian Data Analysis
- STAT 5470 Data Analysis

STAT 5510 Distribution Theory
STAT 5520 Inference I
STAT 5530 Inference II
STAT 5540 Large Sample Theory
STAT 5620 Theory of Linear Models
STAT 5660 Computational Statistics
STAT 5810 Seminar (3 hours; 3 presentations)

Methodological Topics - at least **2** of the following which are **required** when offered
STAT 5615 Advanced Time Series
STAT 5630 Multivariate Analysis
STAT 5650 Advanced Sampling
STAT 5670 Mixed Models

The remaining hours of doctoral work are typically filled in part by other graduate level statistics/mathematics courses/Dissertation Research. Students who enter the program lacking a course in Mathematical Analysis or the equivalent should take MATH 4200 in their first year. MATH 4200 may be counted as part of the doctoral degree program.

Graduation Requirements

1) At the end of the first year in the doctoral program each student must take a comprehensive qualifying examination. If needed a student may retake this examination. A passing grade on this examination is mandatory for continuance in the doctoral program. 2) After completing this examination a student with the assistance of her/his adviser will be expected to form a doctoral committee. This committee will determine which courses are to be included in the Graduate Level Statistics electives, and will set the conditions of and conduct the preliminary examination. A passing grade on this examination is mandatory for official admittance into the doctoral program. 3) The student must write and successfully defend a dissertation research project. The specific conditions of the dissertation project are to be determined by each student's doctoral committee, but should consist of original research suitable for publication.

Statistics (STAT)

A computerized prerequisite check is run prior to the start of the fall and spring semesters. Students who are pre-registered for a 2000-level STAT course but have not satisfied the prerequisites at the time of the check will be automatically dropped from the course.

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2000. Statistics and the World. 3. [QB◀▶Q] Discusses statistical reasoning and methods as related to today's society. Emphasizes ideas rather than specific techniques. Focuses on real examples of the use (and misuse) of statistics. Includes sampling, experimentation, descriptive statistics, elementary probability and statistical inference. *Prerequisite:* grade of C or better in MATH 0921 or level 2 on the Math Placement Exam or Math ACT of 21 or Math SAT of 530 or concurrent enrollment in MATH 1080.

2050. Fundamentals of Statistics. 4. [QB◀▶Q] Presents central ideas and fundamental techniques of statistical inference on applications in the biological sciences. Includes probability models and inferences for means, variances and parameters of discrete distributions. Introduces statistical computer packages in biweekly labs. Credit cannot be earned in more than one of the following courses: STAT 2010, 2050, 2070, 4220 and 5000. *Prerequisite:* grade of C or better in MATH 1000, 1400, or equivalent.

2070. Introductory Statistics for the Social Sciences. 4. [QB◀▶Q] Presents central ideas of descriptive statistics and statistical inference, as applied to questions in social sciences. Includes graphs, averages, sampling, estimation, hypothesis-testing and relationships between variables. Introduces associated computer skills. Credit cannot be earned in more than one of STAT 2010, 2050, 2070, 4220, 5000. Cross listed with SOC 2070. *Prerequisite:* grade of C or better in MATH 1000, 1400, or equivalent.

2010. Statistical Methods for Business and Management Science. 3. Provides majors in various departments of the College of Business with training in use of statistical analysis techniques as they apply to business problems. Credit cannot be earned in more than one of the following: STAT 2010, 3050 and 5050, 5060, 5070, 5080. *Prerequisite:* STAT 2010.

3050. Statistical Methods - General. 3. Provides undergraduate majors in the Colleges of Arts and Sciences, Agriculture and Education with training in statistical methodology for multiple variable situations. Integrates computer analysis packages such as R MINITAB, SAS and SPSSX into statistical topics. Credit cannot be earned in more than one of the following courses: STAT 2110, 3050 and 5050, 5060, 5070, 5080. *Prerequisite:* STAT 2050, 2070 or equivalent.

4015 [4010, 4410]. Regression Analysis. 3. Contains standard topics, as well as some newer and more unconventional ones. Oriented towards analysts who use computer packages for problem solutions. Includes balance of application and theory. Dual listed with STAT 5015. *Prerequisite:* STAT 3050 or equivalent.

4025 [4020, 4310]. Design and Analysis of Experiments I. 3. Reviews design and analysis of one-factor experiments and introduces multifactor experiments, Latin squares, nested designs and random effects. Includes topics such as polynomial response curves, trend analysis, split plots and incomplete blocks as time permits. Dual listed with STAT 5025. *Prerequisite:* choice of STAT 3050 or equivalent.

4045 [4040]. Categorical Data Analysis. 3. Applied methods for analyzing associations when some or all variables are measured in discrete categories, not continuous scales. Topics include the binomial, multinomial, and Poisson probability models, parameter estimation and hypothesis-testing about proportions, measures of association and tests for contingency tables, logistic regression, and log-linear models. Dual listed with STAT 5045. *Prerequisite:* STAT 2110, 3050, 5050, 5060, 5070 or 5080.

4070. Causal Models. 3. Applications of least-squares and iterative maximum-likelihood methods for drawing cause and effect conclusions from nonexperimental data. Topics include regression-based path analysis, reciprocal causation, confirmatory factor analysis, measurement error, and structural equation models with unmeasured (latent) variables. Cross listed with SOC 4070. *Prerequisite:* one of STAT 3050, 4015, 5050, 5060, 5070, 5080 or equivalent (regression methods).

4115 [4110]. Time Series Analysis and Forecasting. 3. An applied introduction to time series and forecasting. Brief coverage of time series regression, decomposition methods, and smoothing will lead into a more detailed coverage of Box-Jenkins (ARIMA) modeling. Computer analyses using MINITAB and SAS will be an important part of the course. Cross listed with ECON 4115; dual listed with STAT 5115. *Prerequisites:* STAT 3050 or equivalent; STAT 4015/5015 recommended.

4155 [4150]. Fundamentals of Sampling. 3. Develops methodology of simple random sampling, stratified sampling, and multistage sampling. Provides applications related to physical, social, and biological sciences. Discusses single and two-variable estimation techniques. Presents estimation based on subsamples from subpopulations. Dual listed with STAT 5155. *Prerequisite:* choice of STAT 2010, 2050, 2070 or equivalent.

4220 [4020]. Basic Engineering Statistics. 3. Introduces probability models, properties of distributions, statistical inference and development of statistical models for physical and en-

gineering sciences. Credit cannot be earned in more than one of the following courses: STAT 2010, 2050, 2070, 4220 and 5000. *Prerequisite:* MATH 2205, 2355 or equivalent.

4240. Data Mining. 3. An introduction to statistical learning and data mining using techniques that have proven useful in recognizing patterns and making predictions. These techniques include both parametric and nonparametric models. Tools for computing and evaluating these techniques will also be studied. Dual listed with STAT 5240. *Prerequisite:* STAT 4015.

4255 [4250]. Mathematical Theory of Probability. 3. Calculus-based. Introduces mathematical properties of random variables. Includes discrete and continuous probability distributions, independence and conditional probability, mathematical expectation, multivariate distributions and properties of normal probability law. Dual listed with STAT 5255; cross listed with MATH 4255. *Prerequisite:* grade of C or better in MATH 2210. (Offered fall semester)

4265 [4260, 4010]. Introduction to the Theory of Statistics. 3. Presents derivations of theoretical and sampling distributions. Introduces theory of estimation and hypothesis testing. Dual listed with STAT 5265; cross listed with MATH 4265. *Prerequisite:* STAT/MATH 4255.

4270. Applied Bayesian Statistics. 3. This course introduces Bayesian data analysis in an applied context. We will learn about Bayesian statistics primarily in a regression model context, taken broadly. A conceptual understanding of popular Markov Chain Monte Carlo algorithms will be provided. Dual listed with STAT 5270. *Prerequisite:* STAT 3050. STAT 4015/5015 recommended.

4280. Models for Hierarchical Data. 3. Provides an introduction to the modeling and analysis of correlated/hierarchical data from exponential family member distributions (i.e. presence/absence, count data, Gaussian data). Emphasis is on applications. Aimed to build off of a first course in regression analysis. Dual listed with STAT 5280. *Prerequisite:* STAT 4015.

4300. Applied Multivariate Analysis. 3. The application of multivariate statistical methods in behavioral science research. Topics include: multivariate regression, canonical correlation, discriminate analysis, factor analysis and multidimensional scaling. A wide range of computer assistance is incorporated. Dual listed with STAT 5300. *Prerequisite:* STAT 3050 or equivalent.

4350. Survey Construction and Analysis. 3. Examines the issues surrounding the construction (item wording, test theory, and numerical scales), assessment (sampling and psychometrics), and analysis (item analysis, qualitative data analysis, and factor analysis) of survey instruments. Roughly a third of the course is devoted to each of these areas. Dual listed with STAT 5350. *Prerequisite:* STAT 3050.

4360. Spatial Statistics. 3. Emphasis is on a generalized linear model approach to the modeling of continuous data, placing model building and the various kriging methods into a single conceptual framework. Dual listed with STAT 5360. *Prerequisite:* STAT 4015.

4370. Survival Analysis. 3. Introduction to the modeling of time to event data as it arises in epidemiological and medical research. Topics include parametric and non-parametric estimation for censored data without covariates, and for data with covariates, the proportional hazards regression model, additive hazards regression model and parametric regression models. Dual listed with STAT 5370. *Prerequisites:* STAT 4015 and 4025.

4460. Statistical Software [5480]. 1. An introduction to the various statistical software programs currently in use at the University of Wyoming. Topics will include the structure of each language, I/O, programming the basic statistical applications, and a comparison of the other languages. *Prerequisite:* 9 hours in statistics beyond introductory.

4870. Senior Thesis. 3. Encompasses senior thesis research project under faculty member guidance and supervision. Faculty sponsorship must be obtained prior to registration. *Prerequisites:* 18 hours in statistics and senior standing.

4880 [4790]. Problems in Statistics. 1-4 (Max. 9). Encourages individual initiative on part of students who work on extending their knowledge through library research. *Prerequisites:* senior standing, 8 hours in statistics and consent of instructor.

5015. Regression Analysis. 3. Contains standard topics, as well as some newer and more unconventional ones. Oriented towards analysts who use computer packages for problem solutions. Includes balance of application and theory. Dual listed with STAT 4015. *Prerequisite:* STAT 3050 or equivalent.

5025. Design and Analysis of Experiments I. 3. Reviews design and analysis of one-factor experiments and introduces multifactor experiments, Latin squares, nested designs, and random effects. Includes topics such as polynomial response curves, trend analysis, split plots and incomplete blocks as time permits. Dual listed with STAT 4025. *Prerequisite:* STAT 3050 or equivalent.

5045. Categorical Data Analysis. 3. Applied methods for analyzing associations when some or all variables are measured in discrete categories, not continuous scales. Topics include the binomial, multinomial, and Poisson probability models, parameter estimation and hypothesis-testing about proportions, measures of association and tests for contingency tables, logistic regression, and log-linear models. Dual listed with STAT 4045. *Prerequisite:* two courses in statistics.

5050. Statistical Methods for the Biological Science. 3. General statistical analyses and their application to the biological and behavioral sciences. Analysis of variance, regression and correlation methods are studied from a data analytic perspective, emphasizing the conceptual understanding of where and when these techniques should be used and the interpretation of their results. Available computer programs will be utilized. Credit cannot be earned in more than one of the following courses: STAT 3050, 5050, 5060, 5070. Cross listed with ZOO 5050. *Prerequisite:* one course in statistics (all introductory courses except 2000).

5055. Statistical Methods for the Biological Sciences II. 3. The statistical toolkit (regression and ANOVA-driven) of methods applicable to the biological and behavioral sciences will be extended to include multiple logistic regression, power and sample size considerations, and computer-intensive methods such as bootstrapping and randomization tests, which will considerably expand the repertoire of methods that a person could use. *Prerequisite:* STAT 5050 or equivalent.

5070. Statistical Methods for the Social Sciences. 3. General statistical analyses and their application to the social sciences. Analysis of variance, regression and correlation methods are studied from a data analytic perspective, emphasizing the conceptual understanding of where and when these techniques should be used and the interpretation of their results. Available computer programs will be utilized. Credit cannot be earned in more that one of the following courses: STAT 2110, 3050, 5050, 5060, 5070. Cross listed with SOC 5070. *Prerequisite:* one course in statistics (all introductory courses except STAT 2000).

5080. Statistical Methods for the Agricultural and Natural Resource Sciences. 3. Brief review of statistical principles. Use of SAS programming. Numerous analysis of variance techniques along with commonly-used experimental designs. Multiple mean comparison, linear contrasts, power of F test, simple linear regression, polynomial regression, analysis of covariance, and some categorical data techniques for students in the agriculture and natural resources sciences. Credit cannot be earned in more that one of the following

courses: STAT 2110, 3050, 5050, 5060, 5070, 5080. Cross listed with ENTO 5080. *Prerequisite:* STAT 2050 or equivalent.

5115. Time Series Analysis and Forecasting. 3. An applied introduction to time series and forecasting. Brief coverage of time series regression, decomposition methods, and smoothing will lead into a more detailed coverage of Box-Jenkins (ARIMA) modeling. Computer analysis using MINITAB and SAS will be an important part of the course. Dual listed with STAT 4115; cross listed with ECON 5115. *Prerequisites:* STAT 3050 or equivalent; STAT 4015/5015 recommended.

5155. Fundamentals of Sampling. 3. Develops methodology of simple random sampling, stratified sampling, and multistage samples. Provides applications related to physical, social, and biological sciences. Discusses single and two-variable estimation techniques. Presents estimation based on subsamples from subpopulations. Dual listed with STAT 4155. *Prerequisite:* STAT 2070 or equivalent.

5185. Analysis of Data. 3. Focuses on data collection, analysis, interpretation, and communication, using contexts relevant to everyday situations. Topics chosen integrate well with the concerns of middle-level teachers and connect with such curriculum areas as health, science, and social studies. This course is not a research methods course. Cross listed with NASC 5180. *Prerequisites:* graduate standing in either degree or non-degree seeking status, and acceptance into the Middle-level mathematics program.

5210. Advanced Regression. 3. Advanced methodologies, with particular focus on concepts and methods related to regression. Topics include generalized linear models, nonlinear regression, elementary linear model theory, and Data Science topics such as resampling inference, ridge regression and the lass, and k-fold cross-validation. *Prerequisites:* MATH/STAT 4265/5265 and STAT 4015/5015. STAT 4025/5025 and STAT 4045/5045 are recommended.

5220. Advanced Design. 3. Advanced study of experimental designs, observational designs, and mixed models. Topics include fixed and random effects, factorial, split-plot and repeated measures designs, and hierarchical models. Linear model methodology and Data Science concepts will also be emphasized. *Prerequisites:* MATH/STAT 4265/5265, and at least one of STAT 4015/5015, STAT 4025/5025, or STAT 5210.

5230. Statistic Methods III. 4. Continuation of topics in Statistical Methods from 5220; aimed at preparing students for advanced topics courses in Statistics. *Prerequisites:* STAT 5220 and 5520.

5240. Data Mining. 3. An introduction to statistical learning and data mining using techniques that have proven useful in recognizing patterns and making predictions. These techniques include both parametric and nonparametric models. Tools for computing and evaluating these techniques will also be studied. Dual listed with STAT 4240. *Prerequisite:* STAT 5015.

5255. Mathematical Theory of Probability. 3. Calculus-based. Introduces mathematical properties of random variables. Includes discrete and continuous probability distributions, independence and conditional probability distributions, independence and conditional probability, mathematical expectation, multivariate distributions and properties of normal probability law. Dual listed with STAT 4255; cross listed with MATH 5255. *Prerequisite:* grade of C or better in MATH 2210 or 2355.

5265. Introduction to the Theory of Statistics. 3. Presents derivations of theoretical and sampling distributions. Introduces theory of estimation and hypothesis testing. Dual listed with STAT 4265; cross listed with MATH 5265. *Prerequisites:* STAT 4255/5255.

5270. Applied Bayesian Statistics. 3. This course introduces Bayesian data analysis in an applied context. We will learn about Bayesian statistics primarily in a regression model context, taken broadly. A conceptual understanding of popular Markov Chain Monte Carlo algorithms will be provided. Dual listed with STAT 4270. *Prerequisite:* STAT 3050. STAT 4015/5015 recommended.

5280. Models for Hierarchical Data. 3. Provides an introduction to the modeling and analysis of correlated/hierarchical data from exponential family member distributions (i.e. presence/absence, count data, Gaussian data). Emphasis is on applications. Aimed to build off of a first course in regression analysis. Dual listed with STAT 4280. *Prerequisite:* STAT 5015.

5300. Applied Multivariate Analysis. 3. The application of multivariate statistical methods in behavioral science research. Topics include: multivariate regression, canonical correlation, discriminate analysis, factor analysis and multivariate regression, canonical correlation, discriminate analysis, factor analysis and multidimensional scaling. A wide range of computer assistance is incorporated. Dual listed with STAT 4300. *Prerequisite:* STAT 5050, 5060, 5070, 5080.

5350. Survey Construction and Analysis. 3. Examines the issues surrounding the construction (item wording, test theory, and numerical scales), assessment (sampling and psychometrics), and analysis (tem analysis, qualitative data analysis, and factor analysis) of survey instruments. Roughly a third of the course is devoted to each of these areas. Dual listed with STAT 4350. Prerequisite: STAT 3050.

5360. Spatial Statistics. 3. Emphasis is on a generalized linear model approach to the modeling of continuous data, placing model building and the various kriging methods into a single conceptual framework. Dual listed with STAT 4360. *Prerequisite:* STAT 4015.

5370. Survival Analysis. 3. Introduction to the modeling of time to event data as it arises in epidemiological and medical research. Topics include parametric and non-parametric estimation for censored data without covariates, and for data with covariates, the proportional hazards regression model, additive hazards regression model and parametric regression models. Dual listed with STAT 4370. *Prerequisites:* STAT 4015, 4025 and 4265.

5380. Bayesian Data Analysis. 3. Bayesian statistical methods for analyzing various kinds of data. Topics include basic Bayesian ideas and model formulation (priors, posteriors, likelihoods), single- and multiple-parameter models, hierarchical models, generalized linear models, multivariate models, survival models and an introduction to computation methods. *Prerequisites:* at least 2 semesters of calculus and one semester of statistics at or beyond the 4000 level.

5470. Data Analysis. 3. This course is designed to develop the skill of analyzing data sets using methods of classic statistical analysis, such as analysis of variance, regression, discrete models, descriptive analysis, non-parametrics, and multivariate methods. The focus will be on understanding the various models and methods, computer assisted data analysis, and communication of results (oral and written). *Prerequisite:* 12 graduate level hours in statistics (excluding STAT 5000).

5490. Statistical Consulting. 1. An introduction to the art and practice of statistical consulting. Topics include active listening, ascertaining client knowledge level and ability, determining appropriate methods of analysis given limitations, and organizing and managing a consulting session. *Prerequisite:* graduate standing in statistics, 15 hours in statistics.

5510. Distribution Theory. 4. Topics covered include probability theory, conditional probability, random variables, special distribution functions, functions of random variables,

expectation, random samples, and limiting distributions. *Prerequisite:* MATH 2210, 3000 or MATH/STAT 4265.

5520. Inference I. 4. Topics covered include Properties of a random sample, Sufficiency principle, Likelihood principle, point estimation (mle, mom, Bayes estimators, etc. and methods for evaluating estimators), some interval estimation. *Prerequisite:* STAT 5510.

5530. Inference II. 3. Topics covered include methods used in Bayesian, Likelihood, Frequentist inference; some methods for robust inference and some large sample theory as needed. *Prerequisite:* STAT 5520.

5540. Large Sample Theory. 3. Treats various limiting techniques which can be used to predict the behavior of statistics computed from large data sets. The characteristic function is used in deriving the law of large numbers and various forms of the central limit theorem, including the multivariate normal case. The central and noncentral chi-square distributions are derived as the probability law for certain statistics in the limit. Other topics discussed include modes of probabilistic convergence, speed of convergence, and large sample approximation procedures. *Prerequisite:* STAT 5510.

5615. Time Series Analysis II. 3. A treatment of theory and application of ARIMA modeling of times series. Frequency domain analysis is also introduced. Additional topics will be selected from intervention analysis, transfer function (ARMAX) models, outlier analysis, vector ARIMA models, ARCH, GARCH, and state-space models, according to the interests and abilities of the class. *Prerequisites:* STAT 4015/5015, 4115 and 4265/5265.

5620. Theory of Linear Models. 3. A theoretical approach to estimation and testing in the general linear model. Topics include: special linear algebra results for statistics, parameterizations, estimability, least squares, best linear unbiased estimation, and testing linear hypotheses. *Prerequisite:* STAT 5630, 5520, MATH 4500.

5630. Multivariate Analysis. 3. The subject matter includes derivation of multi-variate normal distributions, the Wishart, and related sampling distributions, multivariate estimation, confidence regions, and hypothesis testing are covered including topics as Hotelling's T squared, profile analysis, discriminate analysis, factor analysis, and cluster analysis. *Prerequisite:* STAT 4265, MATH 2250.

5650. Theory of Sampling. 3. Consists of the theory of simple random sampling, stratified sampling, multistage sampling, and regression and ratio estimation. Recent developments in sampling are presented. *Prerequisite:* STAT 4265, STAT 4155/5155.

5660. Computationally Intensive Methods in Statistics. 3. Advanced statistical inference often relies on methods which are computationally intensive. The basic methods include Newton-Raphson; the EM algorithm; bootstrap and other resampling procedures; kernel density estimators; Laplace's method, importance sampling and MCMC, and saddlepoint and Edgeworth approximations. *Prerequisite:* STAT 5520.

5670. Mixed Models. 3. An advanced treatment of models with fixed and random effects. Topics include: model definitions, least- squares, analysis of variance techniques, likelihood procedures, and computational applications. *Prerequisite:* STAT 5620.

5680. Advanced Bayesian Statistics. 3. Philosophical principles underlying Bayesian and non-Bayesian statistics. Decision theoretic foundations of Bayesian statistics including loss functions, minimaxity, and admissibility. Construction of conjugate prior distributions and non-informative prior distributions. Bayesian point estimation, hypothesis tests and credible sets. Computational tools for Bayesian problems including Markov chain Monte Carlo (McMC) and other methods for approximating posterior distributions with some emphasis on implementation via a programming language or statistical computing software. As time and interest permit: the normal linear model, non-normal models, hierarchical models, Bayesian model averaging, other topics. *Prerequisites:* STAT 5380; 5420 and 5520.

5810. Seminar. 1-2 (Max. 4). Research results are presented by statistics majors. (Faculty also present papers). *Prerequisite:* graduate status in statistics.

5820. Teaching of Statistics. 1 - 2. (Max 2). The following topics are presented and discussed: traditional and innovative teaching methods, assessment methods, the purpose of lectures and laboratories, in-class activities, projects, mathematics versus statistics, computer assistance, math anxiety, and group and one-on-one interaction guidelines. *Prerequisite:* consent of instructor.

5880. Advanced Problems. 1-8 (Max. 8). Intended to develop the graduate student's ability to expand his theoretical knowledge by using library materials and working under close supervision of a faculty member who is an expert in the area of study. *Prerequisite:* 12 hours in statistics and consent of instructor.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Graduate level course designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5980. Dissertation Research. 1-12 (Max. 48). Graduate level course designed for students who are involved in research for their dissertation project. Also used for students whose coursework is complete and are writing their dissertation. *Prerequisite:* enrollment in a graduate level degree program.

5990. Internship. 1-12 (Max 24). *Prerequisite:* graduate standing.

Music

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

Professors:

ROBERT BELSER, B.M.E. Central Missouri State University 1977; M.S. M.E University of Illinois 1982; D.M.A. University of Iowa 1994; Professor of Music 2008, 1995. Director of Bands, Conducting, Music Education.

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

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

ANNE GUZZO, B.M. University of New Mexico 1992; M.A. University of California, Santa Cruz 1996; Ph.D. University of California, Davis 2002; Associate Professor of Music 2011, 2006. Composition, Theory.

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

JAMES PRZYGOCKI, B.M. Western Michigan University 1979; M.M. Indiana University 1984; Professor of Music 2005, 1993. Viola, String Methods, Music Education.

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

KATRINA ZOOK, B.M. Oberlin College 1986; M.M. University of California—Santa Barbara 1992; D.M.A. Eastman School of Music 2000; Professor of Music 2011, 1999. Voice, Vocal Pedagogy, Music History, Associate Chair.

Associate Professors:

HOLLY DALRYMPLE, BM, Texas State University; MM, University of Texas-Austin; DMA, University of North Texas; Associate Professor of Music 2019, 2013. Choral Music Education.

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

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

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

CHI-CHEN WU, B.F.A. National Taiwan Normal University 1998; M.M. 2202; D.M.A. New England Conservatory 2006; Assistant Professor of Music 2012. Piano and Collaborative Piano.

Assistant Professors:

JOSEPH CARVER, BME 2007 Ohio University; MM 2014 Ohio University; Ph.D. 2019 The Ohio State University.

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

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

DAVID WHARTON, BM Oberlin Conservatory 2009, MM Yale School of Music 2011, DMA University of Connecticut 2019. Assistant Professor of Music.

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

Academic Professional Lecturers:

SHERRY SINIFT, B.M. Western Michigan University 1979; M.M. Indiana University 1981; Academic Professional Lecturer 2010. Violin, UW String Project.

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

Lecturers:

Boddicker, Chang, Murray, Riner

Part-time Lecturers:

Fourt, Harvey, Hoffman, Latchininsky, Smith, Strampe, Stucki, Teppa, Uno-Jack, Watt

Professors Emeriti:

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

The Department of Music offers undergraduate and graduate degree programs which combine scholarship with performance, theory with practice and the academic with the creative. It also provides an opportunity for the study and performance of music by university students who are not majors in music. By giving concerts, workshops and lectures throughout the state of Wyoming through the Fine Arts Outreach Program, the music department serves as a musical resource for the entire state. The music department is fully accredited by the National Association of Schools of Music.

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

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

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

Degrees

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

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

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

Certificates

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

Performer's (post-baccalaureate) Certificate

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

Music for Other Students

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

Organizations. Performance organizations include the Happy Jacks, Marching Band, Symphonic Band, Wind Ensemble, Collegiate Chorale, Symphony Orchestra,

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

Music Fees

For Individual Instruction:

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

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

Practice Rooms:

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

Undergraduate Study

Bachelor of Arts in Music

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

Learning Outcomes

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

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

FRESHMAN YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 1030	3
MUSC 1035	1
MUSC 1290	1
MUSC 2000-level Applied Lessons II	1
A 1000-level Ensemble	1
USP COM1 Course	3
USP FYS Course	3
USP H Course	3

FRESHMAN YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 1003	3
MUSC 1040	3
MUSC 1045	1
MUSC 1295	1
MUSC 2000-level Applied Lessons II	1
A 1000-level Ensemble	1
USP Q Course	3
USP H Course	3

SOPHOMORE YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 2030	3
MUSC 2035	1
MUSC 2050	3
MUSC 3000-level Applied Lessons III	1
A 1000-level Ensemble	1
USP V Course	3
USP PN Course	3

SOPHOMORE YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 2055	3
MUSC 3255	0
MUSC 3000-level Applied Lessons III	1
A 1000-level Ensemble	1
USP PN Course	3
USP COM2 Course	3
Elective	3

JUNIOR YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 4070	3
Upper division MUSC electives	6
MUSC 4000-level Applied Lessons IV	1
A 3000-level Ensemble	1
A&S Core Diversity in the U.S. Course	3
Elective	3

JUNIOR YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 4000-level Applied Lessons IV	1
A 3000-level Ensemble	1
A&S Core Global Awareness Course	3
Upper division MUSC elective*	3
Electives	6

SENIOR YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 5000-level Applied Lessons V	1
A 3000-level Ensemble	1
USP COM3 Course	3
Upper division MUSC elective	3
Electives	6

SENIOR YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 5000-level Applied Lessons V	1
A 3000-level Ensemble	1
Upper division MUSC electives*	6
Electives	6
Degree Total	***120***

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

University and College Requirements

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

Bachelor of Music in Performance

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

Learning Outcomes

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

At the completion of the Bachelor of Music degree in Performance, students will be able to: (1) demonstrate excellence as solo and ensemble performers to provide a basis for a professional career as a musician, (2) demonstrate specific knowledge in music theory, music history, and instrumental pedagogy to provide a basis for a professional career as a performing musician, and (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music.

University and College Requirements

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

Upper Division Music Electives

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

Winds and Percussion Emphasis:

FRESHMAN YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 1030	3
MUSC 1035	1
MUSC 1290	1
MUSC 2000-level Applied Lessons II	2
A 1000-level Ensemble	1
USP COM1 Course	3
USP FYS Course	3

FRESHMAN YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 1003	3
MUSC 1040	3
MUSC 1045	1
MUSC 1295	1
MUSC 2000-level Applied Lessons II	2
A 1000-level Ensemble	1
USP Q Course	3

SOPHOMORE YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 2030	3
MUSC 2035	1
MUSC 2050	3
MUSC 3000-level Applied Lessons III	2
A 1000-level Ensemble	1
USP PN Course	3
A&S Core Global Awareness Course	3

SOPHOMORE YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 2040	3
MUSC 2045	1
MUSC 2055	3
MUSC 3255	0
MUSC 3000-level Applied Lessons III	2
A 1000-level Ensemble	1
USP PN Course	3
A&S Core Diversity in the U.S. Course	3

JUNIOR YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 4070	3
MUSC 4000-level Applied Lessons IV	2
A 3000-level Ensemble	1
Upper division MUSC electives	6
USP COM2 Course	3

JUNIOR YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 3500	0
MUSC 4615	2
MUSC 4000-level Applied Lessons IV	2
A 3000-level Ensemble	1
Upper division MUSC electives	6
USP V Course	3

SENIOR YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 4040	2
MUSC 5000-level Applied Lessons V	2
A 3000-level Ensemble	1
Upper division MUSC elective	3
USP COM3 Course	3
USP H Course	3
Elective	3

SENIOR YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 4590	2
MUSC 5000-level Applied Lessons V	2
A 3000-level Ensemble	1
Upper division MUSC elective	3
USP H Course	3
Elective	3
Degree Total	***120***

String Emphasis:

FRESHMAN YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 1030	3
MUSC 1035	1
MUSC 1290	1
MUSC 2000-level Applied Lessons II	2
A 1000-level Ensemble	1
USP COM1 Course	3
USP FYS Course	3
USP H Course	3

FRESHMAN YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 1003	3
MUSC 1040	3
MUSC 1045	1
MUSC 1295	1
MUSC 2000-level Applied Lessons II	2
A 1000-level Ensemble	1
USP Q Course	3
USP H Course	3

SOPHOMORE YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 2030	3
MUSC 2035	1
MUSC 2290	1
MUSC 2050	3
MUSC 3000-level Applied Lessons III	2
A 1000-level Ensemble	1
USP PN Course	3
USP V Course	3

SOPHOMORE YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 2040	3
MUSC 2045	1
MUSC 2050	3
MUSC 2295	1
MUSC 2395	0
MUSC 3255	0
MUSC 3000-level Applied Lessons III	2
A 1000-level Ensemble	1
USP PN Course	3
USP COM2 Course	3

JUNIOR YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 4070	3
MUSC 4651	2
MUSC 4000-level Applied Lessons IV	2
A 3000-level Ensemble	1
Upper division MUSC electives	6

JUNIOR YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 3500	0
MUSC 4615	2
MUSC 4000-level Applied Lessons IV	2
A 3000-level Ensemble	1
Upper division MUSC electives	3
A&S Core Global Awareness Course	3
Elective	3

SENIOR YEAR: Fall	**Hrs.**
MUSC 0200	0
MUSC 4040	2
MUSC 5000-level Applied Lessons V	2
A 3000-level Ensemble	1
Upper division MUSC electives	6
USP COM3 Course	3

SENIOR YEAR: Spring	**Hrs.**
MUSC 0200	0
MUSC 4590	2
MUSC 5000-level Applied Lessons V	2
A 3000-level Ensemble	1
Upper division MUSC elective	3
A&S Core Diversity in the U.S. Course	3
Elective	3
Degree Total	***120***

Vocal Emphasis:

FRESHMAN YEAR: Fall	Hrs.
MUSC 0200	0
MUSC 1030	3
MUSC 1035	1
MUSC 1290	1
MUSC 2320	2
MUSC 2270-06	2
A 1000-level Ensemble	1
USP COM1 Course	3
USP FYS Course	3

FRESHMAN YEAR: Spring	Hrs.
MUSC 0200	0
MUSC 1003	3
MUSC 1040	3
MUSC 1045	1
MUSC 1295	1
MUSC 2325	2
MUSC 2000-level Applied Lessons II	2
A 1000-level Ensemble	1
USP Q Course	3

SOPHOMORE YEAR: Fall	Hrs.
MUSC 0200	0
MUSC 2030	3
MUSC 2035	1
MUSC 2050	3
MUSC 2290	1
MUSC 3000-level Applied Lessons III	2
A 1000-level Ensemble	1
USP H Course/Foreign Language	4

SOPHOMORE YEAR: Spring	Hrs.
MUSC 0200	0
MUSC 2040	3
MUSC 2045	1
MUSC 2055	3
MUSC 2395	0
MUSC 3255	0
MUSC 3295	1
MUSC 3000-level Applied Lessons III	2
A 1000-level Ensemble	1
USP H Course/Foreign Language	4

JUNIOR YEAR: Fall	Hrs.
MUSC 0200	0
MUSC 4070	3
MUSC 4000-level Applied Lessons IV	2
A 3000-level Ensemble	1
Upper division MUSC electives	5
USP COM2 Course	3

JUNIOR YEAR: Spring	Hrs.
MUSC 0200	0
MUSC 3500	0
MUSC 4610	2
MUSC 4000-level Applied Lessons IV	2
A 3000-level Ensemble	1
Upper division MUSC electives	5
UPS V Course	3

SENIOR YEAR: Fall	Hrs.
MUSC 0200	0
MUSC 5000-level Applied Lessons V	2
A 3000-level Ensemble	1
Upper division MUSC elective	3
USP COM3 Course	3
USP PN Course	3
A&S Core Diversity in the U.S. Course	3

SENIOR YEAR: Spring	Hrs.
MUSC 0200	0
MUSC 4590	2
MUSC 5000-level Applied Lessons V	2
A 3000-level Ensemble	1
Upper division MUSC elective	3
USP PN Course	3
A&S Core Global Awareness Course	3
Degree Total	***120***

Keyboard Emphasis:

FRESHMAN YEAR: Fall	Hrs.
MUSC 0200	0
MUSC 1030	3
MUSC 1035	1
MUSC 2000-level Applied Lessons II	2
MUSC 1280	1
USP COM1 Course	3
USP FYS Course	3
USP H Course	3

FRESHMAN YEAR: Spring	Hrs.
MUSC 0200	0
MUSC 1003	3
MUSC 1040	3
MUSC 1045	1
MUSC 2000-level Applied Lessons II	2
MUSC 1280	1
USP Q Course	3
USP H Course	3

SOPHOMORE YEAR: Fall	Hrs.
MUSC 0200	0
MUSC 2030	3
MUSC 2035	1
MUSC 2050	3
MUSC 3000-level Applied Lessons III	2
MUSC 1280	1
USP PN Course	3
USP V Course	3

SOPHOMORE YEAR: Spring	Hrs.
MUSC 0200	0
MUSC 2040	3
MUSC 2045	1
MUSC 2055	3
MUSC 2395	0
MUSC 3255	0
MUSC 3000-level Applied Lessons III	2
MUSC 1280	1
USP PN Course	3
USP COM2 Course	3

JUNIOR YEAR: Fall	Hrs.
MUSC 0200	0
MUSC 4070	3
MUSC 4600	2
MUSC 4000-level Applied Lessons IV	2
MUSC 3280	1
Upper division MUSC electives	6

JUNIOR YEAR: Spring	Hrs.
MUSC 0200	0
MUSC 3500	0
MUSC 4000-level Applied Lessons IV	2
MUSC 3280	1
Upper division MUSC electives	5
A&S Core Global Awareness Course	3
Elective	3

SENIOR YEAR: Fall	Hrs.
MUSC 0200	0
MUSC 4040	2
MUSC 4650	3
MUSC 5000-level Applied Lessons V	2
MUSC 3280	1
Upper division MUSC elective	3
USP COM3 Course	3

SENIOR YEAR: Spring	Hrs.
MUSC 0200	0
MUSC 4590	2
MUSC 5000-level Applied Lessons V	2
MUSC 3280	1
Upper division MUSC elective	3
A&S Core Diversity in the U.S. Course	3
Elective	3
Degree Total	***120***

Bachelor of Music Education

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

Learning Outcomes

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

At the completion of the Bachelor of Music Education degree, students will be able to: (1) demonstrate skill as solo and ensemble performers who can work as professional educators, (2) demonstrate specific knowledge in music theory, music history, and instrumental and vocal pedagogy to provide a basis for a professional career as a music educator, (3) demonstrate the ability to think, speak, and write clearly and effectively about the art of music, and (4) demonstrate the pedagogical background and teaching experience to function as effective K-12 music educators.

University and College Requirements

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

Bachelor of Music Education - Brass, Woodwind, & Percussion Emphasis

FRESHMAN YEAR: Fall		**Hrs.**
MUSC	0200	0
MUSC	1030	3
MUSC	1035	1
MUSC	1290	1
MUSC	1370	1
MUSC 2000-level Applied Lessons II		1
USP COM1 Course		3
USP FYS Course		3
USP H Course		3

FRESHMAN YEAR: Spring		**Hrs.**
MUSC	0200	0
MUSC	1003	3
MUSC	1025	2
MUSC	1040	3
MUSC	1045	1
MUSC	1295	1
MUSC 2000-level Applied Lessons II		1
A 1000-level Ensemble		1
USP Q Course		3

SOPHOMORE YEAR: Fall		**Hrs.**
MUSC	0200	0
MUSC	1340	1
MUSC	1352	2
MUSC	1360	1
MUSC	2030	3
MUSC	2035	1
MUSC	2050	3
MUSC	2290	1
MUSC 3000-level Applied Lessons III		1
A 1000-level Ensemble		1
USP COM2 Course		3

SOPHOMORE YEAR: Spring		**Hrs.**
MUSC	0200	0
MUSC	1312	2
MUSC	1332	2
MUSC	2040	3
MUSC	2045	1
MUSC	2055	3
MUSC	2295	1
MUSC	2395	0
MUSC	3255	0
MUSC	3265	0
MUSC 3000-level Applied Lessons III		1
A 1000-level Ensemble		1
USP V Course		3

JUNIOR YEAR: Fall		**Hrs.**
EDST	2450	3
MUSC	0200	0
MUSC	1322	2
MUSC	4070	3
MUSC	4455	3
MUSC	4705	1
MUSC	4750	1
MUSC 4000-level Applied Lessons IV		1
A 3000-level Ensemble		1

JUNIOR YEAR: Spring		**Hrs.**
EDEX	2484	3
MUSC	0200	0
MUSC	4380	2
MUSC	4460	3
MUSC	4620	1
MUSC	4780	2
MUSC 4000-level Applied Lessons IV		1
A 3000-level Ensemble		1
USP PN Course		3

SENIOR YEAR: Fall		**Hrs.**
MUSC	0200	0
MUSC	3015	3
MUSC	4155	0
MUSC	4465	3
MUSC	4715	1
MUSC 5000-level Applied Lessons V		2
A 3000-level Ensemble		1
USP PN Course		3

SENIOR YEAR: Spring*		**Hrs.**
MUSC	4700	8
MUSC	4710	8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total ***121***

Bachelor of Music Education - String Emphasis

FRESHMAN YEAR: Fall		**Hrs.**
MUSC	0200	0
MUSC	1030	3
MUSC	1035	1
MUSC	1290	1
MUSC 2000-level Applied Lessons II		1
A 1000-level Ensemble		1
USP COM1 Course		3
USP FYS Course		3

FRESHMAN YEAR: Spring		**Hrs.**
MUSC	0200	0
MUSC	1003	3
MUSC	1025	2
MUSC	1040	3
MUSC	1045	1
MUSC	1295	1
MUSC 2000-level Applied Lessons II		1
A 1000-level Ensemble		1
USP Q Course		3

SOPHOMORE YEAR: Fall		**Hrs.**
MUSC	0200	0
MUSC	1352	2
MUSC	1340	1
MUSC	1360	1
MUSC	2030	3
MUSC	2035	1
MUSC	2050	3
MUSC	2290	1
MUSC 3000-level Applied Lessons III		1
A 1000-level Ensemble		1
USP COM2 Course		3

SOPHOMORE YEAR: Spring		**Hrs.**
MUSC	0200	0
MUSC	1312	2
MUSC	1332	2
MUSC	2040	3
MUSC	2045	1
MUSC	2055	3
MUSC	2295	1
MUSC	2395	0
MUSC	3255	0
MUSC	3265	0
MUSC 3000-level Applied Lessons III		1
A 1000-level Ensemble		1
USP V Course		3

JUNIOR YEAR: Fall		**Hrs.**
EDST	2450	3
MUSC	0200	0
MUSC	1322	2
MUSC	4455	3
MUSC	4705	1
MUSC	4070	3
MUSC 1*** Second String Instrument		1
MUSC 4000-level Applied Lessons IV		1
A 3000-level Ensemble		1

JUNIOR YEAR: Spring **Hrs.**
EDEX 2484 3
MUSC 0200 0
MUSC 4460 3
MUSC 4620 1
MUSC 4780 2
MUSC 1*** Second String Instrument 1
MUSC 4000-level Applied Lessons IV 1
A 3000-level Ensemble 1
USP PN Course 3

SENIOR YEAR: Fall **Hrs.**
MUSC 0200 0
MUSC 3015 3
MUSC 4155 0
MUSC 4715 1
MUSC 4465 3
MUSC 5000-level Applied Lessons V 2
A 3000-level Ensemble 1
USP PN Course 3
USP H Course 3

SENIOR YEAR: Spring* **Hrs.**
MUSC 4700 8
MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total ***126***

Bachelor of Music Education - Vocal Emphasis

FRESHMAN YEAR: Fall **Hrs.**
MUSC 0200 0
MUSC 1030 3
MUSC 1035 1
MUSC 1290 1
MUSC 2320 2
MUSC 2270-06 1
A 1000-level Ensemble 1
USP COM1 Course 3
USP FYS Course 3

FRESHMAN YEAR: Spring **Hrs.**
MUSC 0200 0
MUSC 1003 3
MUSC 1025 2
MUSC 1040 3
MUSC 1045 1
MUSC 1295 1
MUSC 2000-level Applied Lessons II 1
A 1000-level Ensemble 1
USP Q Course 3

SOPHOMORE YEAR: Fall **Hrs.**
MUSC 0200 0
MUSC 1340 1
MUSC 1352 2
MUSC 1360 1
MUSC 2030 3
MUSC 2035 1
MUSC 2050 3
MUSC 2290 1
MUSC 3000-level Applied Lessons III 1
A 1000-level Ensemble 1
USP COM2 Course 3

SOPHOMORE YEAR: Spring **Hrs.**
MUSC 0200 0
MUSC 1312 2
MUSC 1332 2
MUSC 2040 3
MUSC 2045 1
MUSC 2055 3
MUSC 2295 1
MUSC 2395 0
MUSC 3255 0
MUSC 3265 0
MUSC 3000-level Applied Lessons III 1
A 1000-level Ensemble 1
USP V Course 3

JUNIOR YEAR: Fall **Hrs.**
EDST 2450 3
MUSC 0200 0
MUSC 1322 2
MUSC 4455 3
MUSC 4705 1
MUSC 4070 3
MUSC 4000-level Applied Lessons IV 1
A 3000-level Ensemble 1

JUNIOR YEAR: Spring **Hrs.**
EDEX 2484 3
MUSC 0200 0
MUSC 4460 3
MUSC 4620 1
MUSC 4790 2
MUSC 4000-level Applied Lessons IV 1
A 3000-level Ensemble 1
USP PN Course 3

SENIOR YEAR: Fall **Hrs.**
MUSC 0200 0
MUSC 3015 3
MUSC 4155 0
MUSC 4465 3
MUSC 4715 1
MUSC 5000-level Applied Lessons V 2
A 3000-level Ensemble 1
USP PN Course 3
USP H Course 3

SENIOR YEAR: Spring* **Hrs.**
MUSC 4700 8
MUSC 4710 8

*No other coursework may be taken during residency; requires 2.750 UW GPA and 3.000 GPA in major content courses.

Degree Total ***124***

Graduate Study

The Department of Music offers programs leading to the Master of Music in Performance and to the Master of Music Education.

The following prerequisites and credit hours will pertain to individual lessons for all the instruments and voice listed below. All students enrolled in MUSC 5080 through MUSC 5670 levels will be required to take a jury examination at the end of the semester to determine, in part, the final grade. (See current fee schedule for listing of fees in Individual Lessons.)

Program Specific Admission Requirements

In addition to the minimum requirements set forth in this *Catalog*, the Department of Music requires that applicants for graduate programs submit supplementary documentation of their preparation for advanced study in music.

Those interested in graduate study in music are encouraged to contact the Graduate Studies Coordinator for the Department of Music, Dr. Beth Vanderborgh (bvander@uwyo.edu), or the Area Coordinator for each instrument or voice cited on the Department of Music website (www.uwyo.edu/music/).

In order to apply, please submit the following via the University of Wyoming's online application system (www.uwyo.edu/admissions/apply.html):

- three letters of recommendation
- the Graduate Teaching Assistantship application
- academic transcripts

A minimum undergraduate cumulative GPA of 3.000 is required. The GRE is not required for admission consideration.

All accepted graduate students in the Mast of Music (MM) or Master of Music Education (MME) programs will take the Graduate Entrance Examinations in music history and music theory prior to matriculation. If a student does not pass one or more sections, they must take an online refresher course prior to undertaking advanced coursework.

International applicants who are not native English speakers must submit TOEFL or IELTS scores (TOEFL minimum = 76, IELTS minimum = 6.5). If an international applicant wishes to be considered for a Graduate Teaching Assistantship, the applicant should also submit the results of an Oral Proficiency Interview (OPI). Please contact the UW English Language Center if you have questions regarding the OPI (www.uwyo.edu/elc/international-teaching-assistants/graduate_admissions/index.html).

Applicants for the MM program should also request an audition and apply for music scholarship consideration via the Audition and Scholarships link found on the Graduate page of the Department of Music website (www.uwyo.edu/music/graduate_students/index.html). Applicants for the MME program should send their supporting documents (video of teaching/rehearsing, statement of music education philosophy, writing sample) directly to Dr. Crystal Sieger, Music Education Coordinator (csieger@uwyo.edu).

Master of Music Education

An earned, documented Bachelor of Music Education degree from an accredited institution of higher learning.
One year of teaching experience plus:
An active background in music education,
A DVD of classroom teaching and/or rehearsing,
A one- to three-page statement of music education philosophy,
Three letters of recommendation, one from an immediate supervisor, of teaching effectiveness.
A writing sample from an extensive undergraduate research paper.

Learning Outcomes

1. Students will demonstrate the advanced musical and pedagogical knowledge and research/writing skills necessary to enhance their teaching abilities in a P-16 vocal and/or instrumental teaching position.
2. Students will demonstrate the advanced musical and pedagogical knowledge and research/writing/and communication skills necessary to solve contemporary music problems.

Master of Music in Performance

An earned, documented bachelor of music performance or bachelor of arts from an accredited institution of higher learning.
Live audition (preferred), live remote video audition, or lnks to an online video demonstrating:
- A strong sense of musicality,
- Technical proficiency,
- Stylistically correct performance practices in at least three historical periods, where applicable,
- A working knowledge of the standard repertoire,
- Also, a portfolio of work showing concentrated activity on the major instrument or voice area.

Learning Outcomes

1. Graduate students will be excellent performers on voice or instrument.
2. Graduate students will demonstrate the advanced musical and pedagogical knowledge and research writing stills necessary to begin their professional performing career and/or demonstrate their readiness to teach at the college and/or university level and/or pursue doctoral degrees.

Program Specific Graduate Assistantships

Graduate assistantships are awarded on a competitive basis to defray some of the costs of graduate study and to provide practical experience working under the guidance of faculty members.

Criteria that are taken into account in awarding assistantships include: academic preparation, performing ability, and special skills that would prove valuable in carrying out the duties of the assistantship, as well as, needs of the department.

To be considered for a graduate assistantship, the candidate must be fully admitted through the university. The application for an assistantship is accessed via the UW Graduate Admissions application. After considering the merits of the application, the department then nominates candidates to the university. Applications for assistantships are due by February 15.

Program Specific Degree Requirements

Master's Programs

Each of the degree programs consists of 30 semester hours of work composed of the following elements:
Basic music core (11 hours)
- MUSC 5310. Bibliographical Research, 2 hours
- Upper-division music history, 3 to 6 hours
- Upper-division music theory, 3 to 6 hours

Major area courses (12-16 hours)
Thesis requirement (Plan A, four hours); (Plan B, zero hours)
- The thesis requirement may be fulfilled under the Plan B paper/lecture-recital as appropriate to the specific degree program. A proposal for a thesis or Plan B paper must be submitted to and approved by the student's graduate committee chair.

Electives (0 to 7 hours)

Master of Music Education
Plan A or Plan B

To earn a Master of Music Education, students must complete the following requirements:
Basic music core, (11 hours)
Major area courses (12 - 15 hours)
- EDRE 5530. Introduction to Research, 3 hours
- MUSC 5760. Music Education Seminar, 2 hours
- MUSC 5720. Music Supervision, 2 hours
- Music education electives, 5-8 hours
- Thesis requirement (0 to 4 hours)
- Plan A: MUSC 5960. Thesis Research, four hours (the thesis must be on a music education topic), or
- Plan B: Plan B paper, plus extra courses, 0 hours

Electives (4 to 7 hours)

Master of Music in Performance
Plan B

To earn a Master of Music in Performance, students must complete the following requirements:
Basic music core (11 hours minimum)
Major area courses (16 hours minimum)
- MUSC 5480-5670. Private Lessons in major instrument or voice. A minimum of 8 hours.
- MUSC 5770-5890. Ensembles, 2 hours
- MUSC 5680. Graduate Recital, 2 hours. A faculty jury must approve a recital given for credit one month prior to the performance. The faculty jury will determine the grade after the performance.
- MUSC 5390. Performance Practice and Interpretation, 2 hours
- MUSC 5320. Advanced Seminar, 3 hours
- MUSC 4***. Pedagogy (instrument

specific), 2 hours
Requirement in lieu of thesis:
Plan B paper, or 1-hour lecture-recital
Foreign language requirement (voice majors only). Singers must demonstrate acceptable proficiency in singing in Italian, German, French, and English.
Electives (0 to 3 hours)
Both degrees require successful completion of the written comprehensive exams, which cover theory, history, and the major area.

Music (MUSC)

Individual Lessons: All students enrolled in MUSC 2080 through MUSC 5670 levels will be required to take a jury examination at the end of the semester to determine, in part, the final grade. (See current fee schedule for listing of fees in individual lessons.)

Students must receive a "C" or better in all courses designated MUSC to satisfy department degree requirements. A student's transfer courses in music must also reflect a "C" or better to be accepted for credit.

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

0200. Music Convocation. 0. Weekly recital hour for student, faculty and guest performances. Offered satisfactory/unsatisfactory only. *Prerequisite:* intended for, and required of music majors.
Applied Lessons:
1080 through 1270 I. 1-2 (Max. 8).
2080 through 2270 II. 1-2 (Max. 8). *Prerequisite:* previous training proven with an audition or 2-4 semester hours of MUSC 1080 through MUSC 1270 on the same instrument.
3080 through 3270 III. 1-2 (Max. 8). *Prerequisite:* 2-4 semester hours of MUSC 2080 through MUSC 2270 on the same instrument.
4080 through 4270 IV. 1-2 (Max. 8). *Prerequisite:* 2-4 semester hours of MUSC 3080 through MUSC 3270 on the same instrument.
Majors begin at the 2000 level.
1080. Baritone Horn I
1090. Bassoon I
1100. Cello I
1110. Clarinet I
1120. Double Bass I
1130. Flute I
1140. French Horn I
1150. Guitar I
1160. Harp I
1170. Oboe I
1180. Organ I
1190. Percussion I
1200. Piano I
1210. Saxophone I
1220. Trombone I
1230. Trumpet I
1240. Tuba I
1250. Violin I
1260. Viola I
1270. Voice I
2080. Baritone Horn II
2090. Bassoon II
2100. Cello II
2110. Clarinet II
2120. Double Bass II
2130. Flute II
2140. French Horn II
2150. Guitar II
2160. Harp II
2170. Oboe II
2180. Organ II
2190. Percussion II
2200. Piano II
2210. Saxophone II
2220. Trombone II
2230. Trumpet II
2240. Tuba II
2250. Violin II
2260. Viola II
2270. Voice II
3080. Baritone Horn III
3090. Bassoon III
3100. Cello III
3110. Clarinet III
3120. Double Bass III
3130. Flute III
3140. French Horn III
3150. Guitar III
3160. Harp III
3170. Oboe III
3180. Organ III
3190. Percussion III
3200. Piano III
3210. Saxophone III
3220. Trombone III
3230. Trumpet III
3240. Tuba III
3250. Violin III
3260. Viola III
3270. Voice III
Prerequisites for the following courses: **2-**4 semester hours of MUSC 3080 through MUSC 3270 on the same instrument and satisfactory completion of MUSC 3255.
4080. Baritone Horn IV
4090. Bassoon IV
4100. Cello IV
4110. Clarinet IV
4120. Double Bass IV
4130. Flute IV
4140. French Horn IV
4150. Guitar IV
4160. Harp IV
4170. Oboe IV
4180. Organ IV
4190. Percussion IV
4200. Piano IV
4210. Saxophone IV
4220. Trombone IV
4230. Trumpet IV
4240. Tuba IV
4250. Violin IV
4260. Viola IV
4270. Voice IV
1000. Introduction to Music. 3. [CA◀▶H] Introduces music appreciation to students who have little or no musical training. Requires attendance at a specified number of public concerts.
1003. Historical Perspectives in Music I. 3. The first semester of a three semester sequence covering the study of composers and music repertoire from antiquity to 1600. *Prerequisite:* Music majors and minors, or by permission of the instructor.
1007. Hip-Hop/Pop Music Appreciation. 3. From Kool Herc, Notorious B.I.G, Van Halen, and Queen, all the way up to today's artists, students will learn to understand, discern, and truly appreciate hip-hop and popular music.
1010. Music Fundamentals. 3. To establish/review the foundation of the materials and structures of music theory fundamentals.
1025 [1020]. Introduction to Music Education. 2. Introduces music teacher education. Includes overview of vocal and instrumental music education and teaching processes in grade levels K-12. Requires on-site visits and observations of music programs. *Prerequisite:* music majors only. (Offered spring semester)
1030. Written Theory I. 3. First semester of a one-year series. Studies fundamentals of music and written harmony. *Prerequisite:* music majors/minors only.
1035. Aural Theory I. 1. First semester of a one-year series. Studies ear training and sight singing.
1040. Written Theory II. 3. Second semester of a one-year series. Studies fundamentals of music and written harmony. *Prerequisite:* MUSC 1030 and music majors/minors only.
1045. Aural Theory II. 1. Second semester of a one-year series. Studies ear training and sight singing. *Prerequisite:* MUSC 1035.
1280. Collaborative Piano I. 1-2 (Max. 8). Encompasses supervised practice in the art of collaborative piano playing. Discusses tradi-

tional usages as applicable to various schools and periods of vocal and instrumental duo literature. *Prerequisite*: audition required.

1290. Elementary Class Piano I. 1. Encompasses group instruction for the beginner at the keyboard. First semester of four-semester sequence. Enrollment limited to music or music education majors whose principal performance area is not piano. (Offered fall semester)

1295. Elementary Class Piano II. 1. Continues skills begun in MUSC 1290 including all major scales, beginning minor scales, prescribed chord progressions, harmonization, transposition, sight reading and repertoire. *Prerequisite:* MUSC 1290 or successful completion of final exam requirements for MUSC 1290. (Offered spring semester)

1310. Public School Methods: Brass I. 1 (Max. 2). Encompasses group instruction in brass instruments for music education majors. Instruments are supplied. *Prerequisites:* MUSC 1040, 1045.

1312. Publich School Tech: Brass. 2. This course is designed to teach the fundamentals of brass pedagogy and performance for music education majors. The course consists of two components applied study on brass instruments and study/discussion of current pedagogy and methods. Restricted to Music Education majors. *Prerequisites:* MUSC 1040, MUSC 1045.

1315. Public School Methods: Brass II. 1 (Max. 2). Encompasses group instruction in brass instruments for music education majors. Instruments are supplied. *Prerequisites:* MUSC 1040, 1045.

1320. Public School Methods: Percussion I. 1 (Max. 2). Encompasses group instruction in percussion instruments for music education majors. Instruments are supplied. *Prerequisites:* MUSC 1040, 1045.

1322. Public School Tech: Percussion. 2. This course is designed to teach the fundamentals of percussion pedagogy and performance for music education majors. The course consists of two components applied study on percussion instruments and study/discussion of current pedagogy and methods. Restricted to Music Education majors. *Prerequisites:* MUSC 1040, MUSC 1045.

1325. Public School Methods: Percussion II. 1 (Max. 2). Encompasses group instruction in percussion instruments for music education majors. Instruments are supplied. *Prerequisites:* MUSC 1040, 1045.

1330. Public School Methods: Strings I. 1 (Max. 2). Encompasses group instruction in string instruments for music education majors. Instruments are supplied. *Prerequisites:* MUSC 1040, 1045.

1332. Public School Tech: Strings. 2. This course is designed to teach the fundamentals of string pedagogy and performance for music education majors. The course consists of two components applied study on string instruments and study/discussion of current pedagogy and methods. Restricted to Music Education majors. *Prerequisites:* MUSC 1040, MUSC 1045.

1335. Public School Methods: Strings II. 1 (Max. 2). Encompasses group instruction in string instruments for music education majors. Instruments are supplied. *Prerequisites:* MUSC 1040, 1045.

1340. Public School Methods: Voice I. 1 (Max. 2). Encompasses group instruction in vocal methods for music education majors. *Prerequisites:* MUSC 1040, 1045.

1350. Public School Methods: Woodwinds I. 1 (Max. 2). Encompasses group instruction in woodwind methods for music education majors. Instruments are supplied. *Prerequisites:* MUSC 1040, 1045.

1352. Public School Tech: Woodwinds. 2. This course is designed to teach the fundamentals of woodwind pedagogy and performance for music education majors. The course consists of two components applied study on woodwind instruments and study/discussion of current pedagogy and methods. Restricted to Music Education majors. *Prerequisites:* MUSC 1040, MUSC 1045.

1355. Public School Methods: Woodwinds II. 1 (Max. 2). Encompasses group instruction in woodwind methods for music education majors. Instruments are supplied. *Prerequisites:* MUSC 1040, 1045.

1360. Public School Methods: Guitar. 1 (Max. 2). Encompasses group instruction in guitar for music education majors. Instruments are supplied. *Prerequisites:* MUSC 1040, 1045.

1370, 1375, 1380, 1390, 1400, 1420, 1430, 1440, 1450, 1460, 1470, 1480, 1490. Ensembles. Maximum of 14 semester hours may be used toward the bachelor's degree from any combination of these courses. Music majors must play in one ensemble each semester in residence. Scholarship recipients must play in two ensembles each semester in residence.

1370. Marching Band. 1 (Max. 8). Fall semester: marching band.

1375. Symphonic Band. 1 (Max. 8). *Prerequisite:* players are selected by audition. Auditions will take place the first week of classes.

1380. Wind Ensemble. 1 (Max. 8). [CA◀▶(none)] *Prerequisite:* players are selected by audition from the university band.

1390. Jazz Ensemble. 1 (Max. 8). [(none)◀▶H] Preparation and performance in a select jazz ensemble of the finest in standard jazz ensemble repertory and contemporary compositions by living jazz artists. Prerequisites: audition required; restricted to freshmen and sophomores.

1400. Collegiate Chorale I. 1 (Max. 12). [CA◀▶H] Will provide the committed singer with outstanding performing experiences ranging from major choral masterworks to masterpieces of the *a cappella* tradition, both sacred and secular. The choir is a professional training ensemble, and each student will explore a variety of vocal techniques for development. *Prerequisite*: Audition required.

1405. The UW Singing Statesmen I. 1 (Max 12). [(none)◀▶H] Will provide all levels of singer with the rich tradition of male ensemble singing. Students will solidify basic musicianship skills and vocal technique while experiencing camaraderie and service to the region. This ensemble is open to both music majors and non-music majors without audition.

1407. Happy Jacks I. 1 (Max 12). Student-led male *a cappella* ensemble that sings contemporary, jazz, and traditional repertoire. The ensemble travels regularly to promote male singing through concerts and school workshops. *Prerequisites*: Audition required. Co-requisite: enrollment in The UW Singing Statesmen.

1411. Vocal Jazz I. 1 (Max 12). Sings standard repertory from various jazz traditions, often with rhythm section. Focus on building musical skill and literacy in the jazz idiom. *Prerequisites*: Audition required.

1415. Bel Canto Women's Chorus. 1 (Max 12). [(none)◀▶H] Builds community through score study and the development of fundamental musicianship skills, including sight singing, ear training, and vocal technique. This ensemble is open to both music majors and non-music majors without audition.

1417. Laramie Civic Chorus I. 1 (Max 12). [(none)◀▶H] Welcomes students, faculty, and community members. Repertoire includes musical works from a multiplicity of style periods and genres in both Western and non-Western traditions and includes regular collaboration with the UW Symphony Orchestra for major choral works. *Prerequisites*: Audition required.

1420. Opera Theatre. 1 (Max. 8).

1430. Symphony Orchestra I. 1 (Max. 8). [CA◀▶H] The premier orchestral ensemble in the Department of Music. Participation in this ensemble prepares students to perform some

of the great symphonic literature from a wide variety of musical periods. Prerequisite: audition only, freshmen and sophomores.

1440. Chamber Orchestra I. 1 (Max. 8). Devoted to the rehearsal and performance of masterpieces from the chamber orchestra repertoire. Students in the 1440 level of Chamber Orchestra will be expected to have a competent level of proficiency on their parts.

1450. Percussion Ensemble. 1 (Max. 8). Present concerts that represent the literature and techniques of this growing genre in music.

1460. Brass Ensemble. 1 (Max. 8). The University of Wyoming Brass Ensemble is a course devoted to the rehearsal and performance of masterpieces from the brass chamber repertoire. Students in the 1460 level of Brass Ensemble will be expected to have a competent level of proficiency on their parts.

1470. Woodwind Ensemble. 1 (Max. 8). Preparation and performance in a select woodwind chamber ensemble of the finest standard and contemporary wind ensemble literature. Enrollment is restricted freshmen and sophomores. Prerequisite: audition required.

1480. Chamber Music I. 1 (Max. 8). Designed to provide students with training in the ideal medium of chamber music (small ensembles, such as trio, string quartet, etc.), where they can apply and integrate all elements of their musical knowledge. These include but are not limited to rhythm, intonation, tone-production, blend, musical interpretation, concept of style, etc. *Prerequisite:* audition required.

2030. Written Theory III. 3. First semester of a one-year series. Studies chromatic harmony, contrapuntal techniques and twentieth-century practices. *Prerequisites:* MUSC 1030 and 1040.

2035. Aural Theory III. 1. First semester of a one-year series. Continues MUSC 1035 and 1045. *Prerequisites:* MUSC 1035 and 1045.

2040. Written Theory IV. 3. Fourth semester of a two-year series. Explores the instruments of the band and orchestra, and the capabilities of writing for voices and piano. Arranging for various instrumental combinations and vocal ensembles. *Prerequisite:* MUSC 2030.

2045. Aural Theory IV. 1. Second semester of a one-year series. Continues MUSC 1035 and 1045. *Prerequisite:* MUSC 2035.

2050. Historical Perspectives in Music II. 3. Continuation of materials and topics covered in Historical Perspectives in Music I. Study of composers and repertoire from 1600-ca. to 1800. *Prerequisite:* MUSC 1003, or by permission of instructor..

2055. Historical Survey II. 3 (Max. 6). Second semester of one-year series. Studies history and literature of music from the Classical Era to present. *Prerequisite:* ability to read music.

2290. Elementary Class Piano III. 1. Third semester of four-semester sequence developing further piano skills for non-pianists. Involves prescribed scales, arpeggios, harmonizations, chord progressions, transpositions, sight-reading and repertoire. *Prerequisite:* MUSC 1295 or successful completion of final exam for MUSC 1295. (Normally offered fall semester)

2295. Elementary Class Piano IV. 1. Final semester of four-semester sequence of piano skills for non-pianists in which the final exam is the departmental piano proficiency exam. *Prerequisite:* MUSC 2290 or successful completion of the final exams for preceding courses. (Normally offered spring semester)

2320. Diction for Singers I. 2. Studies phonetic sounds of English and Italian. (Offered fall semester)

2325. Diction for Singers II. 2. Studies phonetic sounds of French and German. (Usually offered spring semester)

2395. Piano Proficiency. 0. Piano proficiency test is offered at the end of each fall and spring semester. Students may enroll in MUSC 2395 a maximum of 2 times. Consult the Music Department Handbook for specific requirements. Offered satisfactory/unsatisfactory only.

3015 [2015]. Introduction to the Music of the World's Peoples. 3. [WB,G◀▶(none)] Students develop three primary interconnected literacies for the study and understanding of musics of other cultures: analytical music listening, understanding the concept of music culture, and interpretation of musical events. Student writing is a primary tool for developing these literacies. Texts from the Oxford University Press Global Music Series to study musics of Africa, Indonesia, India, and Eastern Europe are used. Cross listed with ANTH 3015. *Prerequisites:* MUSC 1000 or permission of instructor and WA.

3025. Jazz Theory and Improvisation II. 2. Continuation of Jazz Theory and Improvisation I, MUSC 3020. More advanced topics will be covered and more challenging repertoire will be explored. A strong emphasis will be placed on common practice techniques in mainstream jazz. *Prerequisite:* MUSC 3020.

3255. Sophomore Qualifying Performance Jury. 0. An extended performance jury at the end of the sophomore year. Music majors may not continue to 4000-level lessons without successful completion of the sophomore jury. Transfer students with junior standing must take the jury at the end of their first semester in residence. Contact your studio teacher for the individual Sophomore Jury requirements. Students may register for this course up to 2 times. Offered satisfactory/unsatisfactory only. *Prerequisites:* 4 semesters of private instruction, consent of instructor.

3265. Music Education Proficiency Review. 0. This course is required for entrance into upper-division Music Education coursework. The review will assess competency in oral and written communication skills, preliminary teacher performance, sight singing, and error detection. Completion is in the sophomore year or in the first semester for transfer students. Offered satisfactory/unsatisfactory only. *Prerequisite:* sophomore standing.

3280. Collaborative Piano II. 1-2 (Max 8). Encompasses supervised practice in the art of collaborative piano playing. Discusses traditional usages as applicable to various schools and periods of vocal and instrumental duo literature. *Prerequisite:* audition required.

3315. Teaching Violin to Children I. 2. This course covers knowledge and skills needed to guide a young violinist's progress through the beginning stages, including preparing students and parents for the first lesson, establishing foundational instrumental skills; developing pulse, pitch and rhythm reading; exploration of Suzuki philosophy and the pedagogy of Rolland; supplemental repertoire and more. *Prerequisite:* Current enrollment as a Music Education or Music Performance major with violin or viola as the main instrument. Open to freshmen and sophomores with permission of instructor.

3325. Teaching Violin to Children II. 2. TVC 2 goes into more depth about the educational process of the young violinist or violist. Particularly important is the introduction of shifting and vibrato. Opportunities to observe lessons and groups with professional teachers and gain hands on experience by giving 'helper lessons' will be included. *Prerequisite:* MUSC 3315, current enrollment as a Music Education or Music Performance major with violin or viola as the main instrument. Open to freshmen and sophomores with permission of the instructor.

3380. Wind Ensemble II. 1 (Max. 8). Preparation and performance in a select concert band of the finest in contemporary and classic wind and percussion repertory. *Prerequisites:* audition required, MUSC 1380 or equivalent and junior standing.

3385. World Music Ensemble. 1 (Max 6). Participate fully in music making in Sikuris de Wyoming, the Wyoming Gamelan Candra Wyoga, or the Laramie Irish tune session. These group music-making opportunities are distinctly different from other leader-focused ensembles offered in the Department of Music. *Prerequisites*: MUSC 1000 or MUSC 1003.

3390. Jazz Ensemble II. 1 (Max. 8). [(none)◀▶H] Preparation and performance in a select jazz ensemble of the finest in jazz repertory. *Prerequisites:* audition required, MUSC 1390 or equivalent and junior standing.

3400. Collegiate Chorale II. 1 (Max. 12). [(none)◀▶H] Provide the advanced and committed singer with outstanding performing experiences ranging from major choral masterworks to masterpieces of the *a cappella* tradition, both sacred and secular. The choir is a professional training ensemble and students may be asked to take on leadership roles. Commitment of time to advance the excellence and public awareness of the ensemble will be required. *Prerequisites:* audition required, and junior standing or above.

3405. UW Singing Statesmen II. 1 (Max 12). [(none)◀▶H] Provides all levels of singer with the rich tradition of male ensemble singing. Solidify basic musicianship skills and vocal technique while experiencing camaraderie and service to the region. May be asked to take on leadership roles to advance public awareness. Open to music majors and non-music majors without audition. *Prerequisite*: Junior standing or above.

3407. Happy Jacks II. 1 (Max 12). Student-led male *a cappella* ensemble that sings contemporary, jazz, and traditional repertoire. Upperclass students may be asked to take on leadership roles. Ensemble travels regularly to promote male singing through concerts and school workshops. *Prerequisites*: Audition only. Co-requisite: enrollment in The UW Singing Statesmen.

3411. Vocal Jazz II. 1 (Max 12). Sings standard repertory from various jazz traditions, often with rhythm section. Focus on building musical skill and literacy in the jazz idiom. Students may be asked to take on leadership roles. *Prerequisites*: Audition required. Junior standing or above.

3415. Bel Canto Women's Chorus II. 1 (Max 12). [(none)◀▶H] Builds community through score study and the development of fundamental musicianship skills, including sight singing, ear training, and vocal technique. May be asked to take on leadership roles. This ensemble is open to music majors and non-music majors without audition. *Prerequisite*: Junior standing or above.

3417. Laramie Civic Chorus II. 1 (Max 12). [(none)◀▶H] Welcomes students, faculty, and community members. Repertoire includes musical works from a multiplicity of style periods and genres in both Western and non-Western traditions and includes regular collaboration with the UW Symphony Orchestra for major choral works. Students may be asked to take on leadership roles. *Prerequisite*: Junior standing or above; audition required.

3430. Symphony Orchestra II. 1 (Max. 8). [(none)◀▶H] Preparation and performance in a select symphony orchestra of the finest in orchestral repertory. *Prerequisites:* audition required, MUSC 1430 or equivalent and junior standing.

3440. Chamber Orchestra II. 1 (Max. 8). Devoted to the rehearsal and performance of masterpieces from the chamber orchestra repertoire. Students in the 3440 level of Chamber Orchestra will be expected to have a competent level of proficiency on their parts.

3450. Percussion Ensemble II. 1 (Max. 8). A chamber music ensemble, performing repertoire which encompasses classical percussion literature, ethnic drumming styles, and steel drum ensemble. Designed for the advanced undergraduate who has normally attained a higher level of technical ability in percussion by their junior/senior year. *Prerequisites:* four semesters of MUSC 1450 or equivalent and junior standing.

3460. Brass Ensemble II. 1. The University of Wyoming Brass Ensemble is a course devoted to the rehearsal and performance of masterpieces from the brass chamber repertoire. Students in the 3460 level of Brass Ensemble will be expected to have a competent level of proficiency on their parts and assume leadership roles in the ensemble.

3470. Woodwind Ensemble II. 1 (Max. 8). Preparation and performance in a select woodwind chamber ensemble of the finest standard and contemporary wind ensemble literature. Enrollment is restricted to juniors and seniors. *Prerequisites:* audition required; MUSC 1470, and junior standing.

3480. Chamber Music II. 1. [CA◀▶(none)] Designed to provide students with training in the ideal medium of chamber music (small ensembles, such as trio, string quartet, etc.), where they can apply and integrate all elements of their musical knowledge. These include but not limited to rhythm, intonation, tone-production, blend, musical interpretation, concept of style, etc. *Prerequisites:* consent of instructor; MUSC 1480 and junior standing.

3490. Piano Ensemble II. 1 (Max 8). Training in the medium of piano duo and piano duet repertoire, apply and integrate all elements of musical knowledge. These include but are not limited to rhythm, tone-production, musical interpretation, concept of style, etc. *Prerequisites*: consent of instructor; Audition required. Juniors or Seniors.

3500. Junior Recital. 0. Students will perform a 30 minute (minimum) recital of appropriate repertoire. Consult your studio teacher for individual studio requirements. Offered satisfactory/unsatisfactory only. *Prerequisites:* 4 semesters of private instruction, consent of instructor.

4000. Careers in Music. 2. Expands the student's understanding of the range of careers in the professional music world. Covers the concepts of marketing, performance, teaching, recording, technology, venue management, and fundraising. *Prerequisite:* MUSC 1000 or MUSC 1003.

4020. Jazz Theory and Improvisation III. 2. Continuation of Jazz Theory and Improvisation II, MUSC 3025. Students will learn the harmonic and melodic language of bebop and hard bop through performance and composition of tunes in these idioms. *Prerequisite:* MUSC 3025.

4025. Jazz Theory and Improvisation IV. 2. Continuation of Jazz Theory and Improvisation III, MUSC 4020. Students explore developments in jazz improvisation and composition since 1960. Advanced theoretical concepts are covered in lectures and workshop sessions. *Prerequisite:* MUSC 4020.

4040. Composition. 2 (Max. 12). Encompasses original work in construction of smaller forms. For graduate credit, students must present extra paper or project determined by instructor. *Prerequisite:* MUSC 4010.

4050. Advanced Studies in World Music. 3. Focuses on music-making and cultures of three musical traditions from around the world. *Prerequisite:* MUSC 3015.

4060. Applied Composition Lessons. 1-2 (max. 12). Students meet on a weekly basis with the instructor and work on individual composition projects and exercises. Students will be required to take a juried portfolio examination at the end of the semester to determine, in part, the final grade. *Prerequisite:* Previous training proven with a portfolio/audition or MUSC 4040.

4070. Conducting. 3. Examines basic techniques of baton, score reading, familiarization with standard works, practical experience in directing choral and instrumental groups. For graduate credit, students must present extra paper or project determined by instructor. *Prerequisites:* MUSC 2030, 2035, 2040 and 2045.

4155. Senior Music Education Recital. 0. Music Education students perform a recital which may be a part of a Convocation or a separate performance. Consult your studio teacher for individual studio requirements.

Offered satisfactory/unsatisfactory only. *Prerequisites:* senior standing and studio teacher consent.

4255. Elementary and Secondary Methods: Practicum. 2. Part of Phase IIIa of the music teacher education program. Practicum experience is integral to MUSC 4265 and must be taken concurrently. *Prerequisites:* 2.750 cumulative GPA, successful completion of all music and professional education courses and concurrent enrollment in MUSC 4265. (Offered fall semester)

4265. Elementary and Secondary Music Teaching Methods. 8. [(none)◀▶COM3] Comprised of content and pedagogy in Music. Must be taken in the same semester as the 2 semester hour course, MUSC 4255. *Prerequisites:* 2.750 minimum cumulative GPA, 2.750 GPA in major, successful completion of all music and professional education courses and concurrent enrollment in MUSC 4255. (Offered fall semester).

4310. Choral Arranging. 2. Teaches working techniques of arranging for the voice in varied combinations of choral ensembles. For graduate credit, students must present extra paper or project determined by instructor. *Prerequisites:* MUSC 2030 and 2035.

4315 [3000]. America's Ethnic Music. 3. [CA,D◀▶(none)] Surveys music of ethnic groups in America. *Prerequisite:* MUSC 1000.

4330. The Baroque Period. 3. [(none)◀▶COM3] Studies origins of Baroque literature. For graduate credit, students must present extra paper or project determined by instructor. *Prerequisites:* MUSC 2050 and 2055.

4335. The Classical Period. 3. Encompasses concentrated survey and style analysis of classical period's music. For graduate credit, students must present extra paper or project determined by instructor. *Prerequisites:* MUSC 2050 and 2055.

4340. The Romantic Period. 3. [CA◀▶COM3] Surveys romantic musical literature. For graduate credit, students must present extra paper or project to be determined by instructor. *Prerequisites:* MUSC 2050 and 2055.

4345. Contemporary Period. 3. Surveys styles and composers of contemporary period. For graduate credit, students must present extra paper or project determined by instructor. *Prerequisites:* MUSC 2050 and 2055.

4350. History and Literature of Jazz. 3. [(none)◀▶H]Surveys details of American jazz music from the turn of the 20th century to present. Acquaints students with basic jazz materials, techniques and styles, as well as work of selected jazz masters. For graduate credit, students must present extra paper or project determined by instructor. *Prerequisite:* consent of instructor.

4380. Jazz Techniques. 2 (Max. 2). Surveys jazz structure, styles, techniques and materials with respect to public school music programs. Intended for music education major. *Prerequisite:* MUSC 2035. (Offered spring semester)

4400. Vocal Literature. 1/2-2 (Max. 6). Studies solo materials from Renaissance to present, emphasizing style and interpretation. *Prerequisite:* 4 semester hours of voice.

4455. Elem General Music Methods. 3. This course is designed to prepare students for a career in K-6 music teaching while emphasizing the need for music teachers to recognize diverse student needs, including those unique qualities brought into the classroom by marginalized populations. Restricted to Music Education majors. *Prerequisites:* Completion of MUSC 2040, MUSC 2045 and MUSC 2055. Concurrent enrollment in MUSC 4705.

4460. Choral Music Methods. 3. This course is designed to help pre-professional music educators gain tools for teaching secondary choral music. Topics to be explored include choral literature, methodology involving strengthening musicianship, rehearsal techniques, and issues pertaining to the development of a choral ensemble program. Restricted to Music Education majors. *Prerequisites:* Completion of MUSC 2040, MUSC 2045 and MUSC 2055. Concurrent Enrollment in MUSC 4715 for choral emphasis students.

4465. Instrumental Music Methods. 3. Based on a comprehensive instrumental music education model, this course acquaints students with curriculum development, instructional planning, and materials and techniques designed for teaching musical concepts and skills in instrumental ensemble and class lesson settings. Restricted to Music Education majors. *Prerequisites:* Completion of MUSC 2040, MUSC 2045 and MUSC 2055. Concurrent enrollment in MUSC 4715 for instrumental emphasis students.

4490. History of Rock and Roll. 3. [(none)◀▶H] This course will examine music styles prior to rock and roll and then delve into the various styles of the music from the 1950s to the late 20th century. In order to understand rock and roll music the course will analyze other styles of popular music in the United States.

4500. Directed Independent Study-Undergraduate. 1-2 (Max. 4). *Prerequisite:* consent of department head.

4510, 4520, 4530, 4560. Applied Music Methods and Materials. Courses taken in the form of private lessons and subject to similar fees. See individual descriptions below. *Prerequisite:* at least 16 semester hours in one performance field and/or consent of instructor.

4510. Brass Instruments. ($85 Fee) 1 (Max.2).

4520. Organ. ($85 Fee) 1 (Max. 2).

4530. Piano. ($85 Fee) 1 (Max. 2).

4560. Voice. ($100 Fee) 1 (Max. 2).

4590. Senior Recital. 2 (Max. 4). *Prerequisites:* at least 14 semester hours in one performance field and senior standing.

4615. Instrumental Pedagogy. 0.5-2 (Max. 3). Surveys teaching materials in solo and chamber literature, techniques, practices, and methods for applicable instrument. *Prerequisite:* 8 credit hours of individual study in a specific instrument.

4620. Practicum in Music Education. 1. Provides opportunity to gain experience in music classroom in area public schools. Includes work on meeting educational standards of Wyoming necessary to begin student teaching and continued work on developing a teaching portfolio. *Prerequisites:* MUSC 1050 and junior status.

4625 [4600]. Piano Pedagogy. 2 (Max. 2). This specialized course addresses the teaching of piano to children with special emphasis on the development of correct technique, studio teaching techniques, student learning styles, repertoire assignment, and all aspects of establishing a private studio. The last quarter of the class includes an in-class, supervised teaching unit. Dual listed with MUSC 5625. *Prerequisite:* 8 credit hours of piano study.

4635 [4610]. Vocal Pedagogy. 2. This specialized course addresses anatomy and physiology of the vocal instrument and the scientific principles surrounding it, studio teaching techniques, student learning styles, repertoire assignment, and all aspects of establishing a private voice studio. The last quarter of the class includes an in-class, supervised teaching unit. Students enrolled in the graduate level (5635) will undertake an extensive research paper/project and additional teaching. Dual listed with MUSC 5635. *Prerequisite:* 8 credits of voice or permission of instructor. (Offered alternate spring semesters)

4650. Keyboard Literature. 3. An overview of solo ensemble keyboard literature from the 1600s to the present, focusing on major composers and common compositional forms. Includes listening assignments and examinations as well as individual research papers and class presentations. *Prerequisites:* MUSC 2050 and 2055.

4651. String Solo Literature. 3. Provide a survey of the masterpieces of string solo literature (violin,viola, cello and bass literature)

in a historical and musical context. Includes listening assignments and examinations as well as class presentations. *Prerequisites*: 8 hours of lessons in string instruments.

4652. Chamber Music Literature. 3. Provide a survey of the masterpieces of chamber literature in a historical and musical context. Includes listening assignments and examinations as well as class presentations. *Prerequisites*: MUSC 2050 and MUSC 2055 or permission of instructor.

4700. Elementary Student Teaching in Music. 8. The final professional academic semester of the teacher education program. A full-time residency with an elementary mentor teacher. Offered Satisfactory/Unsatisfactory only. *Prerequisites:* 2.750 cumulative GPA, 3.000 GPA in major content courses, completion of all content courses, successful completion of Phase IIIa specific pedagogy and practicum, complete review of the prospective teacher's record.

4705. Elementary Music Ed Practicum. 1. Practicum experience is integral to development as a music teacher. As part of the Music Teaching Methods Sequence, pre-service music teachers will be immersed into authentic elementary and secondary music settings. Restricted to Music Education majors. *Prerequisite:* Concurrent enrollment with MUSC 4455 for instrumental emphasis students.

4710. Secondary Student Teaching in Music. 8. The final professional academic semester of the teacher education program. A full-time residency with a secondary mentor teacher. Offered. Satisfactory/Unsatisfactory only. *Prerequisites:* 2.750 cumulative GPA, 3.000 GPA in major content courses, completion of all content courses, successful completion of Phase IIIa specific pedagogy and practicum, complete review of the prospective teacher's record.

4715. Secondary Music Ed Practicum. 1. Practicum experience is integral to development as a music teacher. As part of the Music Teaching Methods Sequence, pre-service music teachers will be immersed into authentic elementary and secondary music settings. Restricted to Music Education majors. *Prerequisite:* Concurrent enrollment with MUSC 4460 or MUSC 4465.

4750. Marching Band Techniques. 1. Applies specific various drill design techniques including corps style, military, show band and computer applications.

4780. Instrumental Conducting and Repertory. 2. Applies specific basic conducting techniques to instrumental group rehearsals concerning such problems as intonation, phrasing, dynamics, balance, etc. Overviews appropriate selection procedures for band and orchestral literature. *Prerequisite:* MUSC 4070 and 2395.

4790. Choral Conducting and Repertory. 2. Applies specific basic conducting techniques to choral group rehearsals concerning such problems as intonation, good vocal production, phrasing, diction, dynamics, balance, etc. Overviews appropriate choral literature. *Prerequisite:* MUSC 4070 and passed piano proficiency requirement.

4990. Topics in _____. 1-12 (Max. 12). Encompasses various topics in music. Specific subjects vary from year to year as course is often taught by distinguished visiting artists and lecturers or music faculty. Presents topics of special interest to music majors, graduate students and music educators. Please check class schedule for course titles each semester. *Prerequisite:* consent of instructor.

5010. Mentoring the Pre-Service Music Educator. 1 (Max. 4). Designed for K-12 supervisors of pre-service music teachers, the goal of the course is to provide guidance and theoretical grounding through readings, discussion, journaling, and research projects. Participants will participate in two on-site workshops, weekly tele-conferences and complete a written research project. *Prerequisite:* consent of instructor.

5030. Advanced Theory I. 3. First semester of a one-year course. Analysis of, and practice in, the more recent harmonic idioms with advanced aural and keyboard harmony. *Prerequisite:* MUSC 2030, 2035.

5080. Baritone Horn V. 1-2 (Max. 8). *Prerequisite:* 2-4 semester hours of MUSC 4080 on the same instrument or graduate standing.

5090. Bassoon V. 1-2 (Max. 8).

5100. Cello V. 1-2 (Max. 8).

5110. Clarinet V. 1-2 (Max. 8).

5120. Double Bass V. 1-2 (Max. 8).

5130. Flute V. 1-2 (Max. 8).

5140. French Horn V. 1-2 (Max. 8).

5150. Guitar V. 1-2 (Max. 8).

5160. Harp V. 1-2 (Max. 8).

5170. Oboe V. 1-2 (Max. 8).

5180. Organ V. 1-2 (Max. 8).

5190. Percussion V. 1-2 (Max. 8).

5200. Piano V. 1-2 (Max. 8).

5210. Saxophone V. 1-2 (Max. 8).

5220. Trombone V. 1-2 (Max. 8).

5230. Trumpet V. 1-2 (Max. 8).

5240. Tuba V. 1-2 (Max. 8).

5250. Violin V. 1-2 (Max. 8).

5260. Viola V. 1-2 (Max. 8).

5270. Voice V. 1-2 (Max. 8).

5310. Music Research Methods. 2. Prepares students to be knowledgeable consumers of music and interdisciplinary information. Topics include the musicology research process, information ethics, and critical analyses and integration of information sources into writing. Information literacy principles and research techniques equip students for both graduate-level music research and the post-graduate, professional world. *Prerequisite:* graduate standing in music.

5315. Advanced Instruction in String Teaching I. 2. This course, designed for graduate students, covers the knowledge and skills needed to guide a young violinist's progress through the beginning stages. Establishing foundational instrumental skills; developing pulse, pitch and rhythm reading; exploration of Suzuki philosophy and the pedagogy of Rolland will be icluded. Graduate students will be expected to do an in depth exploration of supplemental repertoire, organize a class exploration of string pedagogy and complete a project based on an assigned parenting resource. *Prerequisite:* Current enrollment as a Music Education or Music Performance major with violin or viola as the main instrument.

5320. Advanced Seminar. 2-6 (Max. 6). Such topics as The Music of J.S. Bach, The Chamber Music of Mozart, and Contemporary Music will be pursued and will terminate in oral reports and a research paper. *Prerequisite:* MUSC 5310.

5325. Advanced Instruction in String Teaching II. 2. Designed for graduate students, this semester of NAIS goes into more depth about the educational process of the young violinist or violist. Particularly important is the introduction of shifting and vibrato. Opportunities to observe lessons and groups with professional teachers and gain hand on experience by giving 'helper lessons' will be included. Graduate students will team teach vibrato and give a presentation on parent/child relationships and interactions based on assigned readings. *Prerequisite:* MUSC 5315, current enrollment as a Music Education or Music Performance major with violin or viola as the main instrument.

5340. Advanced Composition. 1-4 (Max. 6). A project course to be conducted by individual appointment with the instructor. The result should be the production of a major work suitable for performance by one of the campus organizations. Evaluation is made by a faculty committee on completion and performance of the composition. *Prerequisite:* 4 hours of MUSC 4040.

5350. Advanced Analysis. 3. Consideration of the analytical techniques of Harder, Piston, and Schillinger for traditional music, of Han-

son and Hindemith for modern tonal music, and of Schoenberg and Reti for serial music. *Prerequisite:* graduate standing in music.

5360. Pedagogy of Theory. 2. Consideration of the subject matter of all undergraduate theory courses, procedures for presenting the material, and analysis and evaluation of texts and methods. *Prerequisite:* graduate standing in music.

5370. Advanced Choral Conducting. 1-2 (Max. 3). The interpretation of well-known oratories and cantatas; experience in the direction of campus choral groups. *Prerequisite:* MUSC 4070, 4790.

5380. Advanced Instrumental Conducting. 1-2 (Max. 3). Interpretive analysis of instrumental works in large form; experience in the direction of campus performing groups. *Prerequisite:* MUSC 4070, 4780.

5390. Performance Practice and Interpretation. 2. A study of the inherited traditions of correct interpretation and performance as related to the various style periods in music. *Prerequisite:* graduate standing in music.

5400. Independent Study and Research. 1-2 (Max. 6). *Prerequisite:* graduate standing and consent of instructor.

5410. History of Musical Instruments. 2. An investigation of the mechanical evaluation of musical instruments as related to the music written for these instruments. *Prerequisite:* graduate standing in music.

5480. Baritone Horn VI. 1-2 (Max. 8).

5490. Bassoon VI. 1-2 (Max. 8).

5500. Cello VI. 1-2 (Max. 8).

5510. Clarinet VI. 1-2 (Max. 8).

5520. Double Bass VI. 1-2 (Max. 8). Covers appropriate technical and repertory materials in graduate-level double bass. A faculty jury will review each semester's work. *Prerequisite:* graduate standing in music.

5530. Flute VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level flute. A faculty jury will review each semester's work. *Prerequisite*: graduate standing in music.

5540. Guitar VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level guitar. A faculty jury will review each semester's work. *Prerequisite:* graduate standing in music.

5550. Harp VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level harp. A faculty jury will review each semester's work. *Prerequisite:* graduate standing in music.

5560. French Horn VI. 1-2 (Max. 8). *Prerequisite:* 4 semester hours of MUSC 4560 or graduate standing.

5570. Oboe VI. 1-2 (Max. 8). *Prerequisite:* 4 semester hours of MUSC 4570 or graduate standing.

5580. Organ VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate- level organ. A faculty jury will review each semester's work. *Prerequisite:* graduate standing in music.

5590. Percussion VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level percussion. A faculty jury will review each semester's work. *Prerequisite:* graduate standing in music.

5600. Piano VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level piano. A faculty jury will review each semester's work. *Prerequisite:* graduate standing in music.

5610. Saxophone VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level sax. A faculty jury will review each semester's work. *Prerequisite:* graduate standing in music.

5615. Capstone. 3. Designed to provide a forum to present research in music that fulfills requirements of the Plan B process. Instruction is individualized, but involves cooperative learning opportunities with other students. The student presents the finished product to the class members. Course is restricted to students doing Plan B paper only. *Prerequisite:* Plan B proposal approved by the music department graduate committee.

5620. Trombone VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level trombone. A faculty jury will review each semester's work. *Prerequisite:* graduate standing in music.

5625. Piano Pedagogy. 2 (Max. 2). This specialized course addresses the teaching of piano to children with special emphasis on the development of correct technique, studio teaching techniques, student learning styles, repertoire assignment, and all aspects of establishing a private studio. The last quarter of the class includes an in-class, supervised teaching unit. Dual listed with MUSC 4625. *Prerequisite:* 8 credit hours of piano study.

5630. Trumpet VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level trumpet. A faculty jury will review each semester's work. *Prerequisite:* graduate standing in music.

5635. Vocal Pedagogy. 2. This specialized course addresses anatomy and physiology of the vocal instrument and the scientific principles surrounding it, studio teaching techniques, student learning styles, repertoire assignment, and all aspects of establishing a private voice studio. The last quarter of the class includes an in-class, supervised teaching unit. Students enrolled in the graduate level (5635) will undertake an extensive research paper/project and additional teaching. Dual listed with MUSC 4635. *Prerequisite:* 8 credits of voice or permission of instructor. (Offered alternate spring semesters)

5640. Tuba VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level tuba. A faculty jury will review each semester's work. *Prerequisite:* graduate standing in music.

5650. Violin VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level violin. A faculty jury will review each semester's work. *Prerequisite:* graduate standing in music.

5660. Viola VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level viola. A faculty jury will review each semester's work. *Prerequisite*: graduate standing in music.

5670. Voice VI. 1-2 (Max. 8). Designed to cover appropriate technical and repertory materials in graduate-level voice. A faculty jury will review each semester's work. *Prerequisite*: graduate standing in music.

5680. Graduate Recital. 2. A recital, vocal or instrumental and consisting of selections of advanced difficulty in matters of technique and interpretation, is presented under the direction of a staff member. Quality and content of recital must be approved by a faculty committee one month before the recital date, and the faculty committee will determine the final grade. *Prerequisite:* graduate standing in music and consent of instructor.

5690. Advanced Teaching Methods - Brass. 1. Designed to present new and improved methods of teaching the various band and orchestral instruments in the public schools.

5700. Advanced Teaching Methods - String. 1. Designed to present new and improved methods of teaching the various band and orchestral instruments in the public schools.

5710. Advanced Teaching Methods - Woodwind. 1. Designed to present new and improved methods of teaching the various band and orchestral instruments in the public schools.

5720. Musical Supervision: Choral. 2. Examination of the administrative responsibilities of the music teacher, the music department chairman, and the district music supervisor in the public schools, as well as the responsibilities of a music festival chairman and officers of the state music educators association. *Prerequisite:* graduate standing in music.

5730. Musical Supervision: Instruments. 2. Examination of the administrative responsibilities of the music teacher, the music department chairman, and the district music supervisor in the public schools, as well as the responsibilities of a music festival chairman and officers of the state music educators association. *Prerequisite:* graduate standing in music.

5760. Music Education Seminar. 2. A study and discussion of trends, objectives, and curricula of the various phases of music education.

5770. Marching Band. 0.5 (Max. 2).

5780. Wind Ensemble III. 0.5 (Max. 2). One of the elite ensembles in the Department of Music, Wind Ensemble offers participants the opportunity to prepare and perform some of the finest, most technically challenging, contemporary and classic wind and percussion repertory. *Prerequisites:* graduate or Performer's Certificate students, audition required..

5790. Jazz Ensemble III. 0.5 (Max. 2). Preparation and performance in a select jazz ensemble of the finest in standard jazz ensemble repertory and contemporary compositions by living jazz artists. Enrollment is restricted to graduate and Performer's Certificate students only. *Prerequisites*: audition required.

5800. Collegiate Chorale III. 0.5 (Max. 12). Provide the advanced and committed singer with outstanding performing experiences ranging from major choral masterworks to masterpieces of the *a cappella* tradition, both sacred and secular. The choir is a professional training ensemble and students may be asked to take on active musical leadership roles. Commitment of time to advance the excellence and public awareness of the ensemble will be required. *Prerequisites*: audition required, and graduate standing.

5805. The UW Singing Statesmen III. 0.5 (Max 12). The UW Singing Statesmen provides all levels of singers with the rich tradition of male ensemble singing. Students will solidify basic musicianship skills and vocal technique while experiencing camaraderie and service to the region. Students may be asked to take on music leadership roles and advance the excellence and public awareness of the ensemble. Open to music majors and non-music majors without audition. *Prerequisite*: Graduate standing.

5807. Happy Jacks III. 0.5 (Max 12). Student-led male *a cappella* ensemble that sings contemporary, jazz, and traditional repertoire. The ensemble travels regularly to promote male singing through concerts and school workshops. Students may act as musical director. Audition only. Co-requisite: enrollment in The UW Singing Statesmen. *Prerequisites*: Audition required. Graduate standing.

5811. Vocal Jazz III. 0.5 (Max 12). Sings standard repertory from various jazz traditions, often with rhythm section. Focus on building musical skill and literacy in the jazz idiom. Students may be asked to take on leadership roles. Audition only. *Prerequisites*: Audition required. Graduate standing.

5815. Bel Canto Women's Chorus III. 0.5 (Max 12). Builds community through score study and the development of fundamental musicianship skills, including sight singing, ear training, and vocal technique. Students may be asked to take on leadership roles. This ensemble is open to both music majors and non-music majors without audition. *Prerequisite*: Graduate standing.

5817. Laramie Civic Chorus III. 0.5 (Max 12). Welcomes students, faculty, and community members. Repertoire includes musical works from a multiplicity of style periods and genres in both Western and non-Western traditions and includes regular collaboration with the UW Symphony Orchestra for major choral works. Students may be asked to take on leadership roles. *Prerequisite*: Graduate standing; audition required.

5820. Opera Theatre. 0.5 (Max. 2).

5830. Symphony Orchestra III. 0.5 (Max. 2). The premier orchestral ensemble in the Department of Music. Participation in this ensemble prepares students to perform some of the great symphonic literature from a wide variety of musical periods. *Prerequisites:* graduate or Performer's Certificate students; audition required.

5840. Chamber Orchestra. 0.5-1. (Max. 2). Devoted to the rehearsal and performance of masterpieces from the chamber orchestra repertoire. Students in the 5840 level of Chamber Orchestra will be expected to assume leadership roles within the ensemble, help with bowings, lead sectionals and be highly proficient on their individual parts.

5850. Percussion Ensemble. 0.5 (Max. 2).

5860. Brass Ensemble III. 0.5 (Max. 2). The University of Wyoming Brass Ensemble is a course devoted to the rehearsal and performance of masterpieces from the brass chamber repertoire. Students in the 5860 level of Brass Ensemble will be expected to have a high level of proficiency on their parts and assume leadership roles within the ensemble.

5870. Woodwind Ensemble III. 0.5 (Max. 2). Preparation and performance in a select woodwind chamber ensemble of the finest standard and contemporary wind ensemble literature. *Prerequisites:* graduate or Performer's Certificate students; audition required.

5880. Chamber Music III. 0.5 (Max. 2). Designed to provide students with training in the ideal medium of chamber music (small ensembles, such as trio, string quartet, etc.), where they can apply and integrate all elements of their musical knowledge. These include but are not limited to rhythm, intonation, tone-production, blend, musical interpretation, concept of style, etc. *Prerequisites:* graduate or Performer's Certificate students; audition required.

5885. Collaborative Piano III. 1-2 (Max. 8). Encompasses supervised practice in the art of collaborative piano playing. Discusses traditional usages as applicable to various schools and periods of vocal and instrumental duo literature. *Prerequisites*: Audition required; MUSC 3280 or equivalent and graduate standing.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5961. Plan B Paper/Plan B Lecture-Recital. 0. Plan B Paper/Plan B Lecture-Recital. Required capstone for the MM degree. Satisfactory/Unsatisfactory only.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Department of Philosophy and Religious Studies

Philosophy

122 Ross Hall, (307) 766-3204
Web site: www.uwyo.edu/philosophy
E-mail: philosophy@uwyo.edu
Department Head: Susanna L. Goodin

Professors:

HARVEY HIX, B.A. Belmont College 1982; M.A. University of Texas, Austin 1985; Ph.D. 1987; Professor of Philosophy and Creative Writing 2013.

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

Associate Professors:
SUSANNA L. GOODIN, B.A. Texas Technical University 1981; M.A. Rice University 1985; Ph.D. 1990; Associate Professor of Philosophy 1998, 1992.
FRANZ-PETER GRIESMAIER, University of Vienna 1986; M.A. University of Colorado 1988; Ph.D. University of Arizona 1997; Associate Professor of Philosophy 2006, 2000.
EDWARD D. SHERLINE, B.A Princeton University 1982; M.A. University of Chicago 1983; Ph.D. University of Illinois-Chicago 1990; Associate Professor of Philosophy 1996, 1989.

Assistant Professor:
BRADLEY RETTLER, B.S. Crown College 2004; M.A. Biola University 2008; Ph.D. University of Notre Dame 2014; Assistant Professor of Philosophy 2018.

Academic Professional Lecturer:
ROBERT S. COLTER, B.A. The University of Puget Sound 1992; M.A. University of Colorado 1995; Ph.D. Northwestern University 2001; Academic Professional Lecturer 2013, 2007.

Professors Emeriti:
James Forrester, Richard L. Howey, James A. Martin

Philosophy starts with those hard questions we all ask at some time or another. Some important questions of meaning and justification can't be answered by making observations or doing experiments. Philosophy is the effort to deal with these problems through sustained, hard, and critical thinking. Philosophy is good preparation for careers that call for you to use your mind, without prejudice but with rigor.

The Philosophy Department offers an undergraduate major, three undergraduate minors, and a graduate MA.

For details on each of these programs, see the department's web site.

Undergraduate Major

B.A. Program of Study in Philosophy

General requirements:

- A major in philosophy requires a minimum of 33 hours (11 courses) of philosophy.
- At least 9 hours (3 courses) must be at or above the 4000-level.
- At least 15 additional hours (5 courses) must be at or above the 3000-level. The remaining nine hours (3 courses) may be at any level.
- **Only those courses in which a grade of C or better has been earned may count toward the 33-hour requirement.**

The department strongly recommends that prospective majors take PHIL 1000, Introduction to Philosophy, as their first course in philosophy.

Distribution Requirements

Students must choose three of the four distribution areas and take at least 6 hours (2 courses) in each of the chosen areas, including at least one core course in each chosen area. The distribution areas are:

- *Metaphysics and epistemology:* PHIL 2310, 3440, 3510, 3560, 4040, 4120, 4190, 4440, 4510, 4560.
- *Ethics and philosophy of value:* PHIL 2200, 2300, 2330, 2345, 3250, 3300, 3350, 4300, 4340.
- *Logic and philosophy/history of science:* PHIL 2420, 3140, 3420, 3500, 4140, 4420.
- *History of philosophy:* PHIL 2100, 3100, 3110, 3120, 3220, 3320, 4020, 4030, 4040, 4100, 4110.

Special topics courses (for example, PHIL 3000, PHIL 4000) are assigned to the appropriate distribution area on a case by case basis. And some of the courses listed above, especially the graduate seminars in area 4, might count in other distribution areas. To work out a suitable program, please consult with the department's undergraduate adviser.

The general level requirement and distribution requirement may be satisfied by the same courses. That is, a course may satisfy both of these requirements at the same time. No course may satisfy more than one distribution area, and no course may satisfy more than one general level requirement.

The department allows its majors to concentrate in a number of interdisciplinary areas, and we welcome double-majors in philosophy and another field. Please consult the department's undergraduate adviser to work out a suitable program.

Minor in Philosophy

The minor in philosophy affords students the benefits, both personal and professional, of studying philosophy.

A student minoring in philosophy must earn a C or better in six philosophy courses, including four at the 3000-level or higher. No specific courses (other than the four courses at the 3000-level or higher) are required, allowing students to take the courses that most align with their interests.

Minor in Ethics

Ethical questions and problems arise in all aspects of life. A minor in ethics can complement and enrich any major field of study. The minor in ethics consists of six courses, four at the 3000 level or above. A student takes one course in each of these areas: ethical theory (PHIL 3300 Ethical Theory, PHIL 3350 History of Moral Philosophy, PHIL 3250 Global Justice); applications (determined on a course by course basis in consultation with the Philosophy Department Undergraduate Advisor); scientific, historical and social analysis (determined on a course by course basis in consultation with the Philosophy Department Undergraduate Advisor), and capstone course (determined in consultation with the Philosophy Department Undergraduate Advisor). The other two courses are approved electives, (2 courses from Areas 1, 2 or 3 -- each from a different area).

The capstone course is an independent study normally taken during a student's senior year. The course integrates the student's different areas of study in the ethics minor into a project or thesis. Any professor in any college can sponsor this independent study. Capstone topics must be approved by the ethics minor advisor.

The minor in ethics is sponsored by the College of Arts and Sciences and administered through the Philosophy Department. Any undergraduate student at the university can minor in ethics.

Minor in Environmental Values

The minor in Environmental Values may be added to any bachelor's program at UW. This minor creates a vital link among the natural sciences, humanities, and social sciences through exploration of aesthetics, culture, ethics, and policy.

The minor requires a total of 18 credit hours, including at least one course within each of four areas of concentration. At least 12 of these credits must be outside the primary major, and nine of these credits must be at or above the 3000-level. A three-hour, core course (either PHIL 2330 Environmental Ethics or PHIL 2340 Natural Resource Ethics) is required of all students.

Areas of concentration: (note: the courses listed below are provided as examples of the type of courses that meet the various areas of concentration. Other courses may be approved on a course by course basis in consultation with the Philosophy Department Undergraduate Advisor.)

- **Aesthetics -** Expressing ourselves through the performing, visual and literary arts: ART 4640, ENGL 4050, ENGL 4240, GEOG 4500, GEOG 4530, THEA 2400, THEA 3400.
- **Culture -** Viewing human meaning and purpose in historical and contemporary terms: NAIS 3000, AMST 3000, ANTH 4310, ENGL 3400, ENGL 4480, ENR 2000, ENR 3050, GEOG 1050, HIST 4475, PHCY 4380.
- **Ethics -** Considering right and wrong via critical and systematic thinking and doing: PHIL 2330, PHIL 2345, PHIL 3250, PHIL 3300, PHIL 3350, PHIL 4340, RELI 2060.
- **Policy -** Exploring laws, regulations, and public discourse in American society: AGEC 4710, NAIS 4340, ECON 2400, ENR 4900, GEOG 4040, GEOG 4400, MGT 4580, POLS 4051, POLS 4052.

Graduate Study

The Department of Philosophy offers the master of arts degree under the Plan A or Plan B.

Program Specific Admission Requirements

A writing sample of no more than 3,000 words on any subject in philosophy.

A statement describing specific philosophical interests.

Program Specific Graduate Assistantships

The department offers two to three graduate assistantships yearly on a competitive basis. These assistantships carry a tuition and fee waiver, plus a stipend. For more information, please contact the department.

Program Specific Degree Requirements

Plan A (thesis)

31 hours of graduate credit
27 hours of graduate coursework
4 hours of thesis research

Proof of proficiency in formal logic (through first-order predicate logic with identity) by either passing the department's course (3420) or some other course judged to be its equivalent with a grade B or better or by completing a test with a grade B or better at the end of the second semester.

First year paper at the beginning of the third semester.

Defense of a thesis prospectus by the end of the third semester.

In any cases of deficiency, the department may require remedial work before admission to M.A. candidacy.

Philosophy (PHIL)

Philosophy majors may not take any philosophy course for S/U credit without written permission from the department head.

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000. Introduction to Philosophy. 3. [CH◀▶H] Introduces critical thinking through a study of elementary logic, scientific method and philosophical problems of ethics, religion, epistemology and metaphysics.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2100. The Greek Mind. 3. [CH◀▶(none)] Part one of the history of philosophy sequence. The first great age of philosophy was in ancient Greece. Students read from ancient Greek poets, historians and medical writers, as well as philosophers. The course attempts to understand the Greek mind: what Greeks thought of persons, society and the universe. *Prerequisite:* 3 hours of philosophy.

2300. Ethics in Practice. 1-3 (Max. 6). [CH◀▶H] Alerts preprofessional students and other interested individuals to various ethical issues they will encounter and relevant professional work on those issues. Emphasis of the course concentrates one time on biomedical ethics, another on technology and engineering ethics, another on ethics in the professions.

2310. Philosophy of Religion. 3. [CH◀▶(none)] Systematically examines philosophical questions, arguments and theories arising from study of religion. Topics may include: reason and religion; the existence and nature of God; the character of religious language; and attempts to determine the authenticity of religious experience. *Prerequisite:* 3 hours of philosophy.

2330. Environmental Ethics. 3. [CH◀▶(none)] Introduction to ethical theory in environmental problem cases, and to philosophical issues in environmental philosophy. Ethical theories include natural law, utilitarianism, deontological and rights-based theories, relativism. Topics may include: conservation/preservation, resource management, pollution, overpopulation, factory farming, Leopold's land ethic, deep ecology, holism, eco-feminism. Cross listed with ENR 2330.

2345. Natural Resource Ethics. 3. [CH,D◀▶H] Introduction to ethics in context of natural resource extraction, use, conservation, preservation, and distribution. Ethical frameworks include teleological and deontological theories primarily applied to human needs and wants. Concepts and applications of environmental justice are addressed, including private property, sustainability, and obligations to future generations. Cross listed with ENR/RNEW 2345.

2420 [1100]. Critical Thinking. 3. [CH◀▶(none)] Shows that argument is a skill of fundamental importance to any field of endeavor. Explains methods used in evaluating an argument. Introduces such topics as: patterns of reasoning, counterexamples, fallacies; inductive and deductive logic.

3000. Special Topics. 3 (Max. 9). Provides undergraduates with the opportunity for in-depth discussion of seminal works in the history of philosophy or a problem in contemporary philosophy not offered in regular courses or independent study. Open to interested undergraduates from all majors. *Prerequisite:* 3 hours of philosophy.

3100. History of Modern Philosophy: The Rationalists. 3. The second great age of philosophy absorbed the influence of the new science during the 17th and 18th centuries. People to be studied include: Descartes, Spinoza and Leibniz. *Prerequisite:* 3 hours of philosophy.

3110. History of Modern Philosophy: The Empiricists. 3. People to be studied include: Locke, Berkeley, Hume and Kant. These philosophers are included in the second great age of philosophy. *Prerequisite:* 3 hours of philosophy, or consent of instructor.

3120. Ancient Greek Philosophy. 3. Surveying some of ancient Greek philosophy. Begins with the works of the earliest extant philosophical thinkers, the presocratics. Remainder of focus on Plato and Aristotle. *Prerequisite:* 3 hours of philosophy, or consent of instructor.

3140. Philosophy of Science. 3. Systematically examines philosophical problems about the nature of science, its methods of explanation, and the status of its laws and theories. *Prerequisite:* 6 hours of physical, biological or social science, or consent of instructor.

3160. "What Killed Socrates?". 3. This course will reexamine Socrates' trial in 399 BCE, widely regarded as a miscarriage of

justice, in its total historic context, seeking to understand the reasons for Socrates' conviction. In the process, it will impart a broad understanding of the cultural, philosophical, political, and legal life of classical Athens. Cross listed with CLAS/HIST 3160. *Prerequisite:* WB or COM2.

3220. Existentialism and Phenomenology. 3. Examines fundamental perspectives of existentialist thought, beginning with its roots in Kierkegaard and Nietzsche. Looks at a large variety of existentialist perspectives presented by Sartre, Heidegger, Buber, Jaspers and Camus. Considers the relation of Husserl's phenomenological method to existentialism. *Prerequisite:* 3 hours of philosophy.

3250. Global Justice. 3. [G◀▶(none)] An examination of global justice, normative international relations, and international ethics, using the methodology and theories of analytical political philosophy. Possible topics include global economic justice and world poverty, human rights, humanitarian duties, intervention and sovereignty, cosmopolitanism, nationalism, patriotism, world hunger, and immigration. *Prerequisite:* 3 hours of philosophy or international studies.

3300. Ethical Theory. 3. A philosophical investigation of such concepts as morality, obligation, goodness, freedom and responsibility, and of recurring types of ethical theory. *Prerequisite:* 3 hours of philosophy.

3320. Eastern Thought. 3. Surveys some of the major concepts in Zen, Hinduism, Buddhism, Taoism and Confucianism. Cross listed with RELI 3320. *Prerequisite:* 3 hours of philosophy, or consent of instructor.

3340 [2340]. Philosophy in Literature. 3 (Max 6). Examines central themes in literary works with philosophical significance; studies related general issues. Issues include questions of interpretation, criticism, and translation, as well as the possibility of direct philosophical influence on authors. Cross listed with ENGL 3340. *Prerequisite:* one course in philosophy or one course in literature or consent of instructor.

3350. History of Moral Philosophy. 3. A historical and philosophical overview of ethical theory ranging from ancient Greek ethics to the present. *Prerequisite:* 3 hours of philosophy.

3420. Symbolic Logic. 3. Studies both propositional and quantificational logic, concentrating on methods of proof. Takes up such topics as identity, singular terms, intuitive set theory, and translating English sentences into symbolic notation. *Prerequisite:* 3 hours of philosophy, or consent of instructor.

3440. Philosophy of Mind. 3. Considers topics in philosophy of mind, including the mind-body problem, emotions, attitudes, perception and psychological explanation. *Prerequisite:* 3 hours of philosophy, or consent of instructor.

3500. History of Science. 3. Historic and philosophic survey of the development of science from the ancient Greeks to the 20th century. *Prerequisites:* 3 hours of laboratory science and 3 hours of philosophy, or consent of instructor.

3510. Introduction to Epistemology. 3. Systematic introduction to epistemology, the philosophical study of knowledge and justified belief. Aims to answer questions such as: What are the necessary and sufficient conditions of knowledge? What are its sources? What is its structure, and what are its limits? How we are to understand the concept of justification? *Prerequisite:* 3 hours of philosophy, or consent of instructor.

3560. Introduction to Metaphysics. 3. A systematic introduction to metaphysics, the branch of philosophy concerned with providing a comprehensive account of the most general features of reality as a whole. Of central importance is the study of ontology, which seeks to address the question of what general sorts of things exist: particulars, universals, propositions, numbers, minds. *Prerequisite:* 3 hours of philosophy, or consent of instructor.

3933. African Philosophy. 3. [(none)◀▶H] Examines the work of philosophers of Africa, of African descent and others who deal with the African diaspora. Topics include the nature of African philosophy and the African American struggle, African colonialism, philosophy, political philosophy and gender, traditional African thought. Restricted to junior or senior class standing. Cross listed with AAST/INST 3933. *Prerequisite:* a prior course in either African American and Diaspora Studies, Global and Area Studies, or Philosophy, or consent of instructor.

4000. Philosophical Issues. 1-3 (Max. 6). Dual listed with PHIL 5000. *Prerequisite:* consent of instructor.

4020. Plato. 3. Detailed examination of selected dialogues of Plato. Dual listed with PHIL 5020. *Prerequisite:* PHIL 3120.

4030. Aristotle. 3. Detailed examination of selected works of Aristotle. Dual listed with PHIL 5030. *Prerequisite:* PHIL 3120.

4040. Kant. 3. An examination of one or more aspects of the work of Immanuel Kant, conducted either from the perspective of the history of philosophy, or predominantly as a critical study. *Prerequisite:* 12 hours of philosophy including PHIL 3100 or 3110.

4110. Figures in Contemporary Philosophy. 3-6 (Max. 6). An advanced study of the work of one, or several related, contemporary philosophers. *Prerequisite:* 12 hours of philosophy including PHIL 3100.

4120 [4100]. Philosophy and the 20th Century. 3. Part three of the history of philosophy sequence. Covers the third great age of philosophy. Studies the main ways in which philosophy has been done since 1900. Topics normally include logic and philosophy, Wittgenstein, logical positivism and current trends. Dual listed with PHIL 5120. *Prerequisite:* 12 hours of philosophy including either PHIL 3100, 3110, or 3120.

4130. Figures in Modern and 19th Century Philosophy. 3. A detailed examination of one or more of the figures in modern or 19th century philosophy. Dual listed with PHIL 5130. *Prerequisite:* 9 hours of philosophy including PHIL 3100 or PHIL 3110.

4140. Topics in Philosophy of Science. 3 (Max. 6). Encompasses selected topics in philosophy of science. Dual listed with PHIL 5140. *Prerequisite:* 9 hours of philosophy including PHIL 3140.

4190. Philosophy of Language. 3-6 (Max. 6). An advanced study of the work of one, or several related, contemporary philosophers. Dual listed with PHIL 5190. *Prerequisite:* 12 hours of philosophy including PHIL 4510 or 4560.

4300. Topics in Ethics. 3-6 (Max. 6). An advanced investigation of selected topics in ethics. Examples include derivative and basic principles of obligation; justice; morality and utility; generalization of norms; and the relation of morality and law. Dual listed with PHIL 5300. *Prerequisite:* 12 hours of philosophy including PHIL 3300 or 3350.

4340. Issues in Environmental Ethics. 3. Encompasses selected topics in environmental and natural resource ethics. Dual listed with PHIL 5340. *Prerequisites:* PHIL 2330, 2345, 3300 or 3350.

4420. Advanced Logic. 3. Studies advanced topics in mathematical logic. Takes up such topics as: uninterpreted calculi and the distinctive contributions of syntax and semantics; metatheory, including completeness and consistency proofs; modal logic and semantics; logic as a philosophical tool. Dual listed with PHIL 5420; cross listed with COSC/MATH 4420. *Prerequisite:* PHIL 3420 or equivalent.

4440. Topics in Philosophy of the Mind. 3-6 (Max. 6). An advanced study of problems in the philosophy of mind such as the concept of human action; intention, choice, reasons and causes in the explanation of human action, mental states and brain states, and artificial

intelligence. Dual listed with PHIL 5440. *Prerequisite:* 12 hours of philosophy including PHIL 3440.

4510. Theory of Knowledge. 3. Studies such problems as knowledge and belief, skepticism, perception and knowledge, memory, truth and justification of induction. Dual listed with PHIL 5510. *Prerequisite:* 12 hours of philosophy including PHIL 3510.

4560. Metaphysics. 3. Examines approaches to metaphysics. Discusses problems such as causality, individuation and the distinction between particulars and universals. Dual listed with PHIL 5560. *Prerequisites:* 12 hours of philosophy including PHIL 3560.

5000. Philosophical Issues. 1-3 (Max. 6). Dual listed with PHIL 4000. *Prerequisites:* graduate status and consent of instructor.

5020. Plato. 3. Detailed examination of selected dialogues of Plato. Dual listed with PHIL 4020. *Prerequisite:* graduate standing.

5030. Aristotle. 3. Detailed examination of selected works of Aristotle. Dual listed with PHIL 4030. *Prerequisite:* graduate standing.

5040. Kant. 3. An examination of one or more aspects of the work of Immanuel Kant, conducted either from the perspective of the history of philosophy, or predominantly as a critical study. Dual listed with PHIL 4040. *Prerequisite:* graduate standing.

5120. Philosophy and the Twentieth Century. 3. Part three of the history of philosophy sequence. Covers the third great age of philosophy. Studies the main ways in which philosophy has been done since 1900. Topics normally include logic and philosophy, Wittgenstein, logical positivism and current trends. Dual listed with PHIL 4120. *Prerequisite:* graduate standing.

5130 [5100]. Figures in Modern and 19th Century Philosophy. 3. A detailed examination of one or more of the figures in modern or 19th century philosophy. Dual listed with PHIL 4130. *Prerequisite:* graduate standing or consent of instructor.

5140. Topics in Philosophy of Science. 3-6 (Max. 6). Encompasses selected topics in philosophy of science. Dual listed with PHIL 4140. *Prerequisite:* graduate standing.

5190. Philosophy of Language. 3-6 (Max. 6). An advanced study of the work of one, or several related, contemporary philosophers. Dual listed with PHIL 4190. *Prerequisite:* graduate standing.

5300. Topics in Ethics. 3-6 (Max. 6). An advanced investigation of selected topics in ethics. Examples include derivative and basic principles of obligation; justice; morality and utility; generalization of norms; and the relation of morality and law. Dual listed with PHIL 4300. *Prerequisite:* graduate standing.

5340. Issues in Environmental Ethics. 3. Encompasses selected topics in environmental and natural resource ethics. Dual listed with PHIL 4340. *Prerequisite:* graduate standing.

5420. Advanced Logic. 3. Studies advanced topics in mathematical logic. Takes up such topics as: uninterpreted calculi and the distinctive contributions of syntax and semantics; metatheory, including completeness and consistency proofs; modal logic and semantics; logic as a philosophical tool. Dual listed with PHIL 4420; cross listed with COSC/MATH 5420. *Prerequisite:* graduate standing.

5440. Topics in the Philosophy Of Mind. 3-6 (Max. 6). An advanced study of problems in the philosophy of mind such as the concept of human action; intention; choice; reasons and causes in the explanation of human action; mental states and brain states; and artificial intelligence. Dual listed with PHIL 4440. *Prerequisite:* graduate standing.

5510. Theory of Knowledge. 3. Studies such problems as knowledge and belief, skepticism, perception and knowledge, memory, truth and justification of induction. Dual listed with PHIL 4510. *Prerequisites:* graduate standing.

5550. Independent Study. 1-6 (Max. 6). A study of a topic selected in consultation with the instructor. *Prerequisite:* graduate standing.

5560. Metaphysics. 3. Examines approaches to metaphysics. Discusses problems such as causality, individuation and distinction between particulars and universals. Dual listed with PHIL 4560. *Prerequisites:* graduate standing.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate standing.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes. *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Religious Studies

122 Ross Hall, (307) 766-3204
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Email: relstudies@uwyo.edu
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Program Director: Paul V.M. Flesher

Professor:
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Visiting Assistant Professor
TAMMY HEISE, B.A. Hendrix College 1998; M.A. Vanderbilt University 2006; Ph.D. Florida State University 2016; Visiting Assistant Professor of Religious Studies 2015.

Senior Academic Professional Lecturer:
SETH WARD, B.A. Yale University 1974; M.A. 1978; M.Phil. 1979; Ph.D. 1984; Senior Academic Professional of Religious Studies 2017, 2003.

Associate Academic Professional Lecturers:
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MARY L. KELLER, B.A. Williams College 1987; M.A. Syracuse University 1992; Ph.D. 1999; Associate Academic Professioinal of Religious Studies 2017, 2012.

Adjunct Faculty:
ERIN ABRAHAM, B.A. University of Wyoming 2004; M.A. 2007; Ph.D. Saint Louis University 2011; Assistant Academic Professional Lecturer of Honors Program 2011; Adjunct Assistant Academic Professional Lecturer of Religious Studies 2015.

Professor Emerita:
Kristine T. Utterback

Throughout history, religion has played an important role in shaping cultures and societies. Religious beliefs have inspired armies in their wars and leaders in their decisions. Religions have provided the foundation for ethical behavior and in many societies have been the primary source of education. In today's world, religions remain important, influencing our responses to 9/11, the Arab Spring, the

Middle East crisis, and other events in regions around the world. Even in our own secular United States, religions and their beliefs play a major role in our debates over public policy.

The Religious Studies department offers a range of courses in the academic study of religions. These courses seek to acquaint students with religious beliefs and behavior, helping them to understand the ability of religions to define the world in which their adherents live and the power religions have to influence the behavior of their followers. Religious Studies courses cover a broad range of religions, both modern and historical. Some courses focus on understanding a single religion in a limited time period, while others compare aspects of different religions. Yet further courses focus on religious expression, studying how religious beliefs are depicted in literature, film, art and music. Many of these courses are offered by the Religious Studies department, while others can be found in various departments, including anthropology, art, English, history and sociology.

Undergraduate Major

A major in Religious Studies requires 33 hours (11 courses) plus a second major or minor in another discipline.

For students completing their degree under the 2015 University Studies Program:

Two required courses (6 hours):

1) RELI 1000, Introduction to Religion.

2) RELI 4000, Theories of Religion.

Concurrent Concentration I (9 hours):

Students should acquire a focused concentration by taking three courses (1) on a single religion, or (2) on the religions of a particular region or culture. Courses may be from a limited time period or spread across history. Students may choose from established concentrations or create their own concentration in consultation with their adviser. [Six hours must be above 3000-level.]

Concurrent Concentration II (9 hours):

Students should take three courses in a religion, region, or culture differing significantly from that of the first concentration. [Six hours must be above 3000-level.]

Electives

Three courses in Religious Studies (see note 2 below) chosen in accordance with the student's interests. [Six hours must be above 3000-level.]

Language

Students should take three semesters of a single foreign language or demonstrate equivalent proficiency. See note 3 below.

Other

Minor or second major in a different field/discipline.

For all Religious Studies Majors:

Honors

If a student wishes to pursue an Honors designation in Religious Studies, two additional requirements must be fulfilled.

A) A three-hour Thesis Seminar or Internship, during which a research paper is written, or other suitable research project is carried out.

B) Demonstration of competency in a foreign language equivalent to a fourth-semester college-level course.

Notes:

1. If students majoring in Religious Studies can use its courses to satisfy requirements in a second major or minor, this is permitted.
2. Courses for the major should be drawn from those with a RELI prefix, or from a list of approved courses taught by other departments or programs. See the list of approved courses on the Religious Studies website. In each of the concentrations, only one course may be from outside RELI offerings. Two such courses may be used as electives. Occasionally, courses on religion are taught by outside departments as one-time opportunities. Students may propose these for inclusion in the major to the director of the Religious Studies department.
3. The language requirement may be satisfied with American Sign Language (ASL) or, with the approval of the department, coursework in another form of non-English communication (e.g. computer science, statistics, music composition).
4. All courses must be passed with a grade of C or better.

Undergraduate Minor

The Minor in Religious Studies requires eighteen hours of relevant courses, all with a grade of "C" or higher. These should consist of courses as set out below:

1. RELI 1000, Introduction to Religion
2. RELI 4000, Theories of Religion, a capstone course.
3. Twelve hours of courses focusing on issues in the study of religions, nine of which should be at the 3000 level or higher. See note 2.

Graduate Study

At present, no program for a graduate degree in religious studies is offered; however, some courses may be counted at the graduate level.

Religion (RELI)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000. Introduction to Religion. 3. [CH,G◀▶H] Introduces world religions and shared characteristics. Draws on various academic approaches to religion study, emphasizing similarities and differences among wide variety of religions.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

2040. Religions of the Middle East: Judaism, Christianity and Islam. 3.[CH,G◀▶(none)] Analyzes origins and early years of three major religions that arose in the Middle East: Judaism, Christianity and Islam. Looks at historical development, political and cultural context, and structure of each religion.

2050. Religions of Asia. 3. [CH,G◀▶H] Introduces students to the religions of Asia. Primary focus on Hinduism and Buddhism, but also addresses several smaller religions. Emphasis on beliefs, sacred texts and tales, practices, ethics and worship, as well as historical development and contemporary issues.

2070. Gender and Religion. 3. Aims at understanding how religion constructs and reinforces gender roles in religion and society. Looks at traditional gender roles in Christianity and the transformation they have undergone in the past century or so. Cross listed with WMST 2070.

2080. Holocaust. 3. [CH◀▶(none)] Surveys the destruction of European Jewry, 1933-1945. Cross listed with HIST 2080.

2110 [1010]. Introduction to the Old Testament. 3. [CH◀▶H] Introduces students to the books of the Old Testament and people whose way of life they describe. Pays particular attention to religion of the Israelites, their history and culture. Focuses on different historical circumstances in which the books were written.

2150. New Testament Survey. 3. [(none)◀▶H] Introduces the academic study of the New Testament. Concentrates on the analysis of Jesus, Paul and other New Testament figures by studying the textual evidence

within its historical, religious and cultural contexts. Key foci also include the composition of the New Testament's books and the theological development of early Christianity.

2175. The Life and Teaching of Jesus. 3. Explores life and teachings of Jesus within religious, cultural and political context of first-century Palestine. Studies Jewish, Greek and Roman influences on Palestine; then, examines effect of those influences on the gospels (both canonical and non-canonical).

2200. Contemporary American Religion. 3. [CH,D◀▶COM2] The U.S. is home to more world religions and to more versions of those religions than any other nation on the planet. This course examines how the U.S. has shaped these religions and the impact these religions have had in turn on U.S. society and culture.

2225. History of Christianity. 3. Traces Christianity from its beginnings to late 20th century. Cross listed with HIST 2225.

2250. American Religious History I (To 1865). 3. [CH,D◀▶H] Traces the history of religion in America through the Civil War. We will pay particular attention to the intertwining of religion and colonialism; the tension between emerging Protestant hegemony and religious pluralism; and the roles religion has played in justifying oppression and pursuing liberty in American history. Cross listed with HIST 2250.

2252. American Religious History II (1865-1945). 3. [CH,D◀▶H] Traces American religious history from the Civil War through WWII. Focuses on how race/ethnicity, class, gender, and national origin affected religion, and explores how Americans used religion in oppressing and liberating people; marking and erasing difference; and exporting values abroad as well as reforming society at home. Cross listed with HIST 2252.

2315. History of Non-Western Religions. 3. [CH,G◀▶H] Introduces students to religions outside the Judeo-Christian realm familiar in the west. Each religion analyzed in its world views, its ways of life, and in its social organization. History of each religion and its changes. Cross listed with HIST 2315.

2320. History of Islam. 3. [CH,G◀▶COM2] Focuses on the origins of Islam and its early formation, its growth and spread across the world, and its intellectual, spiritual and historical character. Time will also be spent on the formation of Islam in the modern world and how that impacts the views and actions of its members. Cross listed with HIST 2320.

2330. Islam in the Modern World. 3. [(none)◀▶H] How does Islam interact with Modernity? This course extends beyond the news to study contemporary trends and movements among the world's Muslims. Includes a general introduction to the history and religion of Islam, and discusses contemporary Islamic topics, reflecting current issues, instructor research and student choices.

2410. Varieties of Non-Belief in the Western World. 3. [CH◀▶H] A broad, chronological survey of different types of non-belief, primarily from the Renaissance onwards. It examines critiques by philosophers, politicians, poets, and novelists aiming to understand their objections to religion and analyzing how these objections shaped the modern religious landscape and the way we understand religion itself.

2450. Traditional African Religion. 3. [CH,G◀▶COM2] Surveys traditional African religions, both ancient and contemporary. Cross listed with AAST 2450.

2500. Special Topics in Religion. 1-3 (Max. 6). Permits occasional investigation of different subjects in academic study of religion.

3090. Middle East and Israel in Film. 3. [(none)◀▶H] Focus on film representations of Isreal, the Arab world, Turkey and Iran. Studies religion and society, common human aspirations, modalities of social and other conflicts through screening of feature and short films and discusses issues raised by historical, political, social, cultural and religious tensions and considerations in this region. *Prerequisite:* WA or COM1.

3110. Bible and Archaeology. 3. An archaeological survey illuminating the historical, theological, and cultural landscape of ancient Near East and the Mediterranean world. Examines how archaeology contributes to the understanding of the peoples, texts and religious movements of the Old Testament/Hebrew Bible and the New Testament. *Prerequisites:* RELI 1000 or RELI 2110 or RELI 2150 or ANTH 1300 or ANTH 1450.

3200. Religion and American Culture. 3. [(none)◀▶H] Explores the role of religion in the history of American culture. It considers how developments in American religious history have reflected larger trends in American society, and how those developments have in turn helped shape American society and culture. *Prerequisite:* one lower-level course in religious studies, American history, or American studies.

3220. History of the Modern Middle East. 3. [G◀▶(none)] Surveys the Middle East from 1700 to the present. Emphasizes the demise of the Ottoman Empire, the rise of domination by European colonial powers, transformations in political, social, religious and cultural life, the rise of nationalist movements, the influence of oil, the growth of Islamist political groups and the Israeli-Palestinian conflict. Cross listed with HIST 3220. *Prerequisite:* 6 hours or HIST, RELI, or INST.

3225. Apocalypse: The History of the End. 3. The apocalyptic End of Time has become the subject of much speculation, especially since the beginning of the new millennium. Analyzes such speculation as a religious phenomenon in both ancient and modern religions, and attempts to understand its social, cultural and personal impacts. *Prerequisite:* junior standing.

3230. Early Christianity. 3. Considers the development of the Christian religion from a small Jewish sect to its place as the official religion of the Roman Empire and beyond. It examines the development of creeds, doctrines and institutions, placing them within their historical context. *Prerequisite:* RELI 1000, RELI/HIST 2225, or HIST 2113.

3235. Medieval Christianity. 3. Traces the development of 'Christendom' in Europe between about 500 - 1500 CE, concentrating on the Latin West. It examines the growth of Christian institutions and practices, the Church's role as sole governing entity, along with conflicts with secular governments as they developed in later centuries. Cross listed with HIST 3235. *Prerequisites:* RELI/HIST 2225, HIST 1110, or RELI 1000.

3240. Reformation and Enlightenment Christianity. 3. The years between about 1500 and 1800 saw the permanent dismantling of Christianity in the West as a unified force, as Protestantism brought new ways of viewing the relationship between God and humanity. Once the fragmentation began, it accelerated rapidly as Enlightenment thinking challenged Christianity in new and complex ways. Cross listed with: HIST 3240. *Prerequisites:* RELI 1000, RELI/HIST 2225.

3245. Christianity Since Darwin. 3. [(none)◀▶COM2] Christianity has faced many challenges since the mid-nineteenth century, including the thought of Darwin, Marx and Freud, to name a few. Christianity has faced those challenges in various ways and its practitioners continue to re-examine its understandings of a vastly changed and continually changing world. *Prerequisites:* COM1, and RELI 1000 or RELI/HIST 2225 or HIST 1120 or consent of instructor.

3260. African Spirits in the New World. 3. [CH,G◀▶H] Begins with Yoruba roots in Africa and travels with the African Diaspora focusing on spirit possession in Haitian Vodou, Cuban Santeria, Jamaican Revival Zion, Jamaican Rastafarianism, Brazilian Candomblé, and "Black Church" in the United States using ethnography and postcolonial theory

of religious studies. Cross listed with AAST 3260. *Prerequisites:* AAST 1000 or any AAST 2000 level course or RELI 1000.

3275. World Christianities. 3. [CH,G◀▶(none)] Examines the development of Christianity primarily in Africa, Asia and South America. Cross listed with HIST 3275. *Prerequisites:* WB and CH.

3320. Eastern Thought. 3. Surveys some of the major concepts in Zen, Hinduism, Buddhism, Taoism and Confucianism. Cross listed with PHIL 3320. *Prerequisite:* 3 hours of philosophy.

3340. Mysticism, Yoga, and Enlightenment in the East. 3. Explores Hindu and Buddhist concepts of enlightenment and the means for reaching them through mysticism and yoga. Study the texts and beliefs and their translation into practice. *Prerequisites:* WB and CH.

3350. Religion and Globalization in India. 3. Learn about religious pluralism in India. In particular, how globalization has impacted the ways people from many different religions, caste, class, and educational backgrounds, ethnicities, and regions experience and practice their religions in 21st century India. *Prerequisites:* RELI 1000 or RELI 2050.

3400. Religion in the American West. 3. [CH,D◀▶(none)] Considers the religious history of the American West from Pre-Columbian times to the present, paying special attention to the ways the West affects religious belief and practice. Themes of contact and conflict will be particularly important in our study, as will the changing perceptions of the West. *Prerequisite:* USP WB course.

4000. Theories of Religion. 3. [WC◀▶COM3] Investigates different theories proposed to explain religion and methods used to investigate them. Pays primary attention to influential thinkers and theorists of the past century. *Prerequisite:* RELI 1000, and 12 additional hours in Religious Studies, at least 6 of which must be at the 3000-level or above, junior standing.

4090. Film and Religion. 3. Movies use religion to convey messages; they debate religious issues and use religion to debate non-religious issues. This course analyzes how film makers use religion and religious themes to transform religions into advocates for social issues and to shape religion's role in society. Popular films drawn from many genres. Cross listed with ENGL 4090. *Prerequisite:* 6 hours of 2000-level or higher literature courses or religion courses.

4100. African American Religious Culture. 3. [WC,D◀▶COM3] This mid-level writing-intensive seminar is a comparative study of African American religious celebration, primarily in the context of Afro-Christianity, but touching on Islam, Candomblé, "Voodoo," Santeria, and Rastafarianism. Cross listed with AAST 4100. *Prerequisite:* WB and one of the following: AAST 1000 or any AAST 2000-level course or RELI 1000.

4113. Medieval Religious Dissent. 3. Religious dissent in the Middle Ages included what might be called heresy, but also encompasses such marginal groups as Jews and witches. Examines development of orthodoxy and persecution of religious diversity between eleventh and 16th centuries within the historical context of the times. Cross listed with HIST 4113. *Prerequisite:* 9 hours of HIST or RELI.

4160. Moses, Jesus, and Muhammad. 3. [CH◀▶(none)] Examines the biographies of Moses, Jesus and Muhammad found in works of history, in sacred literature, in hagiography, ritual and popular culture. Demonstrates strategies used to recover their historical personalities and how they are portrayed in multiple religious traditions, offering insights into how each have shaped our world. *Prerequisite:* RELI 1000 or junior standing.

4174. Judaism from Ezra to Jesus. 3. This course focuses on the religious and historical development of Judaism during the centuries between the end of the Old Testament and the New Testament, studying the arrival of Greek and then Roman culture and the changes Judaism underwent during that time that endure today. Cross listed with HIST 4174. *Prerequisites:* WB or COM2, and RELI 1000 or RELI 2110.

4175. Judaism at the Dawn of Christianity. 3. Judaism is the only Mediterranean religion that was practiced in the ancient world as well as in Late Antiquity and beyond. This course helps students analyze how Judaism was able to change and adapt at key moments to provide its adherents with an active, living religion that addressed their needs. Cross listed with HIST 4175. *Prerequisites:* RELI 1000 or RELI 2110, and junior standing.

4190. Women and the Bible. 3. Explores depictions, roles and statuses of women found in the Bible, both Old and New Testaments. Introduces ways biblical portraits of women have been used in recent centuries to develop theologies of, by and for women. *Prerequisite:* junior standing or permission of instructor.

4260. Judaism in the Modern World. 3. Studies Jews and Judaism from pre-modern period to present. Traces migration of Jews from Europe to the USA and Israel, while examining radical changes that transform the religion. *Prerequisite:* junior standing.

4310. Seminar in Asian Religions. 3 (Max. 9). Students will be introduced to a number of indigenous and analytical frameworks and interdisciplinary theories and methods in the examination of a specialized topic in the study of Asian religions. Specific focus of the course varies by semester. *Prerequisite:* RELI 2050 or junior standing.

4335. Women and Islam. 3. Examines women's lives in Islamic societies from the seventh century to the present in the Middle East and throughout the world. Themes include women's position in Islamic law, society and culture, Western images of Muslim women, veiling and Islamist movements, theoretical readings on power, gender and agency. Cross listed with HIST 4335 and WMST 4335. *Prerequisite:* 9 hours of HIST, WMST, INST, or RELI.

4500. Special Topics in Religious Studies. 1-3 (Max. 12). Presents from semester to semester a variety of important topics in the academic study of religion. *Prerequisite:* RELI 1000.

4635. Religious Studies Departmental Honors. 0. Satisfactory completion of this course indicates that Religious Studies Departmental Honors have been conferred on the student. Offered Satisfactory/Unsatisfactory only. *Prerequisites:* Consent of Religious Studies thesis chairperson; demonstration of competency in a foreign language equivalent to a fourth-semester college level or concurrent enrollment in a fourth-semester foreign language course.

4900. Independent Study in Religion. 1-3 (Max. 6). Primarily for juniors and seniors who can benefit from independent study of topics in religious studies not covered in course offerings. Guidance provided by faculty member in the appropriate field. *Prerequisites:* 9 hours in religious studies and consent of instructor.

4930. Thesis. 0-6 (max. 9). Directed research and writing supervision of Religious Studies thesis chairperson. Results in production of Religious Studies thesis. *Prerequisites:* Successful completion of or concurrent enrollment in RELI 4000, advanced undergraduate status in good academic standing, consent of Religious Studies thesis chairperson and department chair.

4960. International Field Course. 1-6 (Max. 12). This course takes students away from campus to locations outside the United States to study religion on site in its geographic and cultural context. Destination and specific content varies, but the course always requires attention to the connections between world events and local experiences. *Prerequisites:* Junior standing; WA or COM1; other prerequisites as determined by the instructor.

4961. Domestic Field Course. 1-6 (Max. 12). This course takes students away from campus to other locations in the United States to study religion on site in its geographic and cultural context. Destination and specific content var-

ies, but the course always requires attention to the religious, racial, ethnic, and cultural diversity of religion in the United States. *Prerequisites:* Junior standing, WA or COM1.

Physics and Astronomy

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DANIEL A. DALE, B.S. University of Minnesota 1993; M.S. Cornell University 1996; Ph.D. 1998; Professor of Physics and Astronomy 2009, 2001.
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DAVID R. THAYER, B.S. University of Miami 1977; Ph.D. Massachusetts Institute of Technology 1983; Academic Professional Lecturer in Physics 2002.

Assistant Lecturer:
AYSENUR BICER, B.S. Ege University 2006; M.S. 2009; Ph.D. Texas A&M University 2018; Assistant Lecturer in Physics 2019.

Adjunct Professors:
Marquard, Shang, Slater

Professors Emeriti:
Ronald W. Canterna, Paul E. Johnson, A. Raymond Kunselman, Terry P. Roark, James M. Rosen, Jimmie Verley

Physics originated in antiquity as the study of natural philosophy. As such, it attempts to describe the universe within the context of both physical laws and the fundamental particles of nature. The broad scope of physics runs from the microscopic nuclear structure and that of the elementary particles themselves to the macroscopic, the galaxy and evolution of the universe as a whole. Today the subject is generally divided into broad areas such as condensed matter, nuclear, elementary particles, astrophysics, etc. The department maintains competence in most major branches of physics and offers instruction in these areas at both the undergraduate and graduate levels. In addition, it has a strong interest and involvement in science education.

Learning Outcomes

The B.S. and B.A. in Physics, the B.S. in Astronomy, and the B.A. in Physics and Physics Education all have the broad objectives enumerated below. These objectives are designed to promote the success of our majors in their chosen career path, whether that takes them into academia, secondary teaching, industry or further education:

1. Provide students with problem-solving and data-manipulation skills appropriate to the growing range of scientific and technological careers in academia or industry.
2. Develop students' oral, written, interpersonal and communication skills.
3. Provide students with skills in experimental design, data collection, and data analysis through research experiences in a laboratory/computational/telescope setting.
4. Educate students in the application of mathematical tools that will be useful for them to achieve success in a post-college career.
5. Provide a conceptual and analytical uderstanding of the core areas of physics and their specialty area.
6. Provide students with an understanding of scientific reasoning, i.e., the roles of theory, hypothesis, and experiment in the scientific method.

The B.S. in Physics and the B.S. in Astronomy are primarily designed for students who wish to pursue post-graduate education or to have a more in-depth physics background. The Physics B.A. is primarily designed for students interested in pursuing a double major, or a professional career. The B.A. in Physics and Physics Education is structured for those interested in pursuing a secondary science teaching career.

Undergraduate Curriculum

The four-year physics programs are the Bachelor of Arts in physics and the Bachelor of Science in physics. The Bachelor of Science programs are intended for students who will pursue a career or a graduate degree in the field, whereas the Bachelor of Arts program is primarily geared toward those who are interested in pursuing physics as a second major. The department also offers a Bachelor of Science degree in Astronomy and Astrophysics.

Bachelor of Science Major Program

Students in the Bachelor of Science in Physics major program are required to complete the following courses:

- PHYS 1210 or 1310, 1220 or 1320, 2310, 2320, 3000, 3640, 3650, 4210, 4310, 4410, 4420, 4510, 4830, and 4840.
- Students are required to take at least 3 hours of electives from any PHYS 4000- or 5000-level course.
- MATH 2200, 2205, 2210, 2250, and 2310.

Bachelor of Arts Major Program

Students in the Bachelor of Arts in physics major program are required to complete the following courses:

- PHYS 1210 or 1310, 1220 or 1320, 2310, 2320, 3000, 3650, 4210, 4310, 4410, 4510.
- Students are required to take at least 3 hours of electives from any PHYS 4000- or 5000-level course.
- MATH 2200, 2205, 2210, 2310.

Minor Program

- Complete PHYS 1210 or 1310
- Complete PHYS 1220 or 1320
- PHYS 2310 and 2320
- At least two of the following: PHYS 4210, 4310, 4410, 4510

Astronomy Major Program

Students in the Bachelor of Science in Astronomy major program are required to complete the following courses:

- ASTR 1050, 2310, 2320, 4610 PHYS 1210 or 1310, 1220 or 1320, 2310, 2320, 3000, 3640, 3650, 4210, 4310, 4410, 4420, 4510, and 4840
- MATH 2200, 2205, 2210, 2250, and 2310

Astronomy Minor Program

- Complete PHYS 1210 or 1310
- Complete PHYS 1220 or 1320
- PHYS 2310 and 2320
- ASTR 2310 and 2320

Graduate Study

The Department of Physics and Astronomy offers the degrees of master of science in physics, master of science in teaching, and doctor of philosophy. Advanced degrees in physics may be based on experimental or theoretical research in physics or astrophysics.

Please refer to the departmental homepage at http://www.uwyo.edu/physics/ for the programmatic updates, or contact the department directly.

Program Specific Admission Requirements

Applicants for graduate study in physics or astrophysics should have an undergraduate preparation in physics and mathematics equivalent to that specified for a physics major. Applicants for graduate study in physics or astrophysics should have an undergraduate preparation in physics and mathematics equivalent to that specified for a physics major. They must submit their GRE scores for the verbal aptitude, the quantitative aptitude, and analytical writing.

Program Specific Graduate Assistantships

The Physics and Astronomy Department commits to providing first- and second-year students with teaching assistantships for the nine-month academic year. More advanced students are generally supported on federal grants or fellowships. Both teaching and research assistantships carry a full tuition waiver and insurance. Summer assistantships are often available to students making satisfactory progress. Refer to http://www.uwyo.edu/physics/ for current amounts.

Program Specific Degree Requirements

Master of Science in Physics
Plan A (thesis)

26 hours of graduate coursework, 20 of which must be in PHYS/ASTR at the 5000-level
4 hours of PHYS 5960

Plan B (non-thesis)

30 hours of graduate coursework, 24 of which must be in PHYS/ASTR at the 5000-level

Thesis planning, development, and production guided by the committee chair and graduate committee.

Master of Science in Teaching
Plan A (thesis)

18 hours from PHYS/ASTR at the 5000-level
12 hours from PSYC or the College of Education at the 4000- or 5000-level

Thesis planning, development, and production guided by the committee chair and graduate committee.

The Master of Science in Physics with emphasis in teaching is designed for graduate students preparing to teach in secondary schools or in community colleges. It will include a small, carefully designed component in psychology and education, and includes a supervised teaching experience. This program will require a thesis project based on experience in the classroom.

Doctoral Program

42 hours of graduate coursework

30 hours of PHYS 5980 or 5860. Dissertation planning, development, and production guided by the committee chair and graduate committee.

During the first two years, students normally take physics and astronomy courses while working with faculty members on one or more research projects. Course work consists of several required courses plus a number of elective courses. Students participate in weekly research seminars and journal clubs to learn about a broad range of current research. By the third year, Ph.D. students begin research work in the area of their dissertation.

Required courses for the Physics track:
PHYS 5310 Quantum Theory I
PHYS 5410 Electromagnetic Theory I
PHYS 5510 Statistical Mechanics I
PHYS 5720 Advanced Solid State
PHYS 5750 Optical Properties of Solids
PHYS 5730 Condensed Matter Magnetism
PHYS 5740 Transport Properties of Solids

Required courses for the Astronomy track:
ASTR 5150 Astronomical Techniques
ASTR 5420 Stellar Structure and Evolution
ASTR 5460 Cosmology
ASTR 5470 Interstellar Medium and Diffuse Matter
ASTR 5465 Galaxies

Plus two of the following:
PHYS 5310 Quantum Theory I
PHYS 5410 Electromagnetic Theory I
PHYS 5510 Statistical Mechanics I

Ph.D. candidates demonstrate their competency in basic undergraduate physics and in required graduate courses through a written examination. After passing the written exam, students will take an oral preliminary exam based on a research project they have completed during the first two years. At the completion of the Ph.D. dissertation, a candidate makes a public presentation of his or her work and the committee conducts a final examination to award the degree.

Astronomy (ASTR)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000. Descriptive Astronomy. 3. [(none)◀▶PN] Covers essential features of the solar system, stellar astronomy and time measurement. Students who have taken ASTR 2310 may not earn credit in ASTR 1000, and not more than 4 credit hours may be earned by taking both ASTR 1000 and 1050.

1050. Survey of Astronomy. 4. [SE◀▶PN] Consists of 3 lecture periods and a two-hour laboratory in observational and laboratory astronomy. Observing sessions are scheduled after dark and held when weather permits. Designed primarily for non-science majors. *Prerequisite:* MATH 1000 or equivalent, or passing the Mathematics Placement examination at Level 2.

1070. The Earth: Its Physical Environment. 4. [SE◀▶PN] Discusses selected topics from geology, astronomy and meteorology illustrating fundamental concepts, processes, products and the interrelationships among them. Emphasizes nature of science and relationship between selected topics and society. Cross listed with GEOL 1070. *Prerequisites:* Math Level 3 or equivalent courses; consent of instructor; enrollment reserved for elementary education majors; EDCI 2000 must be selected concurrently.

2310. General Astronomy I. 4. Covers the history of astronomy, orbital mechanics, solar system (the Sun, planetary interiors, atmospheres, moons, comets, meteors); interaction of radiation and matter (physical processes in gas, black body radiation) astronomical instrumentation and detectors. Laboratory includes exercises in observational astronomy. Observing sessions are scheduled after dark and held when weather permits. PN designation. *Prerequisites:* PHYS 1210 or 1310, MATH 2200. (Normally offered spring semester)

2320. General Astronomy II. 4. Covers the properties of stars, stellar atmospheres and stellar evolution, interstellar matter, galaxies and cosmology including models of the universe, the Big Bang, and dark energy. Laboratory includes exercises in observational astronomy. Observing sessions are scheduled after dark and held when weather permits. PN designation. *Prerequisites:* PHYS 1210 or 1310, MATH 2200.

4000. Astronomy for Teachers. 1-5 (Max. 5). Specifically designed for elementary school teachers. Presents basic concepts (time, seasons, light and its properties); planetary systems of the sun; the sun and stars; the Milky Way and galaxies; and cosmology and relativity. Emphasizes presenting these concepts to elementary school children. Half the class is devoted to laboratory and workshop activities to develop techniques for presenting these concepts through visual aides, demonstrations and films. Students may receive a maximum of 5 credits in a combination of ASTR 4000 and 4100. *Prerequisites:* 6 hours of physical or biological science, junior standing in education. (Offered summer session)

4100. Astrophysics for Secondary Teachers. 1-3 (Max. 3). Discusses modern physics, emphasizing obtaining and analyzing real data. Adaptable to junior and senior high school science classrooms. Special projects include analysis of planetary positions and images; direct observations of the sun; predictions of eclipses and tides; analyses of basic astronomical data of stars, star clusters, galaxies and clusters of galaxies; and cosmological modeling. Students may receive a maximum of 5 credits in a combination of ASTR 4000 and 4100. *Prerequisite:* junior standing in secondary science education. (Offered summer session)

4610. Introduction to Astrophysics. 3. Includes astrophysical sources of radiation, radiation transport, nonequilibrium processes, stellar atmospheres, stellar interiors and the interstellar medium. *Prerequisites:* ASTR 2310, PHYS 2310 and concurrent registration in PHYS 4210 and 4410.

4620. Modern Research in Astrophysics. 3. Taught jointly by astrophysics faculty and others. Includes several topics of current research in astrophysics. *Prerequisite:* ASTR 4610.

4860. Problems in _____. 1-4 (Max. 12). Independent, in-depth study of selected problems in astronomy and astrophysics. Entirely laboratory-oriented investigations of astronomical objects. *Prerequisites:* ASTR 2310 and PHYS 2310.

5150. Astronomical Techniques. 4. Discusses selected topics in observational astronomy such as applications of the Fourier transform, design of optical instruments, properties of various detectors of electromagnetic radiation, sources of uncertainty in astronomical data, reduction techniques for these data, and techniques of image processing. *Prerequisite:* graduate standing in astrophysics.

5160. Data Mining in Large Astronomical Surveys. 4. Aimed at an understanding of how to manipulate and analyze catalog-level data from large astronomical surveys. Students will address realistic problems in data mining large astronomical surveys using one or more programming languages. *Prerequisites*: graduate standing.

5420. Stellar Evolution and Structure. 4. The life cycle of stars forms the basis for this course, including formation and early evolution, hydrostatic structure, and late stages of evolution. In addition, energy generation and transport are presented. *Prerequisite:* graduate standing in astrophysics.

5460. Galactic Structure and Evolution: Cosmology. 4. Presents material describing current cosmological models and their application to areas of extragalactic astronomy. Topics include cosmic dynamics, introduction to relativistic models, measuring parameters, dark matter, dark energy, the cosmic microwave background radiation, big bang nucleosynthesis. *Prerequisite:* Graduate standing in astrophysics.

5465. Galaxies. 4. Presents material necessary for study of the Milky Way, galaxies, active galaxies, and the large-scale structure of the universe. Topics include stellar populations, kinematics and dynamics in the Milky Way and other galaxies, galaxy classification and properties, and active nuclei and quasars. *Prerequisite:* graduate standing in astrophysics.

5470. Interstellar Medium and Diffuse Matter. 4. The material between stars is the primary topic, including the chemistry, energetics, and evolution of interstellar matter. The formation of molecules and dust grains, and their composition, are also discussed. Emission processes characteristic of the ISM are described. *Prerequisite:* ASTR 5460.

5490. Planets and Their Stars. 4. Reviews recent and current research in planets and exoplanets. Topics may include planet formation, known properties of exoplanets, comparisons to Solar System planets, properties of planet-hosting stars, and evolution of planetary systems. *Prerequisites*: graduate standing or permission of the instructor.

5630. General Relativity and Cosmology I. 3. Presents a detailed study of Einstein's theory of the gravitational field with emphasis on the geometric structure of space-time, and selected topics in general relativity. *Prerequisite:* PHYS 5320, 5420.

5860. Independent Study. 1-4 (Max. 24). Investigations on the level of original graduate research in astrophysics. *Prerequisite:* ASTR 4860 or equivalent.

5870. Special Topics in Astronomy. 1-4 (Max. 20). *Prerequisite:* graduate standing

5960. Thesis Research. 1-9 (Max. 48). Graduate level course designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisites:* enrollment in a graduate degree program.

5980. Dissertation Research. 1-9 (Max. 48). Graduate level course designed for students who are involved in research for their dissertation project. Also used for students whose coursework is complete and are writing their dissertation. *Prerequisite:* enrollment in a graduate degree program.

Physics (PHYS)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1050. Concepts of Physics. 4. [SP◀▶PN] Introduces the physical world. For students whose background in math and science is minimal; recommended for students in paramedical sciences and medical technology. Three lecture hours per week are supplemented by two hours per week of laboratory work. *Prerequisite:* MATH 1000 or equivalent, or passing the Mathematics Placement examination at Level 2.

1090. The Fundamentals of the Physical Universe. 4. [SP◀▶PN] Applies fundamental principles of chemistry and physics to real life situations. Primarily for elementary education majors. *Prerequisites:* MATH 1000 or equivalent, or passing the Mathematics Placement examination at Level 2.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

1110. General Physics I. 4. [SP◀▶PN] First course of two-semester sequence. Introduces elementary college physics without calculus. Primarily for premedical, predental, preoptometry, prephysical therapy and other students requiring insight into workings of the physical world. Includes classical mechanics, gravitation and heat. Laboratory sessions will illustrate principles studied. Students receiving credit for PHYS 1110 cannot receive credit for PHYS 1050, 1210 or 1310. *Prerequisite:* MATH 1450, 1405 or equivalent. (Normally offered fall and summer semester)

1120. General Physics II. 4. [SP◀▶PN] Follows PHYS 1110 and completes introduction to physics without calculus. Includes electricity, magnetism, optics and modern physics. Laboratory sessions illustrate principles studied. Students receiving credit in PHYS 1120 cannot receive credit in PHYS 1050, 1220 or 1320. *Prerequisite:* PHYS 1110. (Normally offered spring and summer semester)

1210. Engineering Physics I. 4. [SP◀▶PN] First course of a two-semester sequence. Provides introduction to physics with calculus for engineering students. Includes classical mechanics, gravitation and mechanical waves. Laboratory sessions illustrate principles studied. Students receiving credit for PHYS 1210 cannot receive credit for PHYS 1050, 1110, or 1310. *Prerequisites:* a grade of C or higher in MATH 2200 and concurrent enrollment in MATH 2205.

1220. Engineering Physics II. 4. [SP◀▶PN] Follows PHYS 1210 and continues introduction to physics with calculus for engineering students. Includes electricity, magnetism and heat. Laboratories illustrate principles studied. Students receiving credit for PHYS 1220 cannot receive credit for PHYS 1050, 1120, or 1320. *Prerequisites:* grades of C or higher in MATH 2200, 2205 and concurrent enrollment in MATH 2210.

1310. College Physics I. 4. [SP◀▶(none)] First course of two semester sequence. Provides thorough introduction to physics with calculus. Primarily for majors in physics, astronomy, and other areas in science, mathematics and technology requiring the highest levels of sophistication. Includes classical mechanics, gravitation and mechanical waves. Laboratory sessions illustrate principles studied and meaning of physical measurement. Students receiving credit for PHYS 1310 cannot receive credit for PHYS 1050, 1110, or 1210. *Prerequisites:* MATH 2200 and concurrent enrollment in MATH 2205.

1320. College Physics II. 4. [SP◀▶(none)] Follows PHYS 1310 and continues introduction to physics with calculus. Includes electricity, magnetism and thermodynamics. Laboratory sessions illustrate principles studied and meaning of physical measurement. Students receiving credit for PHYS 1320 cannot receive credit for PHYS 1050, 1120 or 1220. *Prerequisites:* MATH 2200, 2205 and concurrent enrollment in MATH 2210.

2250. Themodynamic Systems in Energy Science. 4. Introduces the principles of thermodynamics and their application to energy science. Intended for students majoring in Energry Resource Science. *Prerequisites*: PHYS 1210, grade of C or higher in MATH 2205.

2310. Physics III: Waves and Optics. 4. Third-semester course primarily for majors in physics, astronomy, engineering, mathematics, and other sciences. Includes Gaussian Optics and matrix calculations, wave equations, interference, superposition principle, elementary Fourier Analysis, Fraunhofer and Fresnel Diffraction, application to optical instruments. *Prerequisite:* PHYS 1220 or 1320 or equivalent.

2320. Physics IV: Modern Physics. 3. Fourth semester course primarily for majors in physics, astronomy, engineering, mathematics, and other physical sciences. Topics include introductory quantum mechanics, nuclear and particle physics, lasers, Planck's Blackbody Radiation, photoelectric effect, electron diffraction, wave-particle duality, de-Broglie Wavelength, Bohr Atom, Heisenberg Uncertainty Principle, Schrodinger Equation, and Einstein's Special Theory of Relativity. *Prerequisite:* PHYS 1220 or 1320 or equivalent.

2870. Special Topics in ____. 1-4 (Max. 4). Presents various subjects not available in regularly scheduled courses. *Prerequisite:* consent of instructor. (Offered based on sufficient demand and resources)

3000. Methods of Physics. 4. Provides introduction to mathematical methods and modern scientific computational tools used in physics/astronomy. Topics include introduction to Python or linux operating system and use LabView software to run laboratory apparatus. Course examples will draw upon material in Physics 1210/1220 to help build fluency in the first year physics material. *Prerequisite:* PHYS 1220.

3640. Modern Electronics and Experimental Techniques. 4. Introduced to analog and digital circuits/devices and computer interfacing with laboratory equipment and experiments. Includes computer programming, the analysis of experimental data, and report writing. Apply the skills developed in this class to interface with and control representative instrumentation used in experimental physics laboratories. Prerequisites: PHYS 2320.

3650. Advanced Lab in Modern Physics and Electronics. 4. [(none)◀▶COM3] Presents fundamentals of modern optics, modern and quantum physics, E&M/electronics, and thermodynamics in a project oriented interactive undergraduate laboratory with a focus on professional grade lab report writing that qualifies as WB USP. Students learn professional data handling, error theory, and data analysis. *Prerequisites:* WA and PHYS 2310 or 2320.

4000. Applied Laser Science. 3. Covers basic operational principles of lasers and their many applications in science and industry. *Prerequisites:* PHYS 2310 or equivalent; PHYS 4310. (Offered based on sufficient demand and resources)

4210. Classical Mechanics I. 3. First semester of a two-course sequence. Presents classical mechanics at intermediate level. Begins with elementary Newtonian mechanics and builds step by step into analytic mechanics. Includes simple harmonic motion of particles in one, two or three dimensions, gravitation; introduction to rigid-body motion; and introduction to Lagrangian and Hamiltonian Mechanics. *Prerequisites:* PHYS 2310 or equivalent, MATH 2210 or equivalent. (Normally offered spring semester)

4220. Classical Mechanics II. 4. Follows PHYS 4210. Presents classical mechanics at an intermediate to advanced level. Includes

detailed treatment of Lagrangian and Hamiltonian Mechanics, rigid-body motion, small oscillations and introduction to relativity. Dual listed with PHYS 5220. *Prerequisite:* PHYS 4210.

4310. Quantum Mechanics. 3. Studies fundamental concepts of quantum theory. *Prerequisite:* PHYS 4210. (Normally offered fall semester)

4340. Semiconductor Materials and Devices. 3. Physical properties of semiconductor materials and devices, including crystal lattices and energy bands, carrier generation, transport, and recombination. PN, metal-semiconductor, and heterojunction operation. Field Effect Transistors, including Metal Oxide Semiconductor (MOSFET), Junction (JFET), MEtal Semiconductor (MESFET), and High Electron Mobility (HEMT) transistors. Bipolar Junction (BJT) and Heterojunction (HBT) Transistor operation. Cross listed with EE 4340. *Prerequisite:* PHYS 1220 or 1320.

4350. Advanced Quantum Mechanics. 3. Covers advanced topics in quantum mechanics, including angular momentum, quantum states in three dimension, hydrogen atomic structure, electron spin, Pauli matrices, time-dependent and independent perturbation methods, Born approximation, formal scattering theory, etc.. *Prerequisites:* PHYS 4210, 4310, 4420 and MATH 4440. (Normally offered spring semester)

4410. Electricity and Magnetism I. 3. First semester of a two-course sequence. Presents electricity and magnetism on intermediate level, emphasizing fields. Begins with review of vector algebra and calculus and proceeds to discussion of electrostatics, potential theory and steady currents. *Prerequisites:* PHYS 2310 or equivalent and MATH 2210. (Normally offered fall semester)

4420. Electricity and Magnetism II. 3. Follows PHYS 4410 and continues intermediate discussion of electricity and magnetism. Covers magnetstatics, magnetoquasistatics, alternating currents, electromagnetic waves, transmission lines and antennae. *Prerequisite:* PHYS 4410. (Normally offered spring semester)

4510. Thermodynamics and Statistical Mechanics. 3. Presents fundamental principles of thermodynamics, emphasizing mathematical development. *Prerequisites:* PHYS 4310 or equivalent and MATH 2210.

4710. Solid-State Physics. 3. Surveys theory and application of solid state physics using quantum theory. Emphasizes relation between theory and experiment. Discusses areas of present research activity. *Prerequisites:* PHYS 4310 and 4510.

4720. Solid State Electronic Devices. 3. This course aims to develop basic semiconductor physics concepts, so students can better understand current and future solid state electronic devices and technology. *Prerequisites:* PHYS 4210, PHYS 4310, PHYS 4420 and MATH 4440.

4830. Mathematical and Computational Physics I. 3. First semester of a two-semester sequence. Provides a comprehensive overview of mathematical physics and numerous analytical mathematical techniques applied to physics problems. Topics include: numerical computations and visualizations, differential and integral vector analysis, linear algebra, infinite series, complex variables, partial differential equations, ordinary differential equations, integral transforms and equations, and calculus of variations. *Prerequisites:* PHYS 2310 or PHYS 2320 and MATH 2210, MATH 2250, MATH 2310.

4840. Mathematical and Computational Physics II. 4. Second semester of a two-semester course. Provides a comprehensive overview of computational physics and provides numerous numerical techniques applied to physics problems. Topics include: numerical computations and visualizations, numerical solutions of ordinary differential equations, linear systems, curve fitting, discrete Fourier transforms, partial differential equations, integration, and Monte Carlo simulations of general stochastic systems. A weekly lab session will be held. *Prerequisite:* MATH 2210, PHYS 2320 and PHYS 3000.

4860. Independent Study in _____. 1-6 (Max. 12). Encompasses independent study to advanced problems which may involve either library and/or laboratory research. *Prerequisite:* PHYS 2310. (Offered based on sufficient demand and resources)

4870. Special Topics in _____. 1-6 (Max. 12). Presents various subjects not available in regularly scheduled courses. *Prerequisites:* PHYS 2310 and consent of instructor. (Offered based on sufficient demand and resources)

4970. Senior Research/Internship. 1-3 (Max. 4). Requires a practical research experience or internship from the student up to 4 credits under the advisement of a faculty member. This requirement for graduation should lead to a professional publication or document written by the student. The credit requirements may be spread over several semesters.

5110. Methods of Theoretical Physics I. 4. First semester of a two-semester sequence which introduces mathematical techniques used in graduate physics courses. The content may be adjusted to meet the needs of the students. This course is required for M.S. and Ph.D. students. *Prerequisite:* PHYS 4310, PHYS 4410, MATH 4440 or equivalent.

5120. Methods of Theoretical Physics II. 4. Designed to follow PHYS 5110 and will introduce further mathematical techniques used in graduate physics courses. Required for M.S. and Ph.D. students. *Prerequisite:* PHYS 5110.

5130. Ultrafast Science and Spectroscopy. 4. This graduate course introduces major themes, topics, and techniques in modern ultrafast science. *Prerequisites:* PHYS 4350 (or equivalent) and PHYS 4420 (or equivalent).

5210. Classical Mechanics. 4. Advanced classical dynamics beginning with classical Lagrangian and Hamiltonian formalism, covering relativistic Lagrangian formulation, canonical transformations, Hamilton-Jacobi theory, and small oscillations. A required course for Ph.D. students. *Prerequisite:* PHYS 4220, MATH 4440 or equivalent, and concurrent registration in PHYS 5110.

5220. Classical Mechanics II. 4. Presents classical mechanics at an intermediate to advanced level and is designed to follow PHYS 4210. Includes a detailed treatment of Langrangian and Hamiltonian mechanics. Rigid-body motion, small oscillations, and an introduction to relativity. Dual listed with PHYS 4220. *Prerequisite:* PHYS 4210.

5230. Advanced Classical Mechanics. 4. The developments of the 1970s and 1980s, including a major expansion in our understanding of chaotic motion in many areas of science, will be brought together in a coherent framework. A strong computational component will be associated with many of the problems studied. *Prerequisite:* PHYS 4210 and 5220 or equivalent.

5310. Quantum Theory I. 4. First semester of a two-semester sequence which presents quantum mechanics on a professional level. Includes topics such as infinite dimensional vector spaces, postulates of quantum mechanics, exactly soluble bound systems, and angular momentum. Required for M.S. and Ph.D. students. *Prerequisite:* PHYS 4220, PHYS 4310, MATH 4440 or equivalent, concurrent registration in PHYS 5110.

5320. Quantum Theory II. 4. Designed to follow PHYS 5310 and will present topics such as scattering by a potential, addition of angular momentum, stationary and time dependent perturbation, identical particles. It is required for M.S. and Ph.D. students. *Prerequisite:* PHYS 5310 and concurrent registration in PHYS 5120.

5410. Electromagnetic Theory I. 4. The first semester of a two-semester sequence which presents electromagnetic theory on a

professional level. The classical analytic solutions of the equations of motion are discussed and expressed as quadratures over the Green functions with attention to effect of boundary conditions. It presents topics such as algebra and calculus of vectors in configuration space, electrostatics, potential theory, and steady currents. Required for M.S. and Ph.D. students. *Prerequisite:* PHYS 4420, PHYS 5110, MATH 4440 or equivalent.

5420. Electromagnetic Theory II. 4. Designed to follow PHYS 5410 and will present topics such as magnetostatics, magnetoquasistatics, time dependent electromagnetic theory, physical optics with a vector field, and radiation from antennae. Required for Ph.D. students. *Prerequisite:* PHYS 5410.

5510. Statistical Mechanics. 4. An introduction to statistical mechanics and the many-body problem, including quantum statistics. Required for Ph.D. students. *Prerequisite:* PHYS 5210, 5320, 5410.

5610. Atomic and Molecular Spectroscopy. 3. A quantum mechanical treatment of atomic and molecular structure, transition probabilities, selection rules, and the Zeeman and Stark effects. *Prerequisite:* PHYS 5320.

5620. Atomic Physics. 4. This course will cover atomic phenomena with a focus on atomic transitions and an introduction to particle physics. *Prerequisites:* PHYS 4310 or equivalent, PHYS 5410 or equivalent.

5720. Advanced Solid State Physics. 3. A course in modern topics and theoretical technique relevant to condensed matter. *Prerequisite:* PHYS 4710 or equivalent, PHYS 5510.

5730. Condensed Matter Magnetism. 4. Designed to give graduate students instruction in the fundamental principles of magnetism, the important properties of magnetic materials and their applications. Required for the physics track of the PhD program. *Prerequisites:* PHYS 4310, 4410, 4510 or equivalent.

5740. Transport Properties of Solids. 4. Instruction in the basic quantum theories of electron and phonon transport, interactions among the carriers and with impurities, and important transport phenomena in various systems. Required for the physics track students in the PhD program. *Prerequisites:* PHYS 4310, 4410, 4510 or equivalent.

5750. Optical Properties of Solids. 4. Covers advanced topics of optical properties of solids, including free carrier contribution to their optical properties, interband transitions, absorption of light in solids, luminescence and photoconductivity, electron spectroscopy and surface science, light emitting diodes, etc. *Prerequisites:* PHYS 4310, 4410, 4510 or equivalent.

5770. Nanotechnology: Nanophysics and Nanosystems. 4. Introduction to nanoscale fabrication techniques including lithography, pattern transfer, thin film deposition etc. Electronic transport in mesoscopic systems. Electrical properties of nanoscale devices including self-assembled monolayers, carbon nanotubes, and semiconductor nanowires. Noise properties of nanostructures. *Prerequisites:* PHYS 4310 or equivalent.

5810. Nuclear and Elementary Particle Physics. 3. An advanced course in nuclear and elementary particle interactions, with emphasis on current development. *Prerequisite:* PHYS 5350.

5820. Plasma Physics. 4. Introduction to plasma physics is exhibited through the analysis of numerous ionized environments (fusion systems, stellar surfaces, and the ionosphere). Fluid approximations (MHD), as well as a kinetic theory formulation (including the Vlasov equation) of plasma physics will be employed. Damping, instabilities, and nonlinear plasmas will be explored. *Prerequisites:* PHYS 4210 and PHYS 4420.

5830. Physics of Solar Cells. 4. Covers problems of energy economy, photon physics, physics of semiconductors, conversion of chemical energy into electrical energy, basic structure of solar cells, quantum-dot-semiconductor solar cells, limitations of energy conversions in solar cells, and strategies for higher efficiency. *Prerequisite:* PHYS 5720.

5840. Experimental Methods and Low Temperature. 4. Introduction to experimental methods in condensed matter physics and phenomena at low temperatures. The fields of solid properties at low temperatures, the generation and measurement of low temperatures, the generation of high magnetic fields in laboratory magnets, and basic vacuum technology are covered. *Prerequisite:* graduate standing.

5860. Independent Study. 1-4 (Max. 24). Designed to provide opportunities for self-study and special projects under supervision of individual professors. Restricted to graduate students. *Prerequisite:* PHYS 4860 or equivalent.

5870. Special Topics In Physics. 1-4 (Max. 20). Intended to accommodate various subjects not offered as regular courses. *Prerequisite:* graduate standing.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate standing.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5980. Dissertation Research. 1-12 (Max. 48). Designed for students who are involved in research for their dissertation project. Also used for students whose coursework is complete and are writing their dissertation. *Prerequisite:* enrollment in a graduate level degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

School of Politics, Public Affairs, and International Studies

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Web site: www.uwyo.edu/sppais
School Head: Stephanie Anderson

Professors:

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TEENA J. GABRIELSON, B.A. Macalester College 1992; M.A. University of California - Davis 1997; Ph.D. 2002; Professor of Political Science 2019, 2006.

JEAN A. GARRISON, B.A. University of Wyoming 1990; M.A. University of South Carolina 1992; Ph.D. 1996; Professor of Political Science, International Studies 2010, 2001.

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BRENT L. PICKETT, B.A. Wichita State University 1989; M.A. University of Colorado at Boulder 1991; Ph.D. 1995; Professor of Political Science - Casper 2010, 2005.

ROBERT A. SCHUHMANN, B.S. Appalachian State University 1987; M.P.A. 1989; Ph.D. Virginia Polytechnic Institute and State University 1995; Professor of Political Science 2013, 1995.

Associate Professors:

NEVIN AIKEN, B.A. University of Western Ontario 2003; M.A. 2004; Ph.D. University of British Columbia 2010; Associate Professor of Political Science and International Studies 2016, 2010.

YI-LING CHEN, B.S. National Taiwan University 1989; M.S. 1992; Ph.D. Rutgers University 2000; Associate Professor of International Studies and Geography 2015, 2010.

ANDREW D. GARNER, B.S. Kennesaw State University 2002; Ph.D. University of Mississippi 2007; Associate Professor of Political Science 2014, 2008.

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JASON B. MCCONNELL, B.S. University of Wyoming 1998, MA 2003, J.D. 2005; Ph.D. Washington State University 2017; Assistant Professor of Political Science 2018.

ZOE PEARSON, B.A. University of California Los Angeles 2005; M.A. Ohio State University 2010; Ph.D. 2016; Assistant Professor of Geography and International Studies 2016.

JUSTIN T. PICCORELLI, B.A. Loyola Marymount University 2004; M.P.A. Cleveland State University 2009; Ph.D. 2014; Assistant Professor of Public Administration 2015.

GABEL C. TAGGART, B.S. Brigham Young University 2010; M.P.P. 2013; Ph.D. Arizona State University 2017; Assistant Professor of Public Administration 2018.

Senior Academic Lecturer:

ANNE ALEXANDER, B.B.A. New Mexico State University, 1991; M.S. 1993; Ph.D. University of Wyoming, 2001; Senior Academic Lecturer, 2019, 2013; Interim Provost and Vice President for Academic Affairs 2020.

Associate Lecturer:

RUTH BJÖRKENWALL, B.A. University of California at Berkeley, 1989; M.A. 2004; Associate Lecturer 2018, 2013.

Professors Emeriti:

Winberg Chai, Larry Hubbell, Garth Massey, Margaret M. Murdock, Stephen C. Ropp, Oliver Walter

Associate Professor Emeritus:

Alan E. Schenker

Adjunct Faculty

(see department section following name for academic credentials)

Tanja Börzel, political science, Freie Universitaet Berlin
Roger Coupal, agriculture and applied economics
Susan Dewey, gender and women's studies
Michael Harkin, anthropology
Mark Peterson, management and marketing
Thomas Risse, political science, Freie Universitaet Berlin
Amy Roberts, elementary and early childhood education
Chris Rothfuss, international studies
Mona Schatz, social work
Ed Sherline, philosophy
J.J. Shinker, geography
Lilia Soto, American studies and latina/o studies
Jim Thurman, international studies, political science - Central Wyoming College

International Studies

Undergraduate Learning Outcomes

Goal 1. Students graduating with a BA in international studies will be able to recognize and appreciate the historical, political, social, cultural, and economic dimensions of international processes and issues, integrating these into an interdisciplinary perspective.

Goal 2. Students graduating with a BA in international studies will have the capability to critically read, write about, discuss, and engage in scholarly inquiry related to international processes and issues.

Goal 3. Students graduating with a BA in international studies will have a minimal level of fluency in a second language and are expected to experience a foreign locale in which to use the second language skills.

Goal 4. Students will be made aware of career and post-graduate opportunities suitable for an international studies major.

Graduate Learning Outcomes

All students who graduate with a Master's degree in international studies will be able to:

- Engage in independent empirical inquiry that makes an original contribution to the field of study;
- Think critically and reason logically about a problem and the ways it can be answered;
- Employ the best recognized methods appropriate to their research;
- Effectively develop alternative explanations, use theories and concepts to guide the research project, and conduct the work in such a way that disproof is possible; and
- Present their work intelligently, with both written and oral capability at a level of professional expectations.

They will have a broad understanding of:

- International affairs;
- The diversity of national cultures and social structures;
- Political and economic systems;
- Major global trends and problems.

International Studies Major

Students graduating with a degree in international studies will be able to recognize and appreciate the historical, political, social, cultural, and economic dimensions of international processes and issues, integrating these into an interdisciplinary perspective. uwyo.edu/sppais.

Core Courses - Students take 9 hours of core coursework. INST 2350 (Introduction to Global Studies) and INST 2310 (Introduction to International Relations) provide the theoretical framework for the global and regional tracks. INST 4950 (Capstone) provides the culminating experience for students completing the B.A. degree in international studies and fulfills the COM3 writing requirement for the University Studies Program.

Area of Focus - Students will complete a minimum of 18 hours of coursework in two specific areas of focus, choosing a global and regional track. Students must complete a minimum of 9 hours in each track.

Global Tracks - Governance and Conflict Resolution; Economic Systems; Culture and Social Issues; Sustainable Development and the Environment

Regional Tracks - Africa and the Middle East; Asia and the Pacific Rim, Europe and the Former Soviet Union; Latin America

Global and regional tracks have suggested Gateway courses. Most Gateway courses fulfill University Studies requirements. All INST students are required to take the Regional Gateway course in their chosen region, either: INST 2230 (Introduction to Asian Studies), INST 2240 (Introduction to African Studies), INST 2250 (Introduction to Latin American

Studies), or INST 2280 (Introduction to European Studies)/POLS 2200 Politics of Europe and the EU. These courses fulfill the COM2 requirement for International Studies and counts towards the 9 hours required for the Regional Track.

Foreign Language - Students must complete 16 hours in a single foreign language or show an equivalent level of proficiency. Language courses must be conversational language courses. American Sign Language is not considered a foreign language.

Electives - Students must take 9 hours of elective courses from the international studies curriculum, 6 of which must be upper division. The following Gateway courses can count for the elective requirement: ANTH 1200, ECON 1000, INST 1060 or GEOG 1000, INST/POLS 1200, INST 1330.

All required courses for the major must be passed with a grade of C or better. There are numerous special topics courses offered during the academic year and these courses can fulfill the international studies requirements with approval from your adviser. Students are encouraged to satisfy the USP Q (quantitative reasoning) requirement by taking STAT 2070, Introductory Statistics for Social Sciences.

International Study Abroad and Internship Opportunities

All International Studies majors are strongly encouraged to consider taking part in a semester long study abroad program or a shorter-term faculty-led international fieldwork or study abroad courses taught by UW faculty (typically offered during the Summer and Winter breaks) as a way to earn course credit towards their International Studies degree. In addition, International Studies majors are also encouraged to consider participating in paid or unpaid international internship opportunities as a way of earning additional academic credit towards their International Studies degree. For more information on international study abroad exchanges, faculty-led fieldwork courses and internship opportunities, please visit the UW Abroad Office at: uwyo.edu/geo/eda/index.

Global Tracks - 9 hours of coursework from a single track. This list is not comprehensive; students are strongly encouraged to review the International Studies Newsletter each semester to see what additional qualifying courses are currently being offered.

Sustainable Development and the Environment

Suggested Gateway Courses: ENR 1100, ECON 1010, ECON 1020, GEOG 1000, GEOL 1600, SOC 1000

AGEC 4460 - Agriculture and Economic Development
AGEC 4660 - Community Economic Development
ANTH 4310 - Environmental Anthropology
ECON 4700 - Economic Development
ENR 2000 - Environment and Society
GEOG 3030 - Geography and Development
GEOG 3550 - Natural Hazards and Society
GEOG 4420 - Tourism and Recreation
GEOL 3500 - Global Change: A Geological Perspective
GEOL 3600 - Earth and Mineral Resources
GEOL 3650 - Energy: A Geological Perspective
INST/AGEC 3860 - Econ of World Food/Ag
INST 4060 - NGOs, Development, and Culture
INST/SOC 4110 - Sociology of Development
INST/POLS 4255 - Politics of Developing Nations
INST 4475 - Sustainable Development & Environment
INST 4580 - Gender, Global Change and Development
MKT 4590 - Sustainable Business Practices
POLS 4350 - Sustainable Development and Global Policy

Economic Systems

Suggested Gateway Courses: ECON 1000, ECON 1010, ECON 1020. NOTE: Some courses from this curriculum require ECON 3020.

AGEC 4460 - Agriculture and Economic Development
AGEC 4660 - Community Economic Development
AGEC 4880 - International Agricultural Trade, Markets and Policy
BUSN 4540 - Global Business Issues
ECON 4700 - Economic Development
ECON 4720 - International Trade
ECON 4740 - International Finance
FIN 4460 - Multinational Finance
INST/BUSN 2000 - Intro to International Business
INST/GEOG 3050 - Economic Geography
INST/AGEC 3860 - Economics of World Food and Development
INST/SOC 4370 - Global Political Economy
INST/MKT 4540 - International Marketing
INST/ECON 4710 - Comparative Systems
MKT 4590 - Sustainable Business Practices

Culture and Social Issues

Suggested Gateway Courses: ANTH 1200, SOC 1000

ANTH 4300 - Anthropology of Religion
ANTH 4350 - Medical Anthropology
ANTH 4380 - Visual Anthropology
ART 4650 - International Study in Art
COJO 3190 - Cross-Cultural Communication
GEOG 4570 - Cultural Geography
HIST 4405 - American Encounters to 1850
HIST 4406 - American Encounters from 1850
INST/SOC 3000 - Social Change
INST/ANTH 3420 - Anthropology of Global Issues
INST/HLSC 4100 - Global Public Health
INST/WMST 4155 - Women, War and Health
INST/WMST 4175 - Gender, Women and Health
INST/WMST 4240 - Global Sex Work and Trafficking
INST/ANTH 4350 - Culture Change
INST 4590 - Women of India
INST 4650 - Women, Gender and Migration
INST/SOWK 4881 - Intl Social Welfare/Social Dev.
ANTH/MUSC 3015 - Introduction to Music of the World's People
MUSC 4050 - Advanced Studies in World Music
RELI 2225 - History of Christianity
RELI 2255 - Introduction to Judaism
WMST 3500 - Gender and Society
ZOO 4110 - HIV/AIDS

Governance and Conflict Resolution

Suggested Gateway Courses: GEOG 1000, POLS 1200, SOC 1000

ANTH 4320 - Political Anthropology
CRMJ 4280 - Comparative Criminal Justice
GEOG 4590 - Geography of Conflicts
INST 3200 - Comparative Political Cultures
INST/WMST 4155 - Women, War, and Health
INST/SOC 4300 - The World System
INST/POLS 4330 - American Foreign Relations
INST/POLS 4340 - International Organizations
INST 4360 - International Peace & Conflict
INST 4375 - Transitional Justice
INST/HIST 4380 - History of Human Rights
INST 4455 - Drug War Geopolitics in the Americas
INST/GEOG 4560 - Global Cities
INST/HIST 4582 - 20th Century Foreign Relations
PHIL 3250 - Global Justice
POLS 3300 - Model United Nations
POLS/GEOG 4013 - Political Geography
POLS 4710 - Emerging Democracies
POLS 4870 - Seminar: International Relations
POLS 4875 - Seminar: Comparative Foreign Policy Analysis
POLS 4890 - Seminar: Comparative Government and Politics

Regional Tracks - 9 hours of coursework from a single track. This list is not comprehensive; students are strongly encouraged to review the International Studies Newsletter each semester to see what additional qualifying courses are currently being offered.

Africa and the Middle East

Gateway Course for this Concentration: INST 2240, Introduction to African Studies

AAST/INST 2240 - Introduction to African Studies
AAST/ANTH/ART 2730 - African Creativity and Ritual
AAST/HIST 3120 - Africa Since 1800
AAST 3130 - Global Impact of African Cultures
AAST 3670 - African Diaspora
ENGL 2190 - African Literature
HIST/RELI 2320 - History of Islam
HIST 3220 - History of the Modern Middle East
HIST/WMST 4335 - Women and Islam
INST 3400 - Politics and Society of Turkey
INST/AAST 4050 - Dev., Africa, and Culture
POLS 3270 - Government and Politics of the Middle East
RELI 2040 - Religions of the Middle East
RELI 2450 - Traditional African Religion

Asia and the Pacific Rim

Note: The Asian Studies minor is different from this concentration. Gateway Course for this Concentration: INST 2230, Introduction to Asian Studies

HIST 2040 - Imperial China
HIST 2041 - Modern China
HIST 2460 - Traditional Japan
HIST 2461 - Modern Japan
HIST 3400 - Mongol Empire
HIST 4510 - Modern Far East: China, Japan and India
INST 2230 - Introduction to Asian Studies
INST/SOC 3100 - Chinese Society
INST 4200 - China and Globalization
INST 4250 - Economic Development in Asia
INST/SOC 4680 - Shanghai: Past and Present
POLS 4230 - Governments and Politics of Asia
POLS 4240 - Culture, Society, Political Economy in East Asia
RELI 2050 - Religious Landscapes of Asia
RELI 2315 - History of Hinduism
RELI 3340 - Mysticism, Yoga, and Enlightenment in the East
RELI 3344 - Gods, Avatars, Heroes, and Mystics
WMST 4590 - Women of India

Europe and the Former Soviet Union

Note: The European Studies minor is different from this concentration. Gateway Course for this Concentration: INST 2280, Introduction to European Studies, or INST 2200, Politics of Europe and the European Union

FREN 3110 - Contemporary French Civilization
GERM 3006 - 20th Century German Culture
HIST/RELI 2080 - Holocaust
HIST 2240 - History of Russia from 1855
HIST 3110 - Modern Germany
HIST 4170 - Europe in the 19th Century
HIST 4180 - Europe in the 20th Century
HIST 4270 - France: Old Regime and Revolution
HIST 4280 - France Since 1814
HIST 4290 - History of the Soviet Union
HIST 4310 - World War II in Europe
HIST 4315 - Central Europe and the Holocaust
HIST 4320 - Memory and National Identity
HIST 4330 - European Gender and Women's History
POLS 2200 - Politics of Europe and the European Union
POLS 3220 - Government and Politics of Russia and the FSU
POLS 4220 - European Union
RELI 4150 - Christianity, Jews, and Muslims in Iberia
WMST 4330 - European Gender and Women's History

Latin America

Gateway Course for this Concentration: INST 2250, Introduction to Latin American Studies

AAST 2410 - Survey of Afro-Caribbean Cultures
GEOG 4500 - Landscapes of the Americas
HIST 2380 - Latin America Civilization
HIST 4492 - Indian Cultures of Latin America
HIST 4495 - Colonial Mexico
HIST 4496 - History of Mexico
INST 2250 - Introduction to Latin American Studies
INST/POLS 4290 - Inter-American Relations
INST 4445 - Drug War Geopolitics in the Americas
INST 4475 - Politics of Ntl. Resources in Latin America
INST/LTST 4485 - U.S. Latino Diaspora
INST 4490 - Ethical Trade in Latin America
INST 4495 - Indigenous Social Movements of Latin America
INST/LTST 4650 - Women, Gender and Migration
POLS 2290 - Government and Politics of Latin America
POLS 4890 - Populism and Liberal Democracy

General Requirements for the International Studies Major

A student must complete 36 hours of course work and 16 hours of foreign language.

Concurrent Major

A concurrent major is a second major pursued alongside the primary major. The majors can be in one or more colleges. One degree is awarded from the college of the primary major. University Studies requirements need only be satisfied once.

Dual Degree

A dual degree is a second degree pursued either in the same college as the first degree or in another college. University Studies requirements need only be satisfied once. Students must meet all the college and major requirements for both majors. Students must complete at least 30 credit hours (minimum 12 upper-division hours) beyond the credit hours required for the degree with the smallest number of credit hours required. An academic advisor for each degree is required.

Second Bachelor's Degree

Students pursuing a second bachelor's degree must earn a minimum of 30 additional credit hours from UW, 12 of which must be upper-division. A student must also fulfill all of the college and major requirements, however, University Studies requirements only need to be met once if the first degree is from UW.

Undergraduate Minors

Students can minor in 3 areas by fulfilling one of the following sets of requirements:

International Studies Minor

A minor in international studies requires 12 hours of a single foreign language and 15 hours of international studies curriculum, with a minimum of 9 hours at the 3000-level or above.

Asian Studies Minor

The Asian Studies Minor offers students the opportunity to engage in an interdisciplinary program of study of an Asian region or a single country. The program emphasizes a social science approach to the study of Asian history, politics, society, and culture with options to include foreign language and study abroad components towards completion of the Minor. For the purposes of this minor, Asia is defined

first and foremost as a geographic entity to include Western, Northern, Central, South and East Asian areas. Thus, for example, countries such as modern Turkey and areas such as the 'Middle East' can rightly be included in 'Asia' alongside areas more traditionally understood as part of Asia such as China and India.

Asian Studies Minor Course Requirements (18 credits)

If your primary major is in the College of Arts and Sciences, at least twelve (12) credit hours must be exclusive to the minor and not counted towards fulfilling major requirements. To count towards the minor, all courses must be completed with a grade of 'C' or better.

Gateway Course (3 Credit Hours) - All Asian Studies Minor students must complete one of two required Gateway courses, either INST 2230 - Introduction to Asian Studies (G/COM2) or POLS 3270 – Government and Politics of the Middle East, depending on their primary area of interest within Asia.

Asian Studies Area Courses (15 Credit Hours) - Asian Studies Minor students must complete a minimum of fifteen (15) additional credit hours from the following list of approved Asian Studies Area Courses. A minimum of nine (9) of these credit hours must be taken at the upper-division (3000+) level. In addition to the approved courses on this list, topics courses, Honors courses, or other special course offerings may count towards fulfilling Asian Studies Area Course requirements based on the approval of the student's designated minor advisor. Students are strongly encouraged to review the International Studies Newsletter each semester to see what Asian Studies Area courses are currently being offered.

Approved Asian Studies Area Courses

ART 2720 - Introduction to the Art and Culture of Islam
ART 4650 - International Study in Art (Turkey/India)
CHIN 1101 - Taste of China
CHIN 2041 – Contemporary and Traditional Chinese Culture
CHIN 3160 - See Movies, Touch China
ENR 3300 - Environmental Policy, Conservation and Development in India
HIST 2040 - Imperial China
HIST 2041 - Modern China
HIST/RELI 2320 - History of Islam
HIST 2460 - Traditional Japan
HIST 2461 - Modern Japan
HIST 2470 – Civilization of India
HIST 3210 – The Islamic World in the Premodern Era
HIST 3220 - History of the Modern Middle East
HIST 3400 - Mongol Empire
HIST/WMST 4335 – Women and Islam
HIST 4520 – Modern Far East: China, Japan and India
INST 2230 – Introduction to Asian Studies
INST/SOC 3100 - Chinese Society
INST 3400 - Politics and Society of Turkey
INST 4200 - China and Globalization
INST 4250 - East Asia Society and Economy
INST 4560 – Global Cities
INST/WMST 4590 – Women of India
INST 4680 – Shanghai: Past and Present
LANG 2150 - History and Culture of Manga
LANG 3105 - Survey of Japanese Literature
LANG 3140 - History and Culture of Anime
LANG 4800 - Japanese Film
POLS 3270 - Government and Politics of the Middle East
POLS 4230 - Governments and Politics of Asia
RELI 2040 - Religions of the Middle East
RELI 2050 - Religious Landscapes of Asia
RELI 2315 - History of Non-Western Religions
RELI/PHIL 3320 – Eastern Thought
RELI 3340 - Mysticism, Yoga, and Enlightenment
RELI 3344 - Gods, Avatars, Heroes, and Mystics
SOC 3050 - Japanese Society

Optional Asian Study Abroad Component

Asian Studies Minor students are also strongly encouraged to participate in a relevant study abroad program in the region of Asia to supplement their coursework at UW. Accordingly, up to six (6) hours of relevant study abroad credit may be counted towards fulfillment of the Asian Studies Area Course requirement on the approval of the student's designated minor advisor. Optional Asian Foreign Language Component Asian Studies Minor students are also strongly encouraged to learn an Asian foreign language as part of their progression towards completion of the Minor. Accordingly, up to eight (8) lower-division (1000-2000) credit hours of an Asian foreign language may be counted towards fulfillment of the Asian Studies Area Course requirement. 'Asian' languages at UW include Japanese, Chinese and Arabic. However, Asian Studies Minor, students need not necessarily be limited to the three languages currently taught at UW. On the approval of the student's designated minor advisor these optional language credit hours may be fulfilled by other Asian language instruction at UW, other relevant in-country summer intensive programs, or language-focused study abroad programs.

European Studies Minor

The European Studies Minor offers students the opportunity to engage in an interdisciplinary program of study of a European region or a single country. The program emphasizes a social science approach to the study of modern European history, politics, society, and culture with options to include foreign language and study abroad components towards completion of the Minor. For the purposes of this minor, Europe is defined first and foremost as a geographic entity running from the Atlantic to the Urals and from Scandinavia to the Mediterranean and the Caucasus Mountains. Courses that transcend these boundaries should include the study of Europe in a prominent way to count toward the minor.

European Studies Minor Course Requirements (18 credits)

If your primary major is in the College of Arts and Sciences, at least twelve (12) credit hours must be exclusive to the minor and not counted towards fulfilling major requirements. To count towards the minor, all courses must be completed with a grade of 'C' or better.

Gateway Course (3 credit hours) - All European Studies Minor students must complete one of two required Gateway courses, either INST 2280 - Introduction to European Studies (COM2) or POLS 2200 – Politics of Europe and the European Union (COM2).

European Studies Area Courses (15 credit hours) - European Studies Minor students must complete a minimum of fifteen (15) additional credit hours from the following list of approved European Studies Area Courses. A minimum of nine (9) of these credit hours must be taken at the upper-division (3000+) level. In addition to the approved courses on this list, topics courses, Honors courses, or other special course offerings may count towards fulfilling Area Course requirements based on the approval of the student's designated minor advisor. Students are strongly encouraged to review the International Studies Newsletter each semester to see what European Studies Area courses are currently being offered.

Approved European Studies Area Courses

A&S 2200 - British Life and Culture
FREN 2130 – Contemporary French Culture
FREN 3110 – Contemporary French Civilization

FREN 4085 – Studies in French Culture
GERM 3006 – 20th Century German Life and Civilization
GERM 3150 – German History and Culture
GERM 4265 – Divided Nation: Politics and Culture in Germany 1945 – 1990
GERM 4285 – 20th/21st Century German Film
HIST 2080 – Holocaust
HIST 2240 – History of Russia from 1855
HIST 3110 – Modern Germany
HIST 4170 – Europe: 19th Century
HIST 4180 – Europe: 20th Century
HIST 4190 – Europe: 1930 – Present
HIST 4195 – European Economic History
HIST 4270 – France: Old Regime/Revolution
HIST 4280 – France Since 1814
HIST 4290 – History of the Soviet Union
HIST 4310 – World War II in Europe
HIST 4315 – History, Politics and Memory of the Holocaust in Europe
HIST 4320 – Memory and National Identity in 20th C Europe
HIST/WMST 4330 – European Gender and Women's History
HIST 4420 – Britain's Global Empires
INST 2280 – Introduction to European Studies
INST/POLS/SOC 4330 – The World System
INST 4380 – International History of Human Rights
INST 4881 – International Social Welfare and Social Development
POLS 2200 - Politics of Europe and the European Union
POLS 3220 – Government and Politics of Russia and the FSU
POLS 4215 – European Union
RELI 4150 – Christianity, Jews and Muslims in Iberia
SPAN 3220 – Spanish Culture and Civilization

Optional European Study Abroad Component

European Studies Minor students are also strongly encouraged to participate in a relevant study abroad program in the region of Europe to supplement their coursework at UW. Accordingly, up to six (6) hours of relevant study abroad credit may be counted towards fulfillment of the European Studies Area Course requirement on the approval of the student's designated minor advisor.

Optional European Foreign Language Component

European Studies Minor students are also strongly encouraged to learn an European foreign language (other than English) as part of their progression towards completion of the Minor. Accordingly, up to eight (8) lower division (1000-2000) credit hours of an European foreign language may be counted towards fulfillment of the European Studies Area Course requirement. 'European' languages at UW include French, German, and Spanish. However, European Studies Minor students need not necessarily be limited to the three languages currently taught at UW. On the approval of the student's designated minor advisor these optional language credit hours may be fulfilled by other European language instruction at UW, other relevant in-country summer intensive programs, or language-focused study abroad programs.

All required courses for the major must be passed with a grade of C or better. A course cannot simultaneously fulfill more than one major requirement.

Graduate Study

Students take the Plan A (thesis). Students must have a minimum of 26 hours of graded non-thesis coursework and 4 hours of thesis.

Program Specific Admission Requirements

Admission is open to all students holding a bachelor's degree in any major. Applicants must have a minimum 3.0 GPA and a minimum GRE score of 150 in Verbal and 141 in Quantitative. The GRE may be waived if the applicant already possesses a graduate degree. In addition, the LSAT or GMAT may be used in lieu of the GRE, and scores for alternative tests will be evaluated on a case-by-case basis. Foreign students, who are non-native English speakers, must pass the Oral Proficiency Interview (OPI).

Program Specific Degree Requirements

Master's Program

Students must meet three requirements: 1) Each student must take INST 5400. 2) Each student must take INST 5200. 3) Each student must demonstrate proficiency in a foreign language, accomplished in the course of the program or from previous experience or coursework. Foreign language hours do not count toward the M.A. degree.

The program also offers a joint International Studies/Environment and Natural Resources degree. See www.uwyo.edu/sppais for specific degree requirements.

Plan A (thesis)

Students are encouraged to construct, with the adviser's approval, a program that focuses their own intellectual interests and career plans. To promote that end, students should be prepared to file a plan of study with the graduate adviser during the second semester of coursework.

No later than the second semester in residence, each student shall select a graduate committee to oversee his or her academic work. The committee will be chaired by the student's major professor and must have at least one member from outside of The School of Politics, Public Affairs, and International Studies. Students also will prepare a thesis proposal and give a presentation of their preliminary project before the International Studies faculty and complete a thesis prospectus defense with their graduate committee by the end of their second semester.

Students must pass an oral examination at the completion of their program. Normally, examination will center on the thesis, but may also encompass coursework of the candidate.

Required Coursework

Advanced Theory Course
INST 5200 Graduate Proseminar in International Studies
Research Methods Course
INST 5400 International Social Science Research Methods

Graduate Minor in International Studies

A graduate minor in international studies provides students in graduate programs other than international studies with the opportunity to acquire a basic graduate-level familiarity with international relations, global processes and cultural diversity around the world. Students acquire a foundation in intergovernmental relations and research methodology. Beyond this, students work closely with a graduate director to fashion a program of study appropriate for their interests and post-graduate plans. The minor complements several other graduate degree programs.

Prerequisites for Admission

Declaration of an international studies minor is contingent on admission to a master's or doctoral degree program. Application is in the form of a letter of interest to the director of the program, including the background, anticipated course of study, and reason for seeking the minor. An interview with the director is also required. All prerequisites for entering the graduate program in international studies as a major apply to the minor with the exception of proficiency in a second language. Students must be prepared for coursework in international studies at the graduate level and be willing to take prerequisite courses if necessary.

Course and Committee Requirements

Graduate students minoring in international studies must satisfy the requirements of their graduate major and take twelve credits of guided graduate coursework in international studies. With the approval of the department of the graduate major, these twelve hours may also count toward the major. Students are required to take at least one advanced theory course (INST 5200) and one advanced research methods course. All courses will be determined in consultation with the program director.

International Studies (INST)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1040 [INST 2000]. Introduction to International Business. A broad study of the field of international business activity and theory and review major foreign environmental forces - financial, economic and socioeconomic, physical, sociocultural, political, legal, labor, competitive, and distributive - within the context of strategic management issues. Cross listed with INBU 1040. Prerequisites: ECON 1010.

1060. World Regional Geography. 3. [CS,G◀▶H] Covers the distributions, traits, and processes of the Earth's peoples and landscapes through the perspective of regional geography, which is the study of the spatial relationships of natural environments and human societies. Cross listed with: GEOG 1000.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

1200. Non-Western Political Cultures. 3. [CS,G◀▶(none)] Gives students appreciation of non-western political cultures and how these cultures have created different political institutions and practices. Non-Western nations of Asia, Africa, and the Middle East are used as case studies. Cross listed with POLS 1200.

1250. Introduction to Comparative Government. 3. How do foreign states deal with the numerous challenges to their stability? Do institutions affect a state's approach to solving different problems? How do these different approaches affect policy? This course introduces students to different styles of governance and compare countries from around the world with reference to their political ideology. Cross listed with POLS 1250.

1330. World History since 1750. 3. [CS,G◀▶(none)] A history of the world's peoples and societies from 1750 to the present, with an emphasis on the diversity and interconnectedness of human life in the past.

2200. Study Abroad Preparation. 1. Prepares students for long-term study in a foreign country, by helping them to adapt to and understand the host country's culture, history, geography, political, and economic context. The course provides the practical information necessary for a foreign experience by exploring the principles of culture shock, ethnocentrism, cultural relativism, and the fundamentals of cross-cultural communication. Offerd S/U only.

2230. Introduction to Asian Studies. 3. [G◀▶G COMM 2] Asia, the world's largest continent, is home to virtually half of humanity and a broad spectrum of peoples, languages, religions, and cultures. This course introduces the cultural, political, economic, and environmental landscapes of this diverse region.

2240. Introduction to African Studies. 3. [WB◀▶COM2] Confronts African stereotypes by exploring the continent's complex history and current affairs, with the help of different disciplinary perspectives, such as economics, political science, and anthropology. Equipped with the basics, students will be primed to tackle more advanced courses on Africa. Cross listed with AAST 2240.

2250. Introduction to Latin American Studies. 3. [(none)◀▶COM2] An introduction to the culture, history and politics of Latin America, from the US/Mexico border to the Antarctic ice fields of Patagonia. We will consider historical events and encounters from pre-Conquest times to contemporary crises. Our toolkit includes geography, anthropology, history, political economy, literature and cultural studies.

2260. Foreign Locale. 3-6 (Max. 9). A UW course taught primarily or entirely in a foreign locale.

2280. Introduction to European Studies. 3. [(none)◀▶COM2] This class explores the historical development of notions of community and difference, territories and borders, race and identity, and nationalism and post-national integration in Europe between 1789 and the present. It draws upon history, politics, geography, cultural studies, and anthropology. Cross listed with HIST 2280.

2310. Introduction to International Relations. 3. [G◀▶G] Analyzes the nature of international relations, emphasizing various methods of explaining and interpreting the behavior of nation-states. In doing so, the course illustrates the contemporary problems of world politics. Cross listed with POLS 2310.

2350. Introduction to Global Studies. 3. [CS,G◀▶(none)] Taking an interdisciplinary approach to the study of globalization, the course explores the links between trade, consumption, civil society, social justice, and ecological integrity.

2990. Topics in International Studies. 1-6 (Max. 15). Accommodates seminar series and/or course offerings including those by interdisciplinary teams and visiting faculty in international studies not covered by other courses.

3000 [2100]. Social Change. 3. [G◀▶G] Studies causes, processes and consequences of structural transformations in historical and comparative perspective. Reviews and assesses forces that account for sociological changes. Explores social change globally as well as in the U.S. Cross listed with SOC 3000. *Prerequisite:* SOC 1000.

3050 [G&R 3050]. Economic Geography. 3. Economic geography is the study of the location, distribution and spatial organization of economic activities across the globe; specifically how the economic realm is intertwined with other spheres of international social life. It explores the inherent logics and mechanisms of the capitalist system, and the social and spatial inequalities that result. Cross listed with INST 3050. *Prerequisites*: 6 hours of Social Sciences or International Studies. (Normally offered fall semester every other year)

3100. Chinese Society. 3. [G◀▶(none)] Reviews origins and consequences of Chinese revolution in comparative and cultural perspectives. Discusses influence of historical traditions and social structure on individual lives and behavioral patterns. Cross listed with SOC 3100. *Prerequisite:* SOC 1000.

3200. Comparative Political Cultures. 3. Histories and experiences of various societies have shaped their values, norms, beliefs, expectations, and attitudes. This class explores how the beliefs, values, and lifestyles of various societies shape peoples' views of their place in the politics of the state and of the state's place in their daily lives. Cross listed with POLS 3200. *Prerequisite:* POLS/INST 1200 or POLS/INST 1250 or permission of instructor.

3400. Politics and Society of Turkey. 3. [G◀▶(none)] Examines the history of Turkey with an emphasis on its relationship with the Western world. Major topics include the Ottoman Empire; Ataturk and the founding of the Republic of Turkey; Turkey's role in the Cold War, Kurdish and other minority populations; the changing Turkish political landscape, the evolution of Islamist politics; and recent relations with the United States and European Union. *Prerequisites:* INST/POLS 1200 or 1250 and INST/POLS 2310 or permission of instructor.

3420. The Anthropology of Global Issues. 3. Using anthropology's long-term, holistic and comparative approaches, the course examines key global issues, e.g., poverty, war, disease, environmental degradation, and terrorism from an anthropological perspective. Cross listed with ANTH 3420. *Prerequisite:* ANTH 1200.

3860. World Food, Ag, & Development. 3. [G◀▶H] Explores economic approaches to improving nutrition, agriculture production, and the environment in developing regions of the world. Students gain uinderstanding of complex conditions surrounding food security; institutions involved with food policy, aid, and production; environmental factors influencing agricultural production; inequality; and international cultural and societal food disparities. Cross listed with AGEC 3860. *Prerequisite:* AGEC/ECON 1010 or 1020. (Normally offered spring semester)

3933. African Philosophy. 3. [(none)◀▶H] Examines the work of philosophers of Africa, of African descent and others who deal with the African diaspora. Topics include the nature of African philosophy and the African American struggle, African colonialism, philosophy, political philosophy and gender, traditional African thought. Restricted to junior or senior class standing. Cross listed with AAST/PHIL 3933. *Prerequisite:* A prior course in AAST, INST or PHIL.

4050. Development, Africa, and Culture. 3. Focuses on the complex and checkered relationships between Western-inspired development and African cultures. Striking a balance among ethnographic case studies, theoretical lenses, and practical implications, understand what Euro-American efforts at foreign development, including contemporary globalization, look like from an African perspective. Provides an understanding of African expectations of development and developers. Dual listed with INST 5050; cross listed with AAST 4050. *Prerequisites:* junior standing and instructor consultation.

4060. NGOs, Development, and Culture. 3. Non-governmental organizations (NGOs) have grown exponentially in number and are often viewed as the new and best vehicle for international development. By focusing on international non-governmental organizations (INGOs), in the contexts of Western aid to post-colonial societies and the role they play in the international aid system, the course explores INGOs from historical, global, and cultural perspectives. Dual listed with INST 5060. *Prerequisites:* junior standing and instructor permission.

4100. Global Public Health. 3. [G◀▶(none)] Introduces students to the global context of public health, to principles underlying global health, and to dimensions of public health particular to international settings. It examines major themes and policies in global health and analyzes health problems and varying responses to them in different parts of the world. Dual listed with INST 5100; cross listed with HLSC 4100. *Prerequisite:* upper division student status.

4110. Sociology of International Development. 3. Surveys development studies and rural change, including case studies of deliberate change efforts toward industrialization. Includes peasant modes of food production, daily life in subsistence, agriculture, shifts to commercial agriculture and global economy, ethical and critical issues of induced change and different approaches to development process and outcomes. Cross listed with SOC 4110. *Prerequisite:* SOC 1000 or ANTH 1200; SOC 3000 recommended. (Offered once a year).

4175 [4940]. Gender, Women, and Health. 3. [CS,G◀▶(none)] Focuses on issues of gender, women and health, including the effects of gender bias in medical research and health care practices and policies. Health care issues of specific concern to women, both nationally and internationally will be examined. Cross listed with WMST 4175. *Prerequisite:* upper-division standing, lower division social or psychological science course. (Offered every other year)

4200. China and Globalization. 3. The economic reforms in China have been political, cultural, and above all, global processes. Understanding these processes of economic reform tells us much about the role of government, culture, and globalization in the transition from socialism to capitalism, as well as about China's future role in the world. *Prerequisite:* POLS/INST 1200 or POLS/INST 1250 or HIST 2041 or SOC 3100.

4215. European Union. 3. Examines the European Union's history, institutional structures, and policy areas and explores the positive and negative effects of European integration. Dual listed with INST 5215; cross listed with POLS 4215. *Prerequisites:* POLS 1200 or POLS 1250 or POLS 2310 or permission of instructor.

4240. Global Sex Work and Trafficking. 3. [G◀▶(none)] Drawing upon case studies from Africa, Asia, the Americas and Europe, this course explores the gendered intersections of power and privilege through the lens of sex work, broadly defined as the exchange of intimacy for something of value, and trafficking, defined as coerced forms of sex work. Dual listed with INST 5240; cross listed with WMST 4240. *Prerequisite:* 3-6 hours of WMST or INST.

4250. East Asia Society and Economy. 3. [G◀▶(none)]. Designed to explore key issues to the historical development of Asian countries from both comparative and international political economy perspectives. Distinctive political, social, and economic characteristics of these nations will be analyzed. Dual listed with INST 5250.

4255. Politics of Developing Nations. 3. An analysis of the processes of political, economic and social change in the non-Western world. Dual listed with INST 5255; cross listed with POLS 4255. *Prerequisites:* 9 hours of political science or international studies, including POLS 1200 or POLS 1250 or POLS 2310, or permission of instructor.

4260. Democratization and Regime Change. 3. Examines the theoretical/empirical research on causes of democratic transition and consolidation, including new waves of democratization and prospects for democratization in other contexts. Focus is given to a variety of theoretical/methodological perspectives such as the structural, strategic, social/cultural, institutional, and economic approaches. Dual listed with INST 5260; cross listed with POLS 4260. *Prerequisites:* 9 hours of political science or international studies, including POLS 1200, or POLS 1250, or POLS 2310, or permission of instructor.

4290. Inter-American Relations. 3. Surveys inter-American system and idea of hemispheric unity. Analyzes major issues confronting inter-American community. Cross listed with POLS 4290. *Prerequisite:* 9 hours of political science, including POLS/INST 1200, or POLS/INST 1250, or POLS/INST 2310, or permission of instructor.

4315. History, Politics and Memory of the Holocaust in Europe. 3. Offers students the opportunity to learn about the history of the Holocaust through travel to various sites in Central Europe where the events themselves

occurred, such as Berlin, Warsaw, Krakow and Auschwitz-Birkenau. Dual listed with INST 5315. Cross listed with HIST 4315. *Prerequisites:* 9 hours of HIST or INST.

4330. American Foreign Relations. 3. Analyzes American foreign policy decision-making process and selected contemporary foreign policy problems. Stresses political and institutional factors, along with analysis of policy options. Cross listed with POLS 4330. *Prerequisite:* 9 hours of political science or international studies including POLS 2310. (Normally offered once a year)

4340. International Organizations. 3. Encompasses development of world organizations, such as League of Nations, United Nations and its affiliate bodies. Also studies regional organizations and private international bodies. Cross listed with POLS 4340. *Prerequisite:* 9 hours of political science or international studies including POLS 2310.

4350. Culture Change. 3. Examines representative theories of change, factors involved, dynamics of modernization and applied anthropology. Identical to ANTH 4340. *Prerequisite:* ANTH 1200.

4360. International Peace and Conflict. 3. Why do nations go to war, engage in atrocities such as genocide, or move toward peace following conflict? Examines underlying processes behind both conflict and peace in the international system, including sources of conflict and ways conflicts might be moved toward sustainable peace. Dual listed with INST 5360; cross listed with POLS 4360. *Prerequisites:* 9 hours of political science or international studies including POLS 2310.

4370. Global Political Economy. 3. [G◀▶(none)] Examines the interaction of politics and the economy at the global level. Evaluates how political and economic decisions of one country or groups of countries affect institutions and life circumstances in others. Assesses the causes of consequences of globalization as rooted in political economy. Cross listed with SOC 4370. *Prerequisites:* SOC 1000 and junior standing or SOC 2100.

4375. Transitional Justice. 3. Mechanisms provide accountability for gross human rights violations and acts of mass atrocity within nations. Case studies are used to examine types of transitional justice interventions; tensions between demands of justice at local, national, and international levels; and transitional justice's role in post-conflict peace-building and reconciliation. Dual listed with INST 5375; cross listed with POLS 4375. *Prerequisites:* Consent of instructor. POLS 2310 strongly recommended.

4380. International History of Human Rights. 3. Examine the modern history of human rights in the global system, with particular empahsis on developments since the Second World War. Topics include the philosophy of human rights ideas; the histories of rights and rights violations in various regions; and the resulting international responses. Dual listed with INST 5380; cross listed with HIST 4380. *Prerequisites*: 9 hours of HIST or INST.

4385. Environment and Resource Conflict. 3. Drawing on key theory and contemporary real-world case studies this course explores how environmental change and the competition for scarce resources (such as food, water, oil, gems, and timber) have increasingly been linked to violent interstate and intrastate conflict and how such conflicts might be addressed, managed, or resolved through international and national action. Dual listed with INST 5385; cross listed with POLS 4385. *Prerequisite:* 9 hours of POLS or INST, including POLS/INST 2310.

4445. Drug War Geopolitics in the Americas. 3. This course examines illegal drug commodity chains and international efforts to police the drug trade in the Americas. It approaches the drug war through a "critical geopolitics" framework, also covering broader themes such as international politics, livelihoods, development, environmental justice, the global economy, race-based discrimination, public health, and resistance movements. Dual listed with INST 5445. Cross listed with POLS 4445. *Prerequisites:* 9 hours of international studies or social science coursework and junior standing.

4455. Energy Security. 3. Evaluates the geopolitical and socioeconomic issues surrounding the roots of energy insecurity and the global challenge to provide adequate, affordable, and accessible energy. Topics of study include the questions of energy nationalism, climate security, import dependence and transportation insecurities, the future of fossil fuels and alternative energies. Dual listed with INST 5455. Cross listed with POLS 4455. *Prerequisites:* 9 hours of INST or POLS, including INST/POLS 2310.

4475. Politics of Natural Resources in Latin America. 3. This course examines major trends in resource extraction, management, and conservation in Latin America, and the politics surrounding those trends, from theoretical, social, political, economic, and ecological perspectives and through a variety of grounded case studies. The theories and concepts we study are applicable to resource politics beyond Latin America. Dual listed with INST 5475. Cross listed with POLS 4475. *Prerequisites:* 9 hours of international studies or social science coursework and junior standing.

4485. U.S. Latino Diaspora. 3. Combines classroom activities and a week-long stay abroad in examining the historical creation and contemporary spread of the Latino Diaspora from the Caribbean to the Yucatan and beyond. U.S. Latina/o history, multiculturalism, pan-Latino identity, assimilation, migration trends and natives responses are stressed. Cross listed with HIST/LTST 4485. *Prerequisite:* 9 hours of LTST, HIST, and/or INST related coursework.

4540. International Marketing. 3. Approaches the topic of international marketing from a managerial perspective. Exposure to world environmental characteristics and interdependencies, as well as objectives, strategies and tactics of marketing goods and services to various countries and cultures. Cross listed with MKT 4540. *Prerequisite:* MKT 3210 and junior standing.

4560. Global Cities. 3. [H] Globalization accelerates urbanization processes and creates a new type of city: the global city. This course investigates the debates over global cities, urban culture, new urban landscapes, urban planning practices, and social disparity. Using case studies from around the world, this class explores the diversity of global city formation processes. Dual isted with INST 5560; cross listed with GEOG 4560. *Prerequisites:* 9 hours of international studies or geography.

4580. Gender, Global Change, and Development. 3. Examines the global intersections of gender and public policy through its analysis of five central themes: [1] international development discourse in practice; [2] feminized labor and migration; [3] women's unequal access to resources (including land ownership and education); [4] agricultural production and sustainability; [5] health, reproduction and mothering. Dual listed with INST 5580; cross listed with WMST 4580. *Prerequisite:* 3-6 hours of WMST or INST courses.

4582. 20th Century U.S. Foreign Relations. 3. Studies Twentieth Century United States foreign relations with a focus on the Cold War period. Examines economic sources of policy decisions, elites and mass public opinion, as well as cultural, religious, ethnic, racial, and gender issues. Cross listed with HIST 4582; dual listed with INST 5582. *Prerequisite:* 9 hours of HIST or INST.

4590. Sustainable Business Practices. 3. A close look at what is happening in business practice today through the 'lens' of sustainability. Business models and systems will

be discussed and a framework proposed for assessing the ways in which principles of sustainability may be embedded within corporate strategy. Cross listed with MKT 4590; dual listed with INST 5590. *Prerequisites:* advanced business standing.

4650. Women, Gender & Migration. 3. From an international context and perspective, this course examines the gendered transformations immigrant women experience. Gender, theories of international migration, assimilation, race, ethnicity, and identity transformation serve as categories of analysis. From a cross-discipline comparative approach, we focus on women's lives to examine differences and similarities to complicate notions of immigration. Cross listed with AMST/LTST/WMST 4650. Dual listed with INST 5650. *Prerequisites*: Junior standing and 6 hours of AMST, LTST, INST, and/or WMST coursework or instructor approval.

4705. Global Terrorism. 3. Examines the concept, causes, incidence, types, consequences of, and responses to terrorism. Highlights the distinction between domestic and international terrorism and expands on the latter within the framework of the global environment. Cross listed with CRMJ 4705 and SOC 4705. *Prerequisites:* 9 hours in CRMJ, INST, or SOC coursework.

4710. Why Economies Succeed and Fail. 3. The study of the successes and failures of alternative economic systems; origins, similarities, and differences across capitalist, socialist, and communist systems, including the UW, Chinese, European, Russian, Latin American, and African economies. What does history tech us? Are there different tools to grow economy? Cross listed with ECON 4710. *Prerequisites:* ECON 3010; QA. (Offered based on sufficient demand and resources)

4881. International Social Welfare and Social Development. 3. Examines the basic framework of social welfare analysis and social development programming in the international arena, employing a multinational comparative analysis approach to explore the wide array of responses to social need across the globe. Students employ multinational comparative analyses to an area of social concern. Dual listed with INST 5881; cross listed with SOWK 4881. *Prerequisite:* POLS 1000; ECON 1010 recommended.

4950. Capstone in International Studies. 3. [WC◀▶COM3] Integrative course taught by an international studies faculty member. Students analyze a topic in depth from one of a variety of international studies approaches, organizing their research in concert with others in the class. Emphasis is on the quality of research and presentation. *Prerequisite:* senior standing in international studies.

4970. Internship in International Studies. 1-6 (Max. 15). Integrates practical international experience with academic knowledge. Students are expected to participate in specifically assigned tasks and observe broader activities of sponsoring organization, and reflect on experience in written assignments. Satisfactory/unsatisfactory only. Dual listed with INST 5970. Available for S/U grading only. *Prerequisites:* 9 hours of international studies courses and consent of instructor.

4975. Readings in International Studies. 1-3 (Max. 9). Outlines special programs of readings in international studies to meet the needs of individual students. *Prerequisite:* 9 hours of international studies courses.

4990. Topics: _____. 1-6 (Max. 15). Accommodates seminar series and/or course offerings including those by interdisciplinary teams and visiting faculty in international studies not covered by other courses. Dual listed with INST 5990. *Prerequisites:* junior standing and consent of instructor.

5050. Development, Africa, and Culture. 3. Focuses on the complex and checkered relationships between Western-inspired development and African cultures. Striking a balance among ethnographic case studies, theoretical lenses, and practical implications, understand what Euro-American efforts at foreign development, including contemporary globalization, look like from an African perspective. Provides an understanding of African expectations of development and developers. Dual listed with INST 4050; cross listed with AAST 5050. *Prerequisites:* junior standing and instructor consultation.

5060. NGOs, Development, and Culture. 3. Non-governmental organizations (NGOs) have grown exponentially in number and are often viewed as the new and best vehicle for international development. By focusing on international non-governmental organizations (INGOs), in the contexts of Western aid to post-colonial societies and the role they play in the international aid system, the course explores INGOs from historical, global, and cultural perspectives. Dual listed with INST 4060; cross listed with AAST 5060. *Prerequisites:* junior standing and instructor permission.

5100. Global Public Health. 4. Introduces students to the global context of public health, to principles underlying global health, and to dimensions of public health particular to international settings. It examines major themes and policies in global health and analyzes health problems and varying responses to them in different parts of the world. Cross listed with HLSC 5100, dual listed with INST 4100. *Prerequisite:* upper division or graduate standing.

5200. Graduate Proseminar in International Studies. 3-6 (Max. 6). Introduces students to different interdisciplinary approaches – perspectives, theories, and paradigms – within International Studies in order to explain the economic, historical, social, cultural, and political dimensions of international processes and issues. Students explore emerging trends in the global system and the most pressing challenges facing states, societies, and peoples. *Prerequisites:* graduate student status.

5210. Seminar in Human Security. 3-6 (Max. 6). A broad interdisciplinary approach to the study of human security within the field of international studies and global politics in order to explore the theories and processes that explain past and emerging patterns of behavior in the international system, as well as key aspects of local to global policymaking. Dual listed with POLS 5210.

5215. European Union. 3. Examines the European Union's history, institutional structures, and policy areas and explores the positive and negative effects of European integration. Dual listed with INST 4215; cross listed with POLS 5215. *Prerequisites:* POLS 1200 or POLS 1250 or POLS 2310 or permission of instructor.

5220. Graduate Seminar in Development. 3. This seminar will explore political challenges facing developing nations in the twenty-first century. The objective is to equip students from a broad range of backgrounds with a firm grounding in current development approaches and debates. *Prerequisite:* INST graduate standing.

5240. Global Sex Work and Trafficking. 3. Drawing upon case studies from Africa, Asia, the Americas and Europe, this course explores the gendered intersections of power and privilege through the lens of sex work, broadly defined as the exchange of intimacy for something of value, and trafficking, defined as coerced forms of sex work. Dual listed with INST 4240; cross listed with WMST 5240. *Prerequisite:* 3-6 hours of WMST or INST.

5250. East Asia Society and Economy. 3. Designed to explore key issues to the historical development of Asian countries from both comparative and international political economy perspectives. Distinctive political, social, and economic characteristics of these nations will be analyzed. Dual listed with INST 4250.

5255. Politics of Developing Nations. 3. An analysis of the processes of political, economic and social change in the non-Western world. Cross listed with POLS 5255; dual listed with

INST 4255. *Prerequisites:* 9 hours of political science or international studies, including POLS/INST 1200 or POLS/INST 1250 or POLS/INST 2310, or permission of instructor.

5260. Democratization and Regime Change. 3. Examines the theoretical/empirical research on causes of democratic transition and consolidation, including new waves of democratization and prospects for democratization in other contexts. Focus is given to a variety of theoretical/methodological perspectives such as the structural, strategic, social/cultural, institutional, and economic approaches. Dual listed with INST 4260; cross listed with POLS 5260. *Prerequisites:* 9 hours of political science or international studies, including POLS 1200, or POLS 1250, or POLS 2310, or permission of instructor.

5310. Seminar in Human Rights. 3. This seminar will examine rights from interdisciplinary perspectives, with an emphasis on a social science approach. *Prerequisite:* graduate standing.

5315. History, Politics and Memory of the Holocaust in Europe. 3. Offers students the opportunity to learn about the history of the Holocaust through travel to various sites in Central Europe where the events themselves occurred, such as Berlin, Warsaw, Krakow and Auschwitz-Birkenau. Dual listed with INST 4315. Cross listed with HIST 5315. *Prerequisites:* graduate standing.

5330. American Foreign Relations. 3. Analyzes American foreign policy decision-making process and selected contemporary foreign policy problems. Stresses political and institutional factors along with analysis of policy options. Dual listed with INST 4330. Cross listed with POLS 5330. *Prerequisite:* Consent of instructor. POLS 2310 strongly recommended.

5360. International Peace and Conflict. 3. Why do nations go to war, engage in atrocities such as genocide, or move toward peace following conflict? Examines underlying processes behind both conflict and peace in the international system, including sources of conflict and ways conflicts might be moved toward sustainable peace. Dual listed with INST 4360; cross listed with POLS 5360. *Prerequisites:* Consent of instructor. POLS 2310 strongly recommended.

5375. Transitional Justice. 3. Mechanisms provide accountability for gross human rights violations and acts of mass atrocity within nations. Case studies are used to examine types of transitional justice interventions; tensions between demands of justice at local, national, and international levels; and transitional justice's role in post-conflict peace-building and reconciliation. Dual listed with INST 4375; cross listed with POLS 5375. *Prerequisites:* Consent of instructor. POLS 2310 strongly recommended.

5380. International History of Human Rights. 3. Examine the modern history of human rights in the global system, with particular emphasis on developments since the Second World War. Topics include the philosophy of human rights ideas; the histories of rights and rights violations in various regions; and the resulting international responses. Dual listed with INST 4380; cross listed with HIST 5380. *Prerequisites*: 9 hours of HIST or INST.

5385. Environment and Resource Conflict. 3. Drawing on key theory and contemporary real-world case studies this course explores how environmental change and the competition for scarce resources (such as food, water, oil, gems, and timber) have increasingly been linked to violent interstate and intrastate conflict and how such conflicts might be addressed, managed, or resolved through international and national action. Dual listed with INST 4385; cross listed with POLS 5385. *Prerequisite:* 9 hours of POLS or INST, including POLS/INST 2310.

5400. International Social Science Research Methods. 3. Introduces students to a wide variety of interdisciplinary social science methodologies that have proven especially conducive to international research. *Prerequisite:* graduate standing.

5445. Drug War Geopolitics in the Americas. 3. This course examines illegal drug commodity chains and international efforts to police the drug trade in the Americas. It approaches the drug war through a "critical geopolitics" framework, also covering broader themes such as international politics, livelihoods, development, environmental justice, the global economy, race-based discrimination, public health, and resistance movements. Dual listed with INST 4445. Cross listed with POLS 5445. *Prerequisite:* graduate standing.

5455. Energy Security. 3. Evaluates the geopolitical and socioeconomic issues surrounding the roots of energy insecurity and the global challenge to provide adequate, affordable, and accessible energy. Topics of study include the questions of energy nationalism, climate security, import dependence and transportation insecurities, the future of fossil fuels and alternative energies. Dual listed with INST 4455. Cross listed with POLS 5455. *Prerequisites:* 9 hours of INST or POLS, including INST/POLS 2310.

5475. Politics of Natural Resources in Latin America. 3. This course examines major trends in resource extraction, management, and conservation in Latin America, and the politics surrounding those trends, from theoretical, social, political, economic, and ecological perspectives and through a variety of grounded case studies. The theories and concepts we study are applicable to resource politics beyond Latin America. Dual listed with INST 4475. Cross listed with POLS 5475. *Prerequisite:* graduate standing.

5560. Global Cities. 3. [H] Globalization accelerates urbanization processes and creates a new type of city: the global city. This course investigates the debates over global cities, urban culture, new urban landscapes, urban planning practices, and social disparity. Using case studies from around the world, this class explores the diversity of global city formation processes. Dual listed with INST 4560; cross listed with GEOG 5560. *Prerequisites:* 9 hours of international studies or geography.

5580. Gender, Global Change, and Development. 3. Examines the global intersections of gender and public policy through its analysis of five central themes: [1] international development discourse in practice; [2] feminized labor and migration; [3] women's unequal access to resources (including land ownership and education); [4] agricultural production and sustainability; [5] health, reproduction and mothering. Dual listed with INST 4580; cross listed with WMST 5580. *Prerequisite:* 3-6 hours of WMST or INST courses.

5650. Women, Gender & Migration. 3. From an international context and perspective, this course examines the gendered transformations immigrant women experience. Gender, theories of international migration, assimilation, race, ethnicity, and identity transformation serve as categories of analysis. From a cross-discipline comparative approach, we focus on women's lives to examine differences and similarities to complicate notions of immigration. Cross listed with AMST/LTST/WMST 5650. Dual listed with INST 4650. *Prerequisites*: Junior standing and 6 hours of AMST, LTST, INST, and/or WMST coursework or instructor approval.

5582. 20th Century U.S. Foreign Relations. 3. Studies Twentieth Century United States foreign relations with a focus on the Cold War period. Examines economic sources of policy decisions, elites and mass public opinion, as well as cultural, religious, ethnic racial and gender issues. Dual listed with 4582; cross listed with HIST 4582/5582. *Prerequisite:* graduate standing.

5590. Sustainable Business Practices. 3. A close look at what is happening in business practice today through the 'lens' of sustainability. Business models and systems will be discussed and a framework proposed for assessing the ways in which principles of sustainability may be embedded within corporate strategy. Cross listed with MKT 5590; dual listed with INST 4590. *Prerequisite:* advanced business standing.

5881. International Social Welfare and Social Development. 3. Examines the basic framework of social welfare analysis and social development programming in the international arena, employing a multinational comparative analysis approach to explore the wide array of responses to social need across the globe. Students employ multinational comparative analyses to an area of social concern. Dual listed with INST 4881; cross listed with SOWK 5881. *Prerequisite:* POLS 1000; ECON 1010 recommended.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrolled in a graduate degree program.

5970. Internship. 1-12 (Max. 24). Integrates practical international experience with academic knowledge. Students are expected to participate in specifically assigned tasks and observe broader activities of sponsoring organization, and reflect on experience in written assignments. Dual listed with INST 4970. *Prerequisites:* 9 hours of INST core courses and consent of instructor.

5975. Graduate Readings in International Studies. 1-3 (Max. 12). Outlines special programs of readings in international studies to meet the needs of individual students. *Prerequisite:* graduate standing.

5990. Topics: _____. 1-6 (Max. 15). Accommodates seminar series and/or course offerings including those by interdisciplinary teams and visiting faculty in international studies not covered by other courses. Dual listed with INST 4990. *Prerequisites:* junior standing and consent of instructor.

Arabic (ARBC)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1010. First Year Arabic I. 4. [(none)◀▶H] Introduces beginning language learners to the Arabic writing system and provides opportunities for developing the four basic language skills (listening, speaking, reading, and writing) at word, phrase and sentence levels.

1020. First Year Arabic II. 4. [(none)◀▶H] Introduces beginning language learners to the fundamentals of Modern Standard Arabic and provides opportunities for developing the four basic language skills (listening, speaking, reading, and writing) and practicing them in a variety of academic contexts. *Prerequisite:* ARBC 1010 or LANG 1010.

2030. Second Year Arabic I. 4. Aims to help students attain an elementary level of communication in Modern Standard Arabic through emphasis on listening, speaking, reading and writing. Students expand their vocabulary pool, gain a deeper understanding of Arabic language system, and develop their knowledge of Arab culture. *Prerequisite:* ARBC 1020 or LANG 1020.

2040. Second Year Arabic II. 3. Aims to help students attain a lower intermediate level of communication in Modern Standard Arabic with an emphasis on listening, speaking, reading, and writing. Students develop a wider vocabulary pool, gain a deeper understanding of Arabic morphological and grammatical rules, and get acquainted with different aspects of Arab culture. *Prerequisite:* ARBC 2030 or LANG 2030.

3050. Modern Arabic and its Dialects. 3. This course exposes students to a range of Arabic dialects and explores their relationship with the Standard and each other. Additionally, this course provides students with opportunities to systematically practice and simulate a variety of dialectal excerpts. *Prerequisite:* ARBC 2030 or LANG 2030.

3060. Arabic Writing. 3. [WB◀▶COM2] This intensive, lower intermediate, Arabic writing course helps students develop the skills acquired during the second year through analyzing and producing different text genres ranging from 200 to 500 words. It will move the student from writing letters, dialogs, reports, and summaries to longer narratives, descriptions, and opinion pieces. *Prerequisite:* ARBC 2040 or equivalent.

4990. Topics in Arabic. 3 (Max. 9). Accommodates seminar series and/or course offerings including those not provided by permanent course offerings. *Prerequisites:* ARBC 2040 and consent of instructor.

Political Science

Political Science is the study of how societies govern themselves and interact with one another. Courses of instruction in the Political Science major are offered in the following subfields: American politics, comparative government, international relations, political philosophy, public law, and public administration. Areas of focus include analysis of government structures and processes, citizens' influence on government, policy content, philosophical concepts and traditions, political systems of other states, and resolution of conflicts between nations. By developing critical thinking and analytical skills, the major prepares students for effective participation in the political process, successful careers in the public and private sectors, and further study in law, political science, and public administration.

In 1925, the state legislature passed a law requiring the study of the U.S. and Wyoming constitutions by all University of Wyoming students. Political Science 1000 satisfies this requirement, but the requirement can also be satisfied by special examination given periodically by the School of Politics, Public Affairs, and International Studies.

Learning Outcomes

We continuously and actively assess the Political Science undergraduate curriculum to ensure that the following learning outcomes are being met for each of our graduates:

1. Acquisition of a knowledge and understanding of the values, beliefs, and institutions that constitute governing processes;
2. Acquisition of an understanding of the disctinctions among the major subfields of the discipline including: American politics and law; international relations; comparative politics; and political theory;
3. Development of a knowledge and understanding of citizens' roles within governing processes;
4. Acquisition of a knowledge of the theories and analytic skills necessary to evaluate conflicting arguments, assemble and

present appropriate evidence, and make reasoned conclusions from the evidence available;

5. The ability to communicate effectively, both orally and in written form.

Undergraduate Major

In addition to the university and college requirements listed elsewhere in this bulletin, a major in political science requires 33 department hours. Students are required to complete the following four introductory courses: POLS 1000; POLS 1200 or POLS 1250; POLS 2310; and POLS 2460 or POLS 3600. Students are also required to take at least one seminar in political science (and its prerequisites); 8 hours of a single foreign language or equivalent credit by examination as determined by the Department of Modern and Classical Languages; STAT 2070; and a minimum of 9 hours of upper division credit in political science. A maximum of 6 hours of internship credit may be applied toward the 33 hours required for the political science major. Only those political science courses in which a grade of C or better has been earned may be used to satisfy departmental requirements.

Most university studies courses and lower division political science courses should be completed prior to the junior year. Additional information about the political science major may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

5 Year B.A./M.A. Program in Political Science

The Political Science 5 Year B.A./M.A. Program offers highly qualified UW students with the opportunity to begin graduate study while they complete their bachelor's degree (whether B.A. or B.S.) and thereby earn a graduate degree more efficiently. Political science majors with a cumulative major GPA of 3.5 or higher may be invited to apply at the outset of the second semester of the junior year. Interested students will submit an application and 2 letters of recommendation, at least one from a political science faculty to be reviewed, along with unofficial, current UW transcripts, by the M.A. Director and Committee. Upon provisional acceptance into the program in the junior year, students will be required to take the GRE. GRE scores will be considered for full and final acceptance to the M.A. program, which will be made once the student has completed the bachelor's degree.

Provisional acceptance to the 5 Year B.A./M.A. program in Political Science will allow students to apply up to six credit hours of 5000-level courses toward both the B.A./B.S. and M.A. degree programs. To earn graduate-level credit, students must achieve at least a 3.000 in the course. By successfully completing up to six credit hours of graduate coursework during their senior year, these students will have demonstrated their ability to do graduate-level coursework as undergraduates, easing their transition into the Master's Program in Political Science. Interested students may reserve up to six additional credits for graduate study that do not apply to the undergraduate degree by securing appropriate approvals as explained in the Registrar's "Request to Reserve Coursework for Graduate Credit" prior to taking the coursework. Students will be granted the BA/BS upon completion of the credit hours required for the undergraduate degree in political science. Students must complete the BA/BS before formally entering the MA program. To remain in good standing in the program, students must maintain a cumulative and departmental GPA of 3.200 and earn at least a 3.000 in all 5000-level courses. Failure to meet the GPA requirements places a student on probation for one semester. If the GPA requirement is not met after that semester, the student will be suspended from the program. Students in the program are encouraged to take the Plan B option. Please see the Graduate Study section to find the degree requirements of the M.A. in Political Science.

Undergraduate Minors

The school offers optional undergraduate minors in American politics, international relations and comparative government, public law, and political theory. Eighteen hours are required in each minor, including 9 hours of upper-division courses and one seminar. A maximum of 3 hours of internship credit may be applied towards the 18 hours required for the political science minor. At least 12 credit hours in a minor must be from courses not counted toward the student's major. Information relating to specific courses fulfilling minor requirements may be obtained from the School of Politics, Public Affairs, and International Studies: www.uwyo.edu/sppais.

Students can minor in 4 areas by fulfilling one of the sets of requirements presented below. At least 12 credit hours in a minor must be from courses not counted toward the requirements of a degree major. A maximum of 6 hours of internship credit can be applied to the requirements for a minor.

American Politics Minor

A minor in American Politics requires POLS 1000 - American and Wyoming Government, either POLS 4850 - Seminar in American Political Institutions or POLS 4840 - Seminar in Public Law, and 12 hours from an approved list of courses, with a minimum of 9 hours at the 3000-level or above.

Approved American Politics Minor courses

- POLS 2000 - Current Issues in American Government
- POLS 2070 - Politics of State & Local Government
- POLS 2410 - Introduction to Public Administration
- POLS 2430 - Parties, Interest Groups, & Elections
- POLS 2450 - Politics & Media
- POLS 2490 - Topics in _____ (dept. approval required) (Max. 6)
- POLS 3100 - Politics and the Judicial Process
- POLS 3520 - Voting & Participation in America
- POLS 3550 - Political Communication
- POLS 3600 - American Political Thought
- POLS 4051 - Environmental Politics
- POLS 4052 - Federal Land Politics
- POLS 4100 - Constitutional Law: Institutional Powers
- POLS 4110 - Constitutional Law: Civil Liberties & Civil Rights
- POLS 4330 - American Foreign Relations
- POLS 4420 - Seminar in Public Administration (Max. 6)
- POLS 4430 - U.S. Presidency
- POLS 4435 - Presidential Elections
- POLS 4520 - Public Opinion
- POLS 4530 - U.S. Congress
- POLS 4550 - Internship in Government (dept. approval required)(1-6)
- POLS 4560 - Washington Semester Program (Max. 6)
- POLS 4710 - Topics in _____ (dept. approval required)(Max. 9)
- POLS 4720 - Workshop in Practical Politics (Max. 6)
- POLS 4840 - Seminar in Public Law (Max. 6)
- POLS 4850 - Seminar in American Politics and Institutions (Max. 6)

International Relations and Comparative Politics Minor

A minor in International Relations and Comparative Politics requires POLS 2310 - Introduction to International Relations, either POLS 1200 - Non-Western Political Cultures or POLS 1250 - Introduction to Comparative Politics, either POLS 4870 - Seminar in International Relations or POLS 4890 - Introduction to Comparative Government and Politics, and 9 hours from an approved list of courses, with a minimum of 6 hours at the 3000-level or above.

Approved International Relations and Comparative Politics Minor courses

POLS 2200 - Politics of Europe and the European Union
POLS 2290 - Government & Politics of Latin America
POLS 2490 - Topics in _____ (dept. approval required) (Max. 6)
POLS 3200 - Comparative Political Cultures
POLS 3220 - Government & Politics of Russia and FSU
POLS 3270 - Government & Politics of the Middle East
POLS 3300 - Model United Nations (Max. 6)
POLS 4013 - Political Geography
POLS 4215 - European Union
POLS 4230 - Government & Politics of Asia
POLS 4255 - Politics of Developing Nations
POLS 4260 - Democratization & Regime Change
POLS 4290 - Inter-American Relations
POLS 4330 - American Foreign Relations
POLS 4340 - International Organizations
POLS 4350 - Sustainable Development & Global Policy
POLS 4360 - International Peace & Conflict
POLS 4375 - Transitional Justice
POLS 4445 - Drug War Geopolitics in the Americas
POLS 4475 - Politics of Natural Resources in Latin America
POLS 4600 - Political Violence
POLS 4710 - Topics in _____ (dept. approval required)(Max. 6)
POLS 4870 - Seminar in International Relations (Max. 6)
POLS 4890 - Seminar in Comparative Government and Politics (Max. 6)

Political Theory Minor

A minor in Political Theory offers an opportunity for interdisciplinary study. Required are POLS 2460 - Introduction to Political Theory, POLS 3600 - American Political Thought, POLS 4810 - Seminar in Political Theory, and 9 hours from an approved list of courses in political science and other disciplines, with a minimum of 6 hours at the 3000-level or above.

Approved Political Theory Minor courses

POLS 2330 - Environmental Ethics
POLS 2490 - Topics in _____ (dept. approval required) (Max. 6)
POLS 3050 - Athenian Democracy
POLS 3610 - Classics in Environmental Thought
POLS 3620 - Environmental Justice
POLS 4090 - Anglo-American Jurisprudence
POLS 4160 - Legal Philosophy
POLS 4640 - Political Philosophy: Ancient & Medieval
POLS 4650 - Political Philosophy: Modern
POLS 4660 - Political Philosophy: Contemporary
POLS 4710 - Topics in _____ (dept. approval required) (Max. 6)
PHIL 2200 - Social & Political Philosophy (Max. 6)
SOC 3900 - Social Theory

Public Law Minor

A minor in Public Law offers an opportunity for interdisciplinary study. Required are POLS 4100 - Constitutional Law: Institutional Powers, POLS 4110 - Constitutional Law: Civil Liberties & Rights, POLS 4840 - Seminar in Public Law, and 9 hours from an approved list of courses in political science and other disciplines, with a minimum of 3 hours at the 3000-level or above.

Approved Public Law Minor courses

POLS 2490 - Topics in_____ (dept. approval required) (Max. 6)
POLS 3100 - Politics and the Judicial Process
POLS 4090 - Anglo-American Jurisprudence
POLS 4160 - Legal Philosophy
POLS 4710 - Topics in _____ (dept. approval required) (Max. 6)
AGEC 3400 - Agricultural Law
COJO 4500 - Mass Communication Law
CRMJ 2210 - Criminal Law
CRMJ 3110 - Criminal Courts & Processes
CRMJ 4140 - Criminal Legal Procedure
CRMJ 4350 / SOC 4350 - Sociology of Law
CRMJ 4540 / WMST 4540 - Women, Crime, and Law
CRMJ 4730 / PSYC 4730 - Psychology and Law
HIST 4515 - American Legal History
MGT 1040 - Legal Environment of Business

Teacher Education

The teacher certification program in Secondary Social Studies Education, with a concurrent major in Political Science is available through the College of Education. A minimum 2.500 UW grade point average and a 2.500 grade point average in Political Science and Social Studies content are required to change majors. Further information may be found under the College of Education section in this *Catalog*.

Major or Minor in Environment and Natural Resources

The Haub School of Environment and Natural Resources (ENR) offers a second major or minor for students interested in interdisciplinary training in the policy, legal, economic, scientific, ethical, and other perspectives associated with ENR challenges. The Haub School uses problem-based learning and interdisciplinary team teaching. Students of all disciplines are welcome to take classes in ENR or add ENR to their degree program. Contact the Haub School at (307) 766-5080, senr@uwo.edu, or www.uwyo.edu/enr.

Graduate Study

The master of arts and the master of public administration are offered by the School of Politics, Public Affairs, and International Studies. The school's mission is to give graduate students an understanding of the theories and methods necessary for success in (1) research or in post-baccalaureate study in any of the subfields in political science, (2) high school teaching in social science, or (3) careers in policy analysis or public administration in local, state, or federal government, or international governmental or non-governmental organizations. Our graduate students have progressed to senior positions in government, the U.S. Foreign Service, and international organizations; they have pursued rewarding careers in education and the private sector; and they have advanced to Ph.D. programs in political science and related fields.

Program Specific Admission Requirements

Master of Arts in Political Science

Admission is open to all students holding a bachelor's degree in any major. Applicants must have a minimum 3.0 GPA. Foreign students, who are non-native English speakers, must pass the Oral Proficiency Interview (OPI).

Master of Public Administration (M.P.A.)

Admission is competitive and is open to all students holding a bachelor's degree in any major. Applicants must have a minimum 3.00 GPA, 2 letters of recommendation, a letter of intent, and a short analytic writing sample. Foreign students, who are non-native English speakers, must also pass the Oral Proficiency Interview (OPI). Only one class, POLS 5000, may be taken prior to full admission into the program with permission of the MPA director.

Program Specific Degree Requirements

Master's Programs

Master of Arts in Political Science

Plan A (thesis)

At least 30 hours of graduate credit, to include:
- POLS 5510. Public Policy and Program Management.
- POLS 5680. Research Methods for Political Science.
- POLS 5684. Empirical Analysis for Public Administration.
- POLS 5810. Seminar in Political Philosophy.
- At least 6 additional hours of coursework in political science.
- A maximum of 9 hours of coursework in disciplines other than political science.
- A minimum of 4 hours thesis research.

A master's thesis demonstrating independent research, written under the supervision of the major professor.

An oral examination conducted by the graduate committee covering all coursework and the thesis.

No more than 6 hours of grades lower than 3.000 may be counted toward the minimum number of hours required for the degree.

Students must maintain a graduate GPA of 3.000.

Plan B (non-thesis)

At least 30 hours of graduate credit, to include:
- POLS 5510. Public Policy and Program Management.
- POLS 5680. Research Methods for Political Science.
- POLS 5684. Empirical Analysis for Public Administration.
- POLS 5810. Seminar in Political Philosophy.
- At least 6 additional hours of coursework in political science.
- A maximum of 12 hours of coursework in disciplines other than political science.

Plan B paper that reflects the quality but not scope of a master's thesis, written under the supervision of the major professor.

An oral examination conducted by the graduate committee covering all coursework and the Plan B paper.

No more than 6 hours of grades lower than 3.000 may be counted toward the minimum number of hours required for the degree.

Students must maintain a graduate GPA of 3.000.

Master of Public Administration

Plan B (non-thesis)

Thirty-nine hours of graduate credit, to include:
- 21 hours of core credit,
- 6 hours of option-core credit,
- 12 hours of approved elective credit.

Significant administrative experience is required of all M.P.A. graduates. If the M.P.A. student has little or no administrative experience an internship is required and will be included as 3 hours of the required elective credits.

Students entering the M.P.A. Program are expected to possess basic computer literacy, and to have access to a computer for such purposes as communicating with professors via e-mail, receiving M.P.A. Program memos, conducting research on the Web, retrieving articles from course documents libraries, working on course projects, and for conducting interactive/electronic class discussion.

Students must maintain a graduate GPA of 3.000.

Master of Public Administration/Juris Doctor

See the M.P.A. Director and/or the College of Law for information.

Students must be accepted to both programs.

Political Science (POLS)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000. American and Wyoming Government. 3. [V◀▶V] Introduction to the Constitutions and governmental processes of the U.S. and Wyoming. (Offered each semester)

1100. Wyoming Government. 1. [(none)◀▶V] Introduction to the Constitution and governmental process of Wyoming. Intended for students who have earned credit for American Government at an out-of-state college or by Advance Placement but have not fulfilled the Wyoming Constitution requirement of University Studies. Cannot be taken if the student has already taken POLS 1000.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

1111. Issues in Political Science. 1-3 (Max. 3). [I,L◀▶(none)] Introduces students to Political Science through a study of a contemporary issue or problem from the perspectives of the various subfields.

1200. Non-Western Political Cultures. 3. [CS,G◀▶(none)] Gives students appreciation of non-western political cultures and how these cultures have created different political institutions and practices. Non-Western nations of Asia, Africa, and the Middle East are used as case studies. Cross listed with INST 1200.

1250. Introduction to Comparative Government. 3. How do foreign states deal with the numerous challenges to their stability? Do institutions affect a state's approach to solving different problems? How do these different approaches affect policy? This course introduces students to different styles of governance and compare countries from around the world with reference to their political ideology. Cross listed with INST 1250.

2000. Current Issues in American Government. 3. [CS◀▶(none)] Examines current political topics in the U.S. Focuses on key public policy problems, policy-making process and the final policy choice. Students must keep abreast of political events on daily basis and apply basic concepts in American government to current affairs. *Prerequisite:* POLS 1000.

2070. Politics of State and Local Government. 3. Studies politics, organizations, structures and processes of American state and local governments. *Prerequisite:* POLS 1000.

2200. Politics of Europe and the European Union. 3. [(none)◀▶COM2] Examines formal and informal aspects of politics in European countries and the European Union. *Prerequisite:* POLS 1200 or POLS 1250 or permission of the instructor.

2290. Governments and Politics of Latin America. 3. Studies chief cultural and historical factors influencing Latin American political process. Surveys major institutions and political patterns of the region. *Prerequisite:* POLS 1200 or POLS 1250 or permission of the instructor.

2310. Introduction to International Relations. 3. [G◀▶(none)] Analyzes the nature of international relations, emphasizing various methods of explaining and interpreting the behavior of nation-states. In doing so, the course illustrates the contemporary problems of world politics. Cross listed with INST 2310.

2330. Environmental Ethics. 3. Introduces students to ethical theory in environmental problem cases, and to philosophical issues in environmental philosophy. Ethical theories include natural law, utilitarianism, deontological and rights-based theories, relativism. Topics may include: conservation/preservation, resource management, pollution, overpopulation, factory farming, Leopold's land ethic, deep ecology, holism, eco-feminism. Cross listed with PHIL 2330.

2410. Introduction to Public Administration. 3. Deals with executive branches of governments in the U.S.: national, state and local. Considers organizational, political and policy-making aspects of each. Discusses administration in other forms of government, such as interstate compacts and regional agreements. *Prerequisite:* POLS 1000.

2420. Women and Politics. 3. Describes and compares status and political activity of women in America with those of women and men in other societies in order to explore causes, methods and results of political involvement by women. Cross listed with WMST 2420. *Prerequisite:* POLS 1000.

2430. Parties, Interest Groups and Elections. 3. [CS◀▶(none)] Studies nature and functions of political organizations in American democracy. Discusses origins and evolution of American parties, causes of interest group development, political socialization, political participation and voting behavior, as well as activities of interest groups within American society and political system. Emphasizes current trends regarding role of parties versus interest groups. *Prerequisite:* POLS 1000.

2450. Politics and Media. 3. Examines the media's coverage of current events, governmental institutions and electoral campaigns. Discusses effect of media on individuals' opinions and behavior. *Prerequisite:* POLS 1000.

2460. Introduction to Political Philosophy. 3. Surveys history of Western political thought including study of concepts and approaches to political philosophy. (Offered once a year)

2490. Topics In:__. 1-3 (Max. 6). Accommodates various specialized subjects not offered as regular courses. *Prerequisite:* POLS 1000.

3050. Athenian Democracy. 3. Examines democratic government in ancient Athens: its origins and development, its practical workings, how politics were conducted and power was gained and exercised, citizen participation, law courts, and evaluations of democracy in the ancient world and since. Cross listed with CLAS/HIST 3050. *Prerequisite:* WB or COM2.

3100 [2100]. Politics and the Judicial Process. 3. Analyzes courts and their personnel in the American political system, including examination of functions of courts, characteristics of judicial process, approaches to the study of judicial behavior, and role of courts as policy makers. *Prerequisite:* POLS 1000.

3200. Comparative Political Cultures. 3. Histories and experiences of various societies have shaped their values, norms, beliefs, expectations, and attitudes. This class explores how the beliefs, values, and lifestyles of various societies shape peoples' views of their place in the politics of the state and of the state's place in their daily lives. Cross listed with POLS 3200. *Prerequisite:* POLS/INST 1200 or POLS/INST 1250 or permission of instructor.

3220. Government and Politics of Russia and FSU. 3. Examines the political, economic and identity transitions of Russia and other states of the former Soviet Union during the post-communist era. Explores how current challenges relate to past Soviet practices. *Prerequisite:* POLS 1200 or POLS 1250 or permission of instructor.

3270. Governments and Politics of the Middle East. 3. Acquaints students with basic political, social and economic institutions of Middle Eastern countries. Emphasizes post-World War I developments, contemporary issues and problems. Special attention is given to politics of major nations in the Middle East such as Turkey, Iran, Israel, Egypt, Saudi Arabia, Iraq and Syria. *Prerequisite:* POLS 1200 or POLS 1250 or permission of instructor.

3300. Model United Nations. 1-3 (Max. 6). Focuses on the United Nations (UN) system and multilateral diplomacy to prepare students to participate in a Model UN simulation. Students learn to evaluate the UN system, learn strategies to address international problems, and develop skills to effectively represent a country in a role-playing exercise. *Prerequisite:* POLS 1200 or POLS 1250 or permission of instructor.

3520. Voting and Participation in America. 3. Examines the ways citizens participate in government, including campaigning, donating money, and voting. Topics include mobilization by parties and campaigns, social and demographic differences in participation, explanations of voting behavior, civic responsibility, and the role of participation in a democracy. *Prerequisite:* POLS 1000.

3550. Political Communication. 3. Examines the intersection of politics and communication. For example, may cover politics and media, interpersonal political discussion, organizational and governmental political communication, political campaigns, politics and technology, etc. Moreover, it may cover the effects of political communication on individuals' opinions and behavior. Cross listed with COJO 3550. Prerequisites: COJO 1000, COJO 1040, or POLS 1000.

3600. American Political Thought. 3. [WB◀▶COM2] Examines key primary sources and traditions from the founding to present. *Prerequisite:* POLS 1000 or permission of instructor.

3610. Classics in Environmental Thought. 3. Surveys classic texts in environmental thought from the nineteenth century through the present. *Prerequisite:* POLS 1000.

3620. Environmental Justice. 3. Examines core philosophical understandings of justice and applies them to the environment through a variety of case studies, analytical essays and monographs. Cross listed with ENR 3620. *Prerequisite:* POLS 1000, POLS 2460, or POLS 3600, or permission of instructor.

3680 [2020]. Introduction to Empirical Political Analysis. 3. [(none)◀▶COM2] Introduces students to concepts, approaches and methodologies for empirical analysis of political problems. Students gain practical experience in communicating and presenting statistical analysis of of political data generated through surveys and other research techniques. *Prerequisites:* POLS 1000 and STAT 2050 or 2070, or permission of instructor.

4013. Political Geography. 3. Geographic space is subdivided into political units to aid human interaction and to facilitate political processes. Examines the spatial organization of political space and its effects upon political processes at varying geographic scales ranging from the local to international. Dual listed with POLS 5013; cross listed with GEOG 4013. *Prerequisite:* Completion of USP H requirement.

4051 [4050]. Environmental Politics. 3. Analyzes environmentalism as a political phenomenon. Provides students with a basic understanding of how to analyze political issues by: (1) examining the historical and contemporary issues that produce controversy over environmental matters; and (2) surveying the impacts of these issues on the formulation

and implementation of laws, policies, and regulations. Cross listed with AMST, ENR, GEOG and REWM 4051. Dual listed with POLS 5051. *Prerequisite:* POLS 1000.

4052. Federal Land Politics. 3. Examines the political forces that have shaped and continue to shape federal land policy and management. Explores the interactions between democratic decision making and science in the management of federal lands. Surveys the sources of controversy over federal land management and methods for harmonizing public demands with technical expertise. Cross listed with AMST/ENR/GEOG/REWM 4052. *Prerequisite:* POLS 1000.

4090. Anglo-American Jurisprudence. 3. Considers topics, such as functions of law in a democratic society; historical origins and growth of the common law as contrasted to the civil (code) law systems; and principal theories of nature and functions of law which have influenced development of English and American legal institutions. Dual listed with POLS 5090. *Prerequisite:* 9 hours of political science or philosophy, including POLS 1000.

4100. Constitutional Law: Institutional Powers. 3. Encompasses case-study analysis of judicial decisions and policies affecting constitutional interrelationships among the three branches of federal government, federal-state relations, as well as powers of the states and federal government in the area of social and economic regulatory laws. Dual listed with POLS 5100. *Prerequisites:* POLS 1000.

4110. Constitutional Law: Civil Liberties and Rights. 3. Encompasses case-study analysis of judicial decisions and policies of the constitutional interpretation of the 1st Amendment (freedom of speech, press, association and religion), privacy rights, the rights of the criminally accused, and civil rights (racial and gender equality). Dual listed with POLS 5110; cross listed with CRMJ 4110. *Prerequisites:* POLS 1000, POLS 3100 recommended.

4160. Legal Philosophy. 3. This course examines the philosophies that undergird the law, considering both ancient and modern legal thought. Throughout the course, both historical and contemporary examples will be used to illustrate the salient differences between philosophical approaches, to better articulate our understanding of the law. Dual listed with POLS 5160. *Prerequisite:* POLS 1000.

4215 [4220]. European Union. 3. Examines the European Union's history, institutional structures, and policy areas and explores the positive and negative effects of European integration. Dual listed with POLS 5215; cross listed with INST 4215. *Prerequisites:* POLS 1200 or POLS 1250 or POLS 2310 or permission of instructor.

4230. Governments and Politics of Asia. 3. Studies political systems of East Asia. Analyzes impact of social and economic factors upon political institutions. Dual listed with POLS 5230. *Prerequisite:* POLS 1200 or POLS 1250 or POLS 2310 or permission of instructor.

4255. Politics of Developing Nations. 3. An analysis of the processes of political, economic and social change in the non-Western world. Cross listed with INST 4255; dual listed with POLS 5255. *Prerequisites:* 9 hours of political science or international studies, including POLS/INST 1200 or POLS/INST 1250 or POLS/INST 2310, or permission of instructor.

4260. Democratization and Regime Change. 3. Examines the theoretical/empirical research on causes of democratic transition and consolidation, including new waves of democratization and prospects for democratization in other contexts. Focus is given to a variety of theoretical/methodological perspectives such as the structural, strategic, social/cultural, institutional, and economic approaches. Dual listed with POLS 5260; cross listed with INST 4260. *Prerequisites:* 9 hours of political science or international studies, including POLS 1200, or POLS 1250, or POLS 2310, or permission of instructor.

4290. Inter-American Relations. 3. Surveys inter-American system and idea of hemispheric unity. Analyzes major issues confronting inter-American community. Cross listed with INST 4290; dual listed with POLS 5290. *Prerequisite:* 9 hours of political science, including POLS/INST 1200, or POLS/INST 1250, or POLS/INST 2310, or permission of instructor.

4330. American Foreign Relations. 3. Analyzes American foreign policy decision-making process and selected contemporary foreign policy problems. Stresses political and institutional factors, along with analysis of policy options. Dual listed with POLS 5330. Cross listed with INST 4330. *Prerequisite:* 9 hours of political science or international studies including POLS 2310.

4340. International Organizations. 3. Encompasses development of world organizations, such as League of Nations, United Nations and its affiliate bodies. Also studies regional organizations and private international bodies. Dual listed with POLS 5340. Cross listed with INST 4340. *Prerequisite:* Consent of instructor. POLS 2310 strongly recommended.

4350. Sustainable Development and Global Policy. 3. Considers in-depth meaning of "sustainable development" and trade-offs necessary to achieve it. Considers this issue from global perspective through application of theories in economics, political science, international relations, technology studies and ethics. Dual listed with POLS 5350. *Prerequisite:* Consent of instructor. POLS 2310 strongly recommended.

4360. International Peace and Conflict. 3. Why do nations go to war, engage in atrocities such as genocide, or move toward peace following conflict? Examines underlying processes behind both conflict and peace in the international system, including sources of conflict and ways conflicts might be moved toward sustainable peace. Dual listed with POLS 5360; cross listed with INST 4360. *Prerequisites:* 9 hours of political science or international studies including POLS 2310.

4375. Transitional Justice. 3. Mechanisms provide accountability for gross human rights violations and acts of mass atrocity within nations. Case studies are used to examine types of transitional justice interventions; tensions between demands of justice at local, national, and international levels; and transitional justice's role in post-conflict peace-building and reconciliation. Dual listed with POLS 5375; cross listed with INST 4375. *Prerequisites:* Consent of instructor. POLS 2310 strongly recommended.

4385. Environment and Resource Conflict. 3. Drawing on key theory and contemporary real-world case studies this course explores how environmental change and the competition for scarce resources (such as food, water, oil, gems, and timber) have increasingly been linked to violent interstate and intrastate conflict and how such conflicts might be addressed, managed, or resolved through international and national action. Dual listed with POLS 5385; cross listed with INST 4385. *Prerequisite:* 9 hours of POLS or INST, including POLS/INST 2310.

4420. Seminar in Public Administration. 3 (Max. 6). Includes reading and research in selected public administration topics. Dual listed with POLS 5420. *Prerequisites:* POLS 1000 and consent of instructor.

4430. United States Presidency. 3. Analyzes office of president, its roles, development, relationships with other governmental agencies and problems in the contemporary world. Dual listed with POLS 5430. *Prerequisite:* POLS 1000.

4435. Presidential Elections. 3. Examines the process of electing the U.S. president. Topics include the roles of presidential primaries, caucuses, and conventions; campaign strategies; media coverage; citizen participation; the electoral college; and reforms. Dual listed with POLS 5435. *Prerequisite:* POLS 1000.

4445. Drug War Geopolitics in the Americas. 3. This course examines illegal drug commodity chains and international efforts to police the drug trade in the Americas. It approaches the drug war through a "critical geopolitics" framework, also covering broader themes such as international politics, livelihoods, development, environmental justice, the global economy, race-based discrimination, public health, and resistance movements. Dual listed with POLS 5445. Cross listed with INST 4445. *Prerequisites:* 9 hours of international studies or social science coursework and junior standing.

4455. Energy Security. 3. Evaluates the geopolitical and socioeconomic issues surrounding the roots of energy insecurity and the global challenge to provide adequate, affordable, and accessible energy. Topics of study include the questions of energy nationalism, climate security, import dependence and transportation insecurities, the future of fossil fuels and alternative energies. Dual listed with POLS 5455. Cross listed with INST 4455. *Prerequisites:* 9 hours of INST or POLS, including INST/POLS 2310.

4465. Survey of the Nonprofit Sector. 3. This foundational course is designed to give students of diverse backgrounds a common framework for understanding the nonprofit sector in the United States and globally. Students in this course will identify and interpret key theories, issues, and challenges in the nonprofit world and will consider the implications for practice. Dual listed with POLS 5465. *Prerequisite:* COM2.

4475. Politics of Natural Resources in Latin America. 3. This course examines major trends in resource extraction, management, and conservation in Latin America, and the politics surrounding those trends, from theoretical, social, political, economic, and ecological perspectives and through a variety of grounded case studies. The theories and concepts we study are applicable to resource politics beyond Latin America. Dual listed with POLS 5475. Cross listed with INST 4475. *Prerequisites:* 9 hours of international studies or social science coursework and junior standing.

4520. Public Opinion. 3. Deals with natures of a public in democracy and means of forming and manipulating public opinion. Emphasizes role of public opinion as essential ingredient of the policy-making process in popular government. Dual listed with POLS 5520. *Prerequisite:* POLS 1000.

4530. U.S. Congress. 3. Analyzes aspects of the U.S. Congress, including election of congressmen, legislative process, congressional-presidential relations, and the influence of political parties, interest groups, and constituents on the legislative process. Dual listed with POLS 5530. *Prerequisite:* POLS 1000.

4550. Internship in Government. 1-6 (Max. 6). Integrates practical political experience with academic knowledge. Students are expected to participate in specifically assigned duties and observe broader activities of the sponsoring organization; then, reflect upon this participation and observation in the form of written assignments. Internship credit can be earned for work in political campaigns, Wyoming Legislature or government services. Offered for S/U only. *Prerequisite:* 9 hours of political science.

4560. Washington Semester Program. 15. Provides students with paid internships in Washington, D.C., in either congressional offices or federal agencies. Selection into the program is very competitive and is made the semester prior to service. Offered for S/U only. *Prerequisites:* POLS 1000 and 6 additional hours of political science courses.

4600. Political Violence. 3. Examines causes and consequences of violence both among individuals and among nations. Dual listed with POLS 5600; cross listed with CRMJ 4600. *Prerequisite:* POLS 1000, or SOC 1000, or POLS 1200, or POLS 1250, or POLS 2310, or permission of instructor. (Normally offered every other year)

4640. Political Philosophy: Ancient and Medieval. 3. Surveys political philosophy from Classical Greek period to Machiavelli. Dual listed with POLS 5640. *Prerequisite:* POLS 2460, or POLS 3600, or consent of the instructor.

4650. Political Philosophy: Modern. 3. Surveys political philosophy from Machiavelli through the 19th century. Dual listed with POLS 5650. *Prerequisite:* POLS 2460, or POLS 3600, or consent of instructor.

4660. Political Philosophy: Contemporary. 3. Examines central developments in political philosophy that guide action in today's world. Dual listed with POLS 5660. *Prerequisite:* POLS 2460, or POLS 3600, or consent of instructor.

4685. Program Evaluation and Policy Analysis. 3. Explores techniques for analyzing and evaluating public policy choices and impacts. Dual listed with POLS 5685. *Prerequisites:* STAT 2050, 2070 or equivalent and an introductory research methods course in a social science or related discipline.

4700. Readings in Political Science. 1-3 (Max. 6). Outlines special programs of readings in government and politics to meet needs of individual students. *Prerequisite:* 9 hours of political science.

4710. Topics in _____. 1-3 (Max. 9). Accommodates various specialized subjects not offered as regular courses. *Prerequisites:* POLS 1000 and 3 additional hours of political science.

4720. Workshop in Practical Politics. 1-3 (Max. 6). Familiarizes or strengthens participants in techniques of political effectiveness. Includes political organization, campaigning and persuasion. Guest speakers include public officials and experts in the field of practical politics. *Prerequisite:* 9 hours of political science.

4810. Seminar in Political Philosophy. 3 (Max. 6). [(none)◀▶COM3] Seminar in Political Philosophy; Encompasses reading and research on selected problems in political philosophy. Dual listed with POLS 5810. *Prerequisite:* POLS 2460, or POLS 3600, or consent of instructor.

4840. Seminar in Public Law. 3 (Max. 6). [(none)◀▶COM3] Includes reading and research on selected problems in public law. Dual listed with POLS 5840. *Prerequisite:* 9 hours of political science or related fields including POLS 1000 and consent of instructor.

4850. Seminar in American Politics and Institutions. 3 (Max. 6). [(none)◀▶COM3] Includes reading and research on selected U.S. government and politics problems. Dual listed with POLS 5850. *Prerequisite:* 9 hours of political science including POLS 1000 and consent of instructor.

4870. Seminar in International Relations. 3 (Max. 6). [(none)◀▶COM3] Encompasses reading and research in international law and politics. Dual listed with POLS 5870. *Prerequisites:* Consent of instructor. POLS 2310 strongly recommended.

4890. Seminar in Comparative Government and Politics. 3 (Max. 6). [WC,G◀▶C3] Researches selected topics in comparative government and politics. Dual listed with POLS 5890. *Prerequisite:* Consent of instructor. POLS 2310 strongly recommended.

5000. Survey of Public Administration. 3. Designed to introduce the beginning graduate student to the study and practice of public administration at all levels of government. Attention is also directed to specific functions and processes such as intergovernmental relations, budgeting, personnel, and regulation. *Prerequisite:* graduate status and consent of instructor.

5013. Political Geography. 3. Geographic space is subdivided into political units to aid human interaction and to facilitate political

processes. Examines the spatial organization of political space and its effects upon political processes at varying geographic scales ranging from the local to international. Dual list with POLS 4013; cross listed with GEOG 5013. *Prerequisite:* graduate standing

5051. Environmental Politics. 3. Analyzes environmentalism as a political phenomenon. Provides students with a basic understanding of how to analyze political issues by: (1) examining the historical and contemporary issues that produce controversy over environmental matters; and (2) surveying the impacts of these issues on the formulation and implementation of laws, policies, and regulations. Dual listed with POLS 4051; cross listed with AMST/ENR/GEOG/REWM 4051. *Prerequisite:* POLS 1000.

5060. American Intergovernmental Relations. 3. Theory and practice of American federalism. *Prerequisite:* POLS 5000.

5080. Organizational Development. 3. Exposed to psychological concepts as they apply to organizations. Topics include organizational culture, motivations affecting a person's behavior in the workplace, personal interactions within organizations, and resolution of personal conflicts within the workplace. *Prerequisite:* POLS 5000.

5090. Anglo-American Jurisprudence. 3. Considers topics, such as functions of law in a democratic society; historical origins and growth of the common law as contrasted to the civil (code) law systems; and principal theories of nature and functions of law which have influenced development of English and American legal institutions. Dual listed with POLS 4090. *Prerequisite:* POLS 1000.

5100. Constitutional Law: Institutional Powers. 3. Encompasses case-study analysis of judicial decisions and policies affecting constitutional interrelationships among the three branches of federal government, federal-state relations, as well as powers of the states and federal government in the area of social and economic regulatory laws. Dual listed with POLS 4100. *Prerequisites:* POLS 1000.

5110. Constitutional Law: Civil Liberties and Civil Rights. 3. Encompasses case-study analysis of judicial decisions and policies of the constitutional interpretation of the 1st Amendment (freedom of speech, press, association and religion), privacy rights, the rights of the criminally accused, and civil rights (racial and gender equality). Dual listed with POLS 4110. *Prerequisites:* POLS 1000, POLS 3100 recommended.

5160. Legal Philosophy. 3. This course examines the philosophies that undergird the law, considering both ancient and modern legal thought. Throughout the course, both historical and contemporary examples will be used to illustrate the salient differences between philosophical approaches, to better articulate our understanding of the law. Dual listed with POLS 4160. *Prerequisite:* graduate standing.

5210. Seminar in Human Security. 3-6 (Max. 6). A broad interdisciplinary approach to the study of human security within the field of international studies and global politics in order to explore the theories and processes that explain past and emerging patterns of behavior in the international system, as well as key aspects of local to global policymaking. Dual listed with INST 5210.

5215 [5220]. European Union. 3. Examines the European Union's history, institutional structures, and policy areas and explores the positive and negative effects of European integration. Dual listed with POLS 4215; cross listed with INST 5215. *Prerequisites:* Consent of instructor. POLS 2310 strongly recommended.

5230. Governments and Politics Of Asia. 3. Studies political systems of East Asia. Analyzes impact of social and economic factors upon political institutions. Dual listed with POLS 4230. *Prerequisite:* POLS 1000. POLS 3100 recommended.

5255. Politics of Developing Nations. 3. An analysis of the processes of political, economic and social change in the non-Western world. Cross listed with INST 5255; dual listed with POLS 4255. *Prerequisites:* 9 hours of political science or international studies, including POLS/INST 1200 or POLS/INST 1250 or POLS/INST 2310, or permission of instructor.

5260. Democratization and Regime Change. 3. Examines the theoretical/empirical research on causes of democratic transition and consolidation, including new waves of democratization and prospects for democratization in other contexts. Focus is given to a variety of theoretical/methodological perspectives such as the structural, strategic, social/cultural, institutional, and economic approaches. Dual listed with POLS 4260; cross listed with INST 5260. *Prerequisites:* 9 hours of political science or international studies, including POLS 1200, or POLS 1250, or POLS 2310, or permission of instructor.

5290. Inter-American Relations. 3. Surveys inter-American system and idea of hemispheric unity. Analyzes major issues confronting inter-American community. Dual listed with POLS 4290. *Prerequisite:* 9 hours of political science, including POLS/INST 1200, or POLS/INST 1250, or POLS/INST 2310, or permission of instructor.

5330. American Foreign Relations. 3. Analyzes American foreign policy decision-making process and selected contemporary foreign policy problems. Stresses political and institutional factors along with analysis of policy options. Dual listed with POLS 4330. Cross listed with INST 5330. *Prerequisite:* Consent of instructor. POLS 2310 strongly recommended.

5340. International Organizations. 3. Encompasses development of world organizations such as League of Nations, United Nations and its affiliate bodies. Also studies regional organizations and private international bodies. Dual listed with POLS 4340. *Prerequisite:* Consent of instructor. POLS 2310 strongly recommended.

5350. Sustainable Development and Global Policy. 3. Considers in-depth meaning of "sustainable development" and trade-offs necessary to achieve it. Considers this issue from global perspective through application of theories in economics, political science, international relations, technology studies and ethics. Dual listed with POLS 4350. *Prerequisite:* Consent of instructor. POLS 2310 strongly recommended.

5360. International Peace and Conflict. 3. Why do nations go to war, engage in atrocities such as genocide, or move toward peace following conflict? Examines underlying processes behind both conflict and peace in the international system, including sources of conflict and ways conflicts might be moved toward sustainable peace. Dual listed with POLS 4360; cross listed with INST 5360. *Prerequisites:* Consent of instructor. POLS 2310 strongly recommended.

5375. Transitional Justice. 3. Mechanisms provide accountability for gross human rights violations and acts of mass atrocity within nations. Case studies are used to examine types of transitional justice interventions; tensions between demands of justice at local, national, and international levels; and transitional justice's role in post-conflict peace-building and reconciliation. Dual listed with POLS 4375; cross listed with INST 5375. *Prerequisites:* Consent of instructor. POLS 2310 strongly recommended.

5385. Environment and Resource Conflict. 3. Drawing on key theory and contemporary real-world case studies this course explores how environmental change and the competition for scarce resources (such as food, water, oil, gems, and timber) have increasingly been linked to violent interstate and intrastate conflict and how such conflicts might be addressed, managed, or resolved through international and national action. Dual listed

with POLS 4385; cross listed with INST 5385. *Prerequisite:* 9 hours of POLS or INST, including POLS/INST 2310.

5400. Public Personnel Management. 3. Designed to integrate information about the political environment of personnel administration with problem solving exercises in such specific areas as job analysis, affirmative action, and flextime. A number of topics including the evolution of the civil service, the rights and responsibilities of governmental employees, the functions of public personnel management, and collective bargaining processes are also covered. *Prerequisite:* POLS 5000.

5410. Administrative Behavior and Theory of Organization. 3. An advanced course in the theory of organization and the workings of public agencies. *Prerequisite:* POLS 5000.

5420. Seminar In Public Administration. 3 (Max. 6). A reading and research course in selected topics in public administration. Dual listed with POLS 4420. *Prerequisites:* POLS 1000 and consent of instructor.

5430. United States Presidency. 3. Analyzes the office of the president, its roles, development, relationships with other governmental agencies, and problems in the contemporary world. Dual listed with POLS 4430. *Prerequisite:* POLS 1000.

5435. Presidential Elections. 3. Examines the process of electing the U.S. president. Topics include the roles of presidential primaries, caucuses, and conventions; campaign strategies; media coverage; citizen participation; the electoral college; and reforms. Dual listed with POLS 4435. *Prerequisite:* POLS 1000.

5440. Principles and Processes of Government Budgeting. 3. Analyzes the principles, processes and politics of the budgetary process in the U.S. It examines the various theories of budgetary decision-making, the politics of budgeting and budgetary reforms. *Prerequisite:* POLS 5000 and graduate standing.

5445. Drug War Geopolitics in the Americas. 3. This course examines illegal drug commodity chains and international efforts to police the drug trade in the Americas. It approaches the drug war through a "critical geopolitics" framework, also covering broader themes such as international politics, livelihoods, development, environmental justice, the global economy, race-based discrimination, public health, and resistance movements. Dual listed with POLS 4445. Cross listed with INST 5445. *Prerequisites:* graduate standing.

5450. Administrative Regulation. 3. Significant points of contact between government and business are stressed. Government activities designed to regulate and aid such economic interests as business, labor, agriculture, and consumers are dealt with at length. *Prerequisite:* POLS 5000.

5455. Energy Security. 3. Evaluates the geopolitical and socioeconomic issues surrounding the roots of energy insecurity and the global challenge to provide adequate, affordable, and accessible energy. Topics of study include the questions of energy nationalism, climate security, import dependence and transportation insecurities, the future of fossil fuels and alternative energies. Dual listed with POLS 4455. Cross listed with INST 5455. *Prerequisites:* 9 hours of INST or POLS, including INST/POLS 2310.

5460. Public Administration and Law. 3. Focuses on various facets of the relationship between American public administration and law. Emphasis is placed on the emerging body of administrative law as a context for jurisprudential reasoning in administrative decision making. *Prerequisite:* POLS 5000.

5465. Survey of the Nonprofit Sector. 3. This foundational course is designed to give students of diverse backgrounds a common framework for understanding the nonprofit sector in the United States and globally. Students in this course will identify and interpret key theories, issues, and challenges in the nonprofit world and will consider the implications for practice. Dual listed with POLS 4465. *Prerequisite:* graduate standing.

5475. Politics of Natural Resources in Latin America. 3. This course examines major trends in resource extraction, management, and conservation in Latin America, and the politics surrounding those trends, from theoretical, social, political, economic, and ecological perspectives and through a variety of grounded case studies. The theories and concepts we study are applicable to resource politics beyond Latin America. Dual listed with POLS 4475. Cross listed with INST 5475. *Prerequisite:* graduate standing.

5480. Ethics In Government. 3. The student is introduced to the ethical nature and dilemmas of public administration in American constitutional government. Such topics are addressed as source of ethical obligation, role of loyalty, application of moral philosophy, constitutional theory and ethical obligation, relation of theory and practice, and methods of ethical reflection. *Prerequisite:* POLS 5000.

5500. Internship in Public Administration. 1-6 (Max. 6). Educationally-oriented assignments for work in selected public agencies, with tutorial types of supervision. Offered S/U only. *Prerequisite:* consent of instructor.

5510. Public Policy and Program Management. 3. An overview of governmental policy making processes in the U.S and the uses of applied policy analysis. *Prerequisite:* POLS 5000.

5520. Public Opinion. 3. Deals with natures of a public in a democracy and means of forming and manipulating public opinion. Emphasizes the role of public opinion as an essential ingredient of the policy-making process in popular government. Dual listed with POLS 4520. *Prerequisite:* POLS 1000.

5530. U.S. Congress. 3. Analyze aspects of the U.S. Congress, including election of congressmen, legislative process, congressional-presidential relations, and the influence of political parties, interest groups, and constituents on the legislative process. *Prerequisite:* POLS 1000.

5540. Public Policy Perspectives. 3. Acquaints students with the underlying structure and dynamics of public policy formulation, implementation, and evaluation at the state, local, and federal levels. Drawing on a number of analytic approaches, the course seeks to understand this complex political phenomenon in the context of the institutions that drive it. *Prerequisite:* graduate standing.

5560. Public Administration in Literature and Film. 3. Examines the ways novelists and directors have viewed public administration, the accuracy of portrayals, how views have changed, how novelists and directors have helped create and disparage the rise of the administrative state, and types of administrative arrangements favored. *Prerequisite:* POLS 5000.

5570. Graduate Readings. 1-3 (Max. 9). Special programs of readings of government and politics will be outlined to meet needs of individual students. *Prerequisite:* graduate standing or consent of instructor.

5600. Political Violence. 3. Examines causes and consequences of violence both among individuals and among nations. Dual listed with POLS 4600. *Prerequisite:* POLS 1000, or SOC 1000, or POLS 1200, or POLS 1250, or POLS 2310, or permission of instructor..

5640. Political Philosophy: Ancient and Medieval. 3. Surveys political philosophy from Classical Greek period to Machiavelli. Dual listed with POLS 4640. *Prerequisite:* POLS 2460, or POLS 3600, or consent of the instructor.

5650. Political Philosophy: Modern. 3. Surveys political philosophy from Machiavelli through the 19th century. Dual listed with POLS 4650. *Prerequisite:* POLS 2460, or POLS 3600, or consent of instructor.

5660. Political Philosophy: Contemporary. 3. Examines central developments in political philosophy that guide action in today's world. Dual listed with POLS 4660. *Prerequisite:* POLS 2460, or POLS 3600, or consent of instructor.

5680. Research Methods for Political Science. 3. Introduction to methodology of empirical analysis appropriate for political science and public policy, including introduction to the philosophy of science, research designs, hypothesis formation, measurement, and data collection. *Prerequisite:* STAT 2050, 2070, 5070 or equivalent.

5681. Methods of Political Analysis. 3. Introduction to methods of analysis focusing on understanding the strengths and weaknesses of each method and practical issues arising during the analysis stage of research. Covers quantitative analysis through multiple regression, case study analysis, and archival/historical analysis. *Prerequisite:* STAT 2050, 2070, 5070 or equivalent.

5684. Empirical Analysis for Public Administration. 3. Designed for students in public administration to train them to make decisions based on empirical evidence in policy and management. Course draws concepts from system analysis, management science, operations research, and social science methodology to provide an understanding of various policy analysis and program management techniques across many applications. *Prerequisite:* POLS 5000.

5685. Program Evaluation and Policy Analysis. 3. Explores techniques for analyzing and evaluating public policy choices and impacts. Dual listed with POLS 4685. *Prerequisites:* STAT 5070 or equivalent and an introductory research methods course in social science or related discipline.

5690. Capstone in Public Management. 3. Integrates theories and concepts introduced in core and option-core courses, and emphasizes students' application of them to various administrative settings. *Prerequisite:* completion of all other core and option core requirements in the MPA Program.

5710. Topics In Political Science. 1-3 (Max. 9). Intended to accommodate various specialized subjects not offered as regular courses. *Prerequisite:* graduate standing.

5810. Seminar in Political Philosophy. 3. Encompasses reading and research on selected problems in political philosophy. Dual listed with POLS 4810. *Prerequisite:* POLS 2460, or POLS 3600, or consent of instructor.

5840. Seminar in Public Law. 3 (Max. 6). Includes reading and research on selected problems in public law. Dual listed with POLS 4840.

5850. Seminar in American Politics and Institutions. 3. Includes reading and research on selected U.S. government and politics problems. Dual listed with POLS 4850. *Prerequisite:* 9 hours of political science including POLS 1000 and consent of instructor.

5870. Seminar in International Relations. 3. Encompasses reading and research in international law and politics. Dual listed with POLS 4870. *Prerequisite:* Consent of instructor. POLS 2310 strongly recommended.

5890. Seminar in Comparative Government and Politics. 3. Researches selected topics in comparative government and politics. Dual listed with POLS 4890. *Prerequisite:* Consent of instructor. POLS 2310 strongly recommended.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Students are expected to give some lectures and gain classroom experience. *Prerequisite:* graduate standing.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Graduate level course designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Psychology

135 Biological Sciences Building,
(307) 766-6303
FAX: (307) 766-2926
Web site: www.uwyo.edu/psychology
Department Chair: Sean McCrea

Professors:

KAREN BARTSCH ESTES, B.S. Colorado State University 1981; M.A. Oxford University 1983; Ph.D. University of Michigan 1988; Professor of Psychology 2007, 1992.

MATTHEW J. GRAY, B.A. Creighton University 1993; M.S. Drake University 1995; Ph.D. University of Mississippi 2000; Professor of Psychology 2014, 2002.

CYNTHIA M. HARTUNG, B.S. University of Wisconsin-Madison 1990; M.A. University of Kentucky 1993; Ph.D. 1998; Professor of Psychology 2019, 2007.

SEAN M. McCREA, B.A. Bucknell University 1996; Ph.D. Indiana University 2002; Professor of Psychology 2019, 2009.

CHRISTINE L. McKIBBIN, B.S. Michigan State University 1991; M.S. University of North Texas 1994; Ph.D. 1997; Professor of Psychology 2019, 2007.

NARINA NUÑEZ, B.A. State University of New York at Cortland 1980; M.S. 1984; Ph.D. Cornell University 1987; Professor of Psychology 2000, 1987.

CAROLYN M. PEPPER, B.S. Western Michigan University 1989; M.A. State University of New York at Stony Brook 1992; Ph.D. 1995; Professor of Psychology 2011, 2002.

BENJAMIN M. WILKOWSKI, B.A. Ohio University 2002; M.S. North Dakota State University 2005; Ph.D. 2008; Associate Professor of Psychology 2014, 2008.

Associate Professors:

ROBIN A. BARRY, B.A. University of Michigan 1996; M.A. University of Iowa 2005; Ph.D. 2010; Assistant Professor of Psychology 2016.

JOSHUA D. CLAPP, B.A. University of Wyoming 2003; M.A. State University of New York at Buffalo 2008; Ph.D. 2012; Associate Professor of Psychology 2018, 2012.

KYLE P. De YOUNG, B.S. University of Iowa 2004; M.A. State University of New York at Albany 2008; Ph.D. 2011; Assistant Professor of Psychology 2016.

ALISON R. LOOBY, B.A. University of California-San Diego 2002; M.A. State University of New York at Albany 2007; Ph.D. 2011; Assistant Professor of Psychology 2016.

MEREDITH E. MINEAR, B.S. University of Illinois at Urbana-Champaign 1994; Ph.D. University of Michigan 2004; Associate Professor of Psychology 2019, 2013.

Assistant Professor:

KAYLA A. BURD, B.A. Hofstra University 2010; M.A. Cornell University 2016; Ph.D. 2018; Assistant Professor of Psychology 2020.

Academic Professional Lecturer:

CATHERINE P. CARRICO, B.A. Austin College; Ph.D. University of Northern Colorado; Clinical Associate Professor 2020.

TARA K. CLAPP, B.A. State University of New York at Buffalo 2005; M.S. Niagara University 2010; Associate Academic Professional Lecturer in Psychology 2018, 2012.

SCOTT FRENG, B.S. Black Hills State University 1995; M.A. University of South Dakota 1998; Ph.D. University of Nebraska - Lincoln 2001; Senior Lecturer in Psychology 2013, 2003.

MARIA I. KUZNETSOVA, B.A. Syktyvkar State University-Russia 2000; M.S. University of South Carolina-Aiken 2005; Ph.D. Virginia Commonwealth University 2011; Associate Academic Professional Lecturer in Psychology 2017, 2011.

Professor Emeritus
George Blau, David Estes, Charles J. Ksir, Karen B. Nicholas

The Department of Psychology offers coursework at several levels:

1. Introductory courses for students in other programs who wish an elementary knowledge of psychology.
2. Courses supportive of work in other majors.
3. An undergraduate major that is sufficiently flexible to allow students to prepare for graduate programs in psychology, professional schools (e.g. law, medicine) or for employment after graduation.
4. Graduate course work leading to the Ph.D. in clinical psychology, social psychology, cognition/cognitive development, or psychology and law.

Facilities are available for course work and laboratory experiences in areas of psychology such as cognition, personality, social, biological psychology, cognitive development, and psychology and law.

Students who wish to increase chances of employment related to their undergraduate majors should consult an adviser concerning areas of specialization within psychology.

Students planning graduate work in psychology should consult with their faculty adviser concerning career choices and development.

Learning Outcomes

We expect that our Psychology graduating students will have:

1. a basic knowledge of psychology and related fields.
2. the ability to evaluate the assumptions, purposes, methods, and results of psychological research and scholarship.
3. skills in teamwork, leadership, writing, speaking and listening, especially concerning psychology-related topics.

Credit by Examination

Credit by examination will be allowed only for PSYC 1000. The examination accepted is the College Level Examination Program (CLEP); the passing score is 50.

Advanced Placement

The psychology department will accept a score of 4 on the AP exam for credit in PSYC 1000, effective Fall 2015.

Undergraduate Major

A major requires a minimum of 33 semester hours and may not exceed 60 hours in psychology. Of these, 18 hours must be at the 3000 level or above. These upper-division courses must also be taken from at least two different members of the psychology department faculty listed in this *Catalog*.

Students must complete the following courses:
PSYC 1000 General Psychology
PSYC 2000 Research Psychological Methods

Four of five cores:
Biological, PSYC 2210 Drugs and Behavior **or** PSYC 2080 Biological Psychology
Developmental, PSYC 2300 Developmental Psychology
Clinical, PSYC 2340 Abnormal Psychology
Social, PSYC 2380 Social Psychology
Cognitive, PSYC 3120 Cognitive Psychology

Additionally **one** of the following restricted enrollment (seminar or writing intensive) courses is required: PSYC 4150, 4250, 4320, 4350, 4380, 4390, 4400, 4740, 4860.

Also required are 6 hours of anthropology, communication/journalism, criminal justice, economics, political science, or sociology; LIFE 1003 or 1010; and STAT 2050 or 2070.

One approved 3-4 credit hour STEM course: CHEM 1000, CHEM 1020, COSC 1010, COSC 1100, KIN/ZOO 2040, KIN/ZOO 2041, LIFE 2002, LIFE 2022, LIFE 2023, LIFE 2050, MATH 1050, MATH 1405, MATH 2200, MICR/MOLB 2021, PHYS 1050, PHYS 1110, STAT 2000, STAT 3050, or ZOO 3600.

Students who have an established UW GPA and who wish to change their major to Psychology, or to add Psychology as a major, will be required to have a UW GPA of at least 2.500.

For graduation, students must receive a C or better grade in all courses taken to satisfy department requirements.

Psychology courses taken 15 or more years ago will not be used to satisfy degree requirements.

Undergraduate Minors

The Department of Psychology offer two undergraduate minors: psychology and aging studies.

Psychology

A minor in psychology requires 18 semester hours in psychology. These must include PSYC 1000 or equivalent and 9 hours at the 3000- level or above. A grade of C or better is required in all minor courses.

Students seeking a minor must have 12 hours exclusive to the minor and not used in the major.

Aging Studies

A minor in aging studies requires 18 credit hours. These must include the following:

Core Courses
NURS 2240, FCSC 2110, HLSC 4985

Elective Courses - 9 credits
6 credits must be outside student major

Academic Standards
At least 12 credit hours in a minor must be from courses that are not being counted toward the student's major. No grade below a C is acceptable for courses applied to the minor.

Background Check
Students seeking the minor in Aging Studies will be required to obtain a background check as specified by College of Health Sciences policy. Please contact us for specific information.

Program Plan
Complete the Program Plan of Study with both your major academic advisor and your minor advisor.

Graduate Study

The Department of Psychology offers the doctor of philosophy in psychology with programs in clinical (APA accredited) psychology, social psychology, cognition/cognitive development, and psychology and law.

Program Specific Admission Requirements

The deadline for receipt of all application materials is December 1.

We only admit students one time per year. Our graduate students begin their programs of study in the fall semester.

Although our graduate programs technically consist of separate master's and doctoral degree components, only students who are

applying for, and who expect to complete, the doctoral program are considered for admission. That is, we do not offer a terminal master's degree.

Application materials include the application, one to two page personal statement, undergraduate and graduate (if applicable) transcripts, GRE scores (general and Advanced Psychology subject), curriculum vitae, and three letters of recommendation. An application fee of $50 is required.

Applications are evaluated based on the applicants' academic qualifications (e.g., GRE scores, undergraduate GPA) and interests. Particular attention is paid to the goodness of fit between the applicant's expressed interests and the particular strengths and offerings of our program.

Our program does not employ a set of formal "cut-offs" with regard to any of the quantitative application elements (e.g., GRE scores or undergraduate/graduate GPA). Often a strong record in one area may make up for a weakness in another area. Applicants interested in information on the qualifications of admitted students should consult the student summary data (www.uwyo.edu/psychology).

Program Specific Graduate Assistantships

Applicants are considered for graduate assistantships at the time of admission. Graduate students typically receive some departmental financial support for the first four years.

Program Specific Degree Requirements

Master's Programs
Plan A (thesis)

In addition to the general requirements specified in this *Catalog*, the following are required: (1) successful completion and oral defense of a thesis; (2) PSYC 5060. Statistical Methods in Psychology – 3 hours or STAT 5050. Statistical Methods in Biological Science – 3 hours; PSYC 5300. Applied Multivariate Analysis – 3 hours or STAT 5055. Statistical Methods for Biologists II – 3 hours; PSYC 5520. Research Design in Psychology – 3 hours; (3) at least 9 hours in 5000-level courses exclusive of those listed above and exclusive of research and thesis research credit.

A minimum of 30 semester hours is required (26 coursework hours and 4 thesis hours).

Doctoral Programs

Clinical Psychology

Students complete a four-year, on-campus sequence of required courses covering core areas of psychology and clinical competency. In addition, the following are required: successful completion of a thesis, a preliminary comprehensive examination, a dissertation, two summer clerkships, and a full year APA accredited internship.

Social Psychology, Cognition/Cognitive Development, or Psychology and Law

Students complete course requirements in topics designated as core areas of psychology, a preliminary comprehensive examination, and a research-based dissertation.

Psychology (PSYC)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000. General Psychology. 3. [CS◀▶H] Surveys the field of psychology through lectures, class discussion and assigned readings. Includes development of behavior, physiological mechanisms of behavior, perception, motivation and emotion, learning, intelligence, individuality and personality and mental health.

2000. Research Psychological Methods. 4. [WB◀▶(none)] Introduces some of the methods of investigating psychological questions. Exposure to various research strategies ranging from observational to experimental, using representative laboratory exercises, lectures, readings, films and demonstrations. Requires written and oral reports. May be used to satisfy department's written and oral communication requirement for majors. Laboratory two hours per week. *Prerequisites:* A grade of C or better in PSYC 1000, WA or COM1, STAT 2050 or 2070.

2080. Biological Psychology. 3. Introduces biological bases of behavior. Includes ethology and comparative behavior, psychobiological development, physiological and sensory mechanisms of behavior, and evolution and behavioral genetics. Presents basic structural and functional properties of the nervous system. *Prerequisites:* A grade of C or better in PSYC 1000 and general biology. (Normally offered fall semester)

2210. Drugs and Behavior. 3. Surveys drugs which affect behavior, emphasizing both psychotherapeutic agents and drugs with abuse potential. Includes brief introduction to the chemistry of the brain and how drugs may have their effects. Behavioral, social, historical and medical aspects of each major class of psychoactive drugs are discussed. *Prerequisite:* A grade of C or better in PSYC 1000.

2300. Developmental Psychology. 3. Introduces psychological development, including age-related changes in thinking, emotion, and behavior. Major theories, methodologies, and empirical discoveries are surveyed in an exploration of developments beginning with conception, with emphasis on social, affective, and cognitive developments in childhood and infancy and their implications for policy and practice. *Prerequisite:* A grade of C or better in PSYC 1000. (Normally offered spring semester)

2340 [4340]. Abnormal Psychology. 3. Provides a general overview of abnormal behavior, emphasizing types, etiology and treatment methods. *Prerequisite:* A grade of C or better in PSYC 1000. (Normally offered spring semester)

2380 [4755]. Social Psychology. 3. Examines how peoples' thoughts, feelings, and behaviors are influenced by the presence of others. Course will cover a broad range of theories and research in social psychology. *Prerequisite:* A grade of C or better in PSYC 1000. (Normally offered fall semester)

3120 [4120]. Cognitive Psychology. 3. Deals with higher mental processes that are primarily unique to human beings from theoretical and research orientations. Emphasizes interrelationships between various cognitive processes and continuity of those processes with perceptual and non-cognitive activities. Discusses how information is processed and remembered. *Prerequisite:* A grade of C or better in 6 hours of psychology including PSYC 1000. (Normally offered spring semester)

3150. Moral Development. 3. Students explore the vast psychological literature on moral development in affect, cognition and behavior from infancy to adulthood. Topics covered include major developmental theories, research methodologies, current scientific knowledge and its relationship to issues of cultural diversity, social policy and education. *Prerequisite:* A grade of C or better in PSYC 1000, junior/senior standing or consent of the instructor.

3250. Health Psychology. 3. Provides overview of growing partnership between psychology and health care, including history of psychology in health care; theoretical foundations of health and illness; intervention and research techniques; stress and high risk behaviors (e.g., substance abuse, eating behaviors, AIDS); psychology's contribution to improving outcomes and quality of life in

chronic and life-threatening behaviors. Cross listed with NURS 3250. *Prerequisite:* A grade of C or better in PSYC 1000.

3300. Psychology of Gender. 3. In this course, we will examine a variety of psychological theories and research on the experiences and behaviors of men and women. We will study attitudes about gender, theories of gender development, and research about similarities and differences between men and women. Cross listed with WMST 3300. *Prerequisite:* A grade of C or better in PSYC 1000.

4040. Cognitive Neuroscience. 4. Examines the underlying neural bases of higher cognitive functions in humans, including attentions, language, motor control, navigation, emotions, and memory, as well as neuroanatomy fundamentals and neuroscience methods such as fMRI and ERP. Lecture and lab components. *Prerequisite:* A grade of C or better in PSYC 2080 or PSYC 3120 or ZOO 4280.

4070. Motivation. 3. Covers classic and contemporary theories and research concerning motivation and the pursuit of goals. Discusses the study of motivation from a variety of perspectives, including biological, environmental, and psychological. Considers the role of emotion in motivational processes. *Prerequisite:* C or better in 6 hours in psychology.

4080. Physiological Psychology. 4. [SB◆▸(none)] Examines physiological mechanisms of behavior, strongly emphasizing neural and hormonal processes. Includes fundamentals of neuroanatomy and evolution of the nervous system, basic neurophysiology, sensory and motor processes, as well as the physiology of emotion, motivation, learning and memory. Lecture three hours per week. Laboratory two hours per week. *Prerequisites:* A grade of C or better in 6 hours of psychology and LIFE 1000, 1003, or 1010 or an introductory zoology course.

4150. Cognitive Development. 3. Examines cognitive development from infancy through adolescence. Explores, through lecture, discussion and projects, major theories and current empirical research on cognitive development, as well as implications for social and educational policies concerning children. *Prerequisite:* A grade of C or better in 9 hours of psychology, including child psychology course.

4200. Sensation and Perception. 3. Examines behavioral and physiological processes involved in sensation and perception. Discusses each of the sensory systems, emphasizing their physiology and role in perceptual processing. *Prerequisite:* C or better in 6 hours in psychology.

4250. Psychological Aspects of Chronic Illness. 3. Investigates the impact of chronic physical illnesses on diagnosed children and adults, their families, and society. Emphasizes effects of illnesses on psychological adaptation and quality of life. Should be of particular interest to helping professionals and health care workers. *Prerequisites:* A grade of C or better in PSYC 1000 and 3250.

4300. Adolescent Development. 3. Examines the developmental changes that occur during adolescence. Considers physical and physiological growth; intellectual, cognitive, academic and vocational development, changes in attitudes, interests and activities; and development of interpersonal relationships. *Prerequisite:* A grade of C or better in PSYC 1000.

4310. Developmental Psychopathology. 3. Provides basic understanding of developmental psychopathology. Examines characteristics, etiology, assessment and treatment of psychological disorders in children including autism, mental retardation, anxiety, depression, attention, learning, and conduct problems. *Prerequisite:* A grade of C or better in PSYC 1000 and PSYC 2300 or FCSC 2121 or EDST 2450.

4320. Intellectual Disability. 3. Acquaints students will all aspects of intellectual disability including assessment, diagnosis and classification, etiology, and associated health and mental health difficulties. Prevention, educational and psychological intervention, family adaptation, and community involvement are also addressed. *Prerequisite:* A grade of C or better in PSYC 1000 and PSYC 2300 or 4300 or FCSC 2121 or EDST 2450.

4350. Psychology of Adulthood. 3. Examines theories and research on psychological development from early adulthood to the end of life, with special emphasis on positive development, successful aging, and methodological issues in the study of adult development. *Prerequisite:* A grade of C or better in PSYC 1000.

4370. Criminal Psychopathology. 3. Provides an overview of current theories and empirical evidence concerning relationship between psychological disorder and criminal behavior. Examines various clinical syndromes and their role in biological, social and psychological genesis of crime, as well as the concept of criminal responsibility. Cross listed with CRMJ 4370. *Prerequisite:* C or better in 6 hours in psychology.

4380. Death and Dying. 3. Designed to provide a comprehensive overview of the field of thanatology. Death is considered from both an individual and sociocultural perspective. Aims to provide solid ground in research, methods, and theory of end-of-life issues and to encourage contemplation of personal and professional applications of death studies. *Prerequisites:* A grade of C or better in PSYC 1000 and junior/senior standing.

4390 [3390]. Personality Science. 3. Examines the contemporary science in personality psychology, with a focus on the genetic, biological, social, cognitive, and affective variables which interact to influence individual differences and personality coherence. *Prerequisite:* A grade of C or better in PSYC 1000 and PSYC 2300 or PSYC 2340 or PSYC 2380.

4400. Principles of Psychological Testing. 3. Encompasses basic concepts, principles and procedures of psychological testing, with a lecture, discussion, laboratory project approach. Emphasizes nature and uses of test reliability, validity, norms and transformations, selecting and evaluating tests, test interpretation models and professional ethics in test use. Lecture three hours per week. *Prerequisites:* A grade of C or better in 6 hours of psychology and STAT 2050 or 2070.

4500. Introduction to Clinical Psychology. 3. Provides students with general introduction to clinical psychology as a subarea of psychology. Deals with the search for, and applications of, psychological principles and methods aimed at assessing and explaining unique or special problems of the individual, group or family, assisting client(s) to function more meaningfully and effectively, and helping to prevent future problems. *Prerequisite:* A grade of C or better in PSYC 2340.

4730. Psychology and Law. 3. Exposes students to the application of psychological principles to problems in law. Emphasizes the American trial system, correction systems and civil commitment. Cross listed with CRMJ 4730. *Prerequisite:* A grade of C or better in 6 hours in psychology.

4740. Advanced Social Psychology. 3. [WC◆▸(none)] Concentrates on critical assessment of interpersonal behavior. Students are expected to become familiar with data gathering, analysis and reporting procedures commonly used in contemporary social psychology. *Prerequisites:* A grade of C or better in PSYC 2000 and 2380.

4760. Child Maltreatment. 3. Lecture and seminar. Examines the phenomenon of child abuse and neglect. Includes an overview of attitudes towards and legal definitions of child maltreatment. Explores parental factors, contextual influences and developmental consequences of maltreatment. Relies heavily on current research in child abuse and neglect. Emphasizes policy implications. Cross listed with CRMJ 4760. *Prerequisite:* C or better in 6 hours in psychology.

4820. Psychology of Human Sexuality. 3. A clinical-personality orientation to psychological factors in the development and expression of human sexuality. Focuses on the individual: interactions of physiological factors with developmental influences and personality patterns that produce feelings, thoughts and behaviors associated with human sexuality. *Prerequisite:* A grade of C or better in PSYC 1000 and 2300 or FCSC 2121 or EDST 2450.

4830. Senior Thesis. 3. [WC◀▶(none)] Senior research project under faculty guidance and supervision. Faculty sponsorship must be obtained prior to registration. *Prerequisites:* senior standing, majors only, 24 hours in psychology, and consent of instructor.

4850. Field Work in Psychology. 1-3 (Max. 6). Provides opportunities to experience applied aspects of psychology in external settings through volunteering, teaching, and related activities. Type and location of experience and requirements for earning credit and for grading are determined with a sponsoring faculty person in the psychology department. An acceptable paper based on work completed may also be required. No credit is available for field work prior to registration for this course. Satisfactory/Unsatisfactory only. *Prerequisite:* consent of instructor required in advance.

4855. Undergraduate Research in Psychology. 1-3 (Max. 6). Provides new opportunities to assist in aspects of conducting basic and applied psychological research with a sponsoring faculty person in the psychology department. Specific research activities and requirements for earning credit and for grading are determined with a sponsoring psychology faculty person. An acceptable paper based on work completed may also be required. No credit is available for research conducted prior to registration for this course. Satisfactory/Unsatisfactory only. *Prerequisite:* consent of instructor required in advance.

4860. Seminar. 1-6 (Max. 6). Course consists of extended and in-depth discussions of particular topics in psychology. Topics vary semester to semester. Class format may include lecture, group discussion, and group activities. Reading assignments will draw heavily from scientific literature and may include journal articles, textbooks, or book chapter. *Prerequisite:* 9 hours in psychology.

4960. Service-Learning in Psychology. 3. Experience applied aspects of psychology in real world settings through volunteering. Recent research and other materials preparing students for their service will be discussed in class. After the volunteering experience, the students will prepare an academic paper integrating their practical experience with research and theory learned in class. *Prerequisites*: PSYC 1000 and consent of instructor required in advance.

5060. Statistical Methods In Psychology. 3. General statistical analyses and their application to psychology. Analysis of variance, regression and correlation methods are studied from a data analytic perspective, emphasizing the conceptual understanding of where and when these techniques should be used and the interpretation of their results. Available computer programs will be utilized. Credit cannot be earned in more that one of the following courses: STAT 2020, 3050, 5050, 5060, 5070, 5080. *Prerequisite:* 1 course in statistics (all introductory courses except 2000).

5095. Statistical Computation In Psychology. 1-3 (Max. 12). Supervised problem-solving practice in statistical analysis is provided with regard to topics corresponding to those covered in a concurrent statistical analysis course. Statistical analysis topics vary. *Prerequisites*: graduate standing and instructor consent.

5120. Neuropsychology of Human Behavior. 3. Brain mechanisms involved in the expression and control of human behavior will be studied. Findings from classical neuropsychological studies and more recent clinical research investigations will be used in deriving explanations for the structural and physiological basis of normal and abnormal psychological processes. *Prerequisite:* 9 hours in psychology.

5140. Personality Science. 3. Examines contemporary scientific research and theory in personality. Surveys the biological, cognitive, affective, social, and interpersonal determinants of personality function with individual differences. A theoretical framework highlights the dynamic transactions between individuals and the sociocultural environment over the life course. *Prerequisite:* graduate standing in clinical or experimental psychology.

5180. Advanced Developmental Psychology. 3. Provides a graduate-level overview of development psychology, including current theories, issues, and research in both cognitive development and social development. *Prerequisite:* graduate standing.

5210. Advanced Physiological Psychology. 3. Examines the physiological bases of behavior beginning with a treatment of basic neuroanatomy, neurophysiology, and pharmacology. Discussion then proceeds to the physiological correlates of various behavioral states including sleep arousal, sensory processes, motor control, motivational systems, emotions, learning and memory. *Prerequisite:* 30 hours in psychology including PSYC 4080.

5230. Advanced Cognitive Psychology. 3. Provides the graduate student with an understanding of theoretical and experimental approaches to the study of human cognitive processing. There is an emphasis on critical evaluation of current research in the area. *Prerequisite:* 30 hours in psychology including PSYC 3120.

5240. Cognitive Psychology Seminar. 3 (Max. 12). Graduate level seminar in cognitive psychology, the topic of which will vary from semester to semester. Emphasis is on providing students with an in-depth analysis of some specific areas of cognitive psychology. *Prerequisite:* graduate standing.

5270. Behaviorism. 3. Acquaints the graduate student with behaviorist philosophy, the experimental analysis of behavior, and the application of behavioral technology to experimental, educational, and clinical problems. *Prerequisite:* 30 hours in psychology.

5300. Applied Multivariate Anlysis. 3. The application of multivariate statistical methods in behavioral science research. Topics include multivariate regression, canonical correlation, discriminate analysis, factor analysis and multidimension scaling. A wide range of computer assistance is incorporated. Cross listed with STAT 5300. *Prerequisite:* STAT 5050.

5340. Introduction To Clinical Supervision. 1-4 (Max. 4). Provides an introduction to the supervision of psychotherapy for advanced doctoral students by having them observe a therapy case in the Psychology Clinic with assigned first year doctoral students and then give instruction as to therapeutic techniques used by the therapist and to client dynamics. *Prerequisite:* admission to the doctoral program in clinical psychology and consent of instructor.

5370. Graduate Seminar in Forensic Psychology. 3. To provide graduate level training in forensic psychology for students pursuing careers in psychology, counseling and criminal justice. *Prerequisite:* 16 hours in psychology or consent of instructor.

5375. Psychology/Law Proseminar. 1-10 (Max. 10). The Psychology Law Proseminar exposes students to various areas of psycholegal research. Topics will vary each semester and students will be expected be actively engaged in the proseminar activities. Students will be exposed to theoretical and applied research that has relevance to legal settings. *Prerequisites:* graduate standing in Psychology and permission of instructor.

5380. Theories and Techniques of Psycotherapy. 3. A course for entering clinical doctoral students. Major current psychotherapies are reviewed in terms of theoretical

assumptions and related techniques. Required of first-year students in the program. *Prerequisite:* admission to doctoral program in clinical psychology.

5400. Clinical Assessment I. 3. First semester of a three semester practicum course in psychological assessment at the doctoral level. During the semesters, extensive examination is made regarding the standardization, relevant application, and significant limitations of assessment techniques. A thorough grounding is interpretation, and communication of the results of psychological evaluation both in writing and in consultation with referral sources. Normally taken during the first year of the doctoral program. *Prerequisite:* restricted to doctoral students in clinical psychology.

5410. Clinical Assessment II. 3. Second semester of a full-year practicum course in psychological assessment at the doctoral level. *Prerequisite:* PSYC 5400.

5425. Diagnostic Interviewing. 1. Students review research on diagnostic interviews, practice basic interviewing skills and learn to administer the Structured Clinical Interview for DSM-IV (SCID-I) using training tapes, class discussion and role-play exercises. As time permits, other interviews used to assess personality disorders and specific diagnostic categories will be reviewed. *Prerequisite:* admission to the doctoral program in clinical psychology.

5430. Clinical Neuropsychological Assessment. 3. Present the clinical psychologist in training with an introduction to the clinical application of neuropsychological principles and various tools. Includes the administration and interpretation of neuropsychological instruments and batteries, as well as the integration of more traditional assessment techniques with neuropsychological testing. *Prerequisite:* admission to the clinical doctoral psychology program, PSYC 5400, 5410, and 5120.

5450. Clinical Practicum. 1-4 (Max. 8). Beginning clinical practicum course providing doctoral students in clinical psychology with supervised experience in individual psychotherapy. Psychodynamic, client-centered, and behavioral techniques are employed. Cases and theoretical issues discussed in weekly seminar. Individual supervision of students by clinical faculty. *Prerequisite:* admission to doctoral program in clinical psychology and consent of instructor.

5460. Advanced Clinical Practicum. 1-12 (Max. 12). Advanced clinical practicum course for students beyond their second year in the doctoral program in clinical psychology. Provides additional supervised experience in individual, family, child, and group therapy, as well as in psychological assessment. Experiences include case conceptualization, case management, and provision of direct services. *Prerequisite:* admission to doctoral program in clinical psychology, PSYC 5450, and consent of instructor.

5470. Empirically Supported Psychotherapies. 3. Students become familiar with the efficacy and effectiveness of important state-of-the-art treatments with a focus on treatments of mood and anxiety disorders. Course goals include gaining a critical understanding of the issues involved in identifying psychological treatments that work. *Prerequisite:* PSYC 5380; PSYC 5510.

5500. Psychopathology I. 3. Students will obtain research-based knowledge in developmental psychopathology via lectures, discussions, and student presentations. This course will cover disorders that usually begin in childhood and how these disorders manifest across the lifespan. The course will also cover disorders that begin later and how these disorders manifest in children and adolescents.

5510. Psychopathology II. 3. Students will obtain research-based knowledge of both descriptive and explanatory adult psychopathology. In addition to learning how adult mental disorders present, students will acquire a framework for understanding the multiple variables that interact over the lifespan to influence adult psychopathology.

5520. Introduction To Research. 3. Introduction to problems and issues in research methodology. Ongoing research directed by various faculty are used as paradigms for conceptualization of research problems. Students critically evaluate projects presented and begin planning for research leading to theses and dissertations. *Prerequisite:* graduate status in psychology.

5530. Professional Issues and Ethics. 3 (Max. 6). This course primarily emphasizes ethical considerations and principles guiding the practice of psychology. Additionally, career development issues such as internship, postdoctoral fellowships, licensure and grant writing are addressed. This course also promotes and explores the foundational importance of informing clinical practice with empirical evidence. *Prerequisite:* graduate standing in psychology.

5550. Clinical Seminar. 1-3 (Max. 18). Graduate level seminar in clinical psychology, the topic of which will vary from semester to semester. Emphasis is on providing students with an in-depth analysis of some specific area of clinical psychology. *Prerequisite:* admission to the doctoral program in clinical psychology.

5580. Advanced Social Cognition. 3. Provides an overview of the cognitive processes involved in social behaviour, including perception, judgment, memory, and evaluation. *Prerequisite:* graduate standing or permission of instructor.

5630. Clinical Supervised Practicum I. 2. The first semester of a one year practicum in clinical supervision for doctoral students in clinical psychology. Students supervise at least one 2nd or 3rd year clinical doctoral student, attend supervision team meetings, and may conduct group supervision and/or see clients as determined by team leader. *Prerequisites:* enrollment in doctoral program in clinical psychology.

5640. Practicum in Clinical Supervision II. 2. The second semester of a one year practicum in clinical supervision for doctoral students in clinical psychology. Students supervise at least one 2nd or 3rd year clinical doctoral student, attend supervision team meetings, and may conduct group supervision and/or see clients as determined by team leader. *Prerequisite:* enrollment in doctoral program in clinical psychology.

5650. Theories of Social Psychology. 3. Designed to give the student a thorough understanding of the theories and methodologies of contemporary Social Psychology. *Prerequisite:* 16 hours in psychology including PSYC 2380.

5720. Advanced Social Development. 3. Provides a graduate-level introduction to theory and empirical research on social development. Topics include emotional development, attachment, socialization, moral development, aggression, and social context. *Prerequisite:* graduate standing.

5740. Internship in Clinical Psychology 1. (Max. 3). Full-year, 40 hours per week assignment to a mental health or related agency having an established internship program. This placement must be approved by the Department of Psychology and include: (a) adequate supervision of the intern and (b) didactic and other educational experiences that supplement practicum work. Registration for fall, spring, and summer terms is required. *Prerequisite:* Completion of preliminary examination and dissertation proposal, department approval.

5760. Graduate Seminar. 1-10 (Max. 18). Topic varies from semester to semester. Emphasis is upon the preparation of reports on special topics in psychology and the presentation and discussion of these reports in the seminar situation. *Prerequisite:* 6 hours in psychology and consent of instructor.

5765. Teaching of Psychology. 1-3 (Max. 3). Course is designed to prepare future faculty in psychology for a career in teaching. Topics

covered include developing lectures and assignments, assessing students and providing feedback, using technology, and fostering skill development in students. Course emphasizes evidence-based teaching. *Prerequisite:* restricted to graduate students in psychology.

5775. Developmental Psychology Seminar. 1-3 (Max. 18). Graduate level seminar in developmental psychology, the topic of which will vary from semester to semester. Emphasis is on providing student with an in-depth analysis of some specific area of developmental psychology. *Prerequisite:* consent of instructor.

5780. Advanced Cognitive Development. 3. Provides a comprehensive account of current views of cognitive development. Emphasis is given to alternative theoretical explanations for findings from empirical research. *Prerequisite:* graduate standing.

5785. Social Psychology Seminar. 1-3 (Max. 18). Graduate level seminar in social psychology, the topic of which will vary from semester to semester. Emphasis is on providing students with an in-depth analysis of some specific area of social psychology. *Prerequisite:* permission of instructor.

5790. Clerkship in Clinical Psychology. 1-3 (Max. 9). Provides practical clinical and administrative experience in institutional and community settings. Experience includes psychological assessment, group and individual therapy activities, participation in clinical and administrative staff conferences, consultation to various departments and agencies within the institutional setting and in the community, training of professionals in psychological concepts and techniques, and participation in research. Experiences are located in various community, county, and state agencies primarily in the Rocky Mountain region. Successful completion of three clerkships is a required part of the doctoral program in clinical psychology. *Prerequisite:* enrollment in doctoral program in clinical psychology and assignment by department.

5800. Research in General Psychology. 1-8 (Max 24). *Prerequisites:* consent of the instructor and graduate standing in the department.

5810. Research in Psychology and Law. 1-8 (Max. 24). *Prerequisites:* consent of the instructor and graduate standing in the department.

5820. Research in Social Psychology. 1-8 (Max. 24). *Prerequisites:* consent of instructor and graduate standing in the department.

5830. Research in Clinical Psychology. 1-8 (Max. 24). *Prerequisites:* consent of the instructor and graduate standing in the department.

5840. Research in Developmental Psychology. 1-8 (Max. 24). *Prerequisites:* consent of the instructor and graduate standing in the department.

5850. Research Cognitive Psychology. 1-8 (Max. 24). *Prerequisites:* consent of the instructor and graduate standing in the department.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5959. Enrichment Studies. 1-3 (Max. 99). Designed to provide an enrichment experience in a variety of topics. Note: credit in this course may not be included in a graduate program of study for degree purposes.

5960. Thesis Research. 1-12 (Max. 24). Graduate level course designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5980. Dissertation Research. 1-12 (Max. 48). Designed for students who are involved in research for their dissertation project. Also used for students whose coursework is complete and are writing their dissertation. *Prerequisite:* enrollment in a graduate level degree program.

5990. Internship. 1-12 (Max. 24). *Prerequisite:* graduate standing.

Theatre and Dance

2099 Buchanan Center for the Performing Arts, (307) 766-5100
Web site: uwyo.edu/thd/
Department Head: Margaret Wilson

Professors:

CECILIA ARAGÓN, B.S. McMurry University 1991; M.A. University of New Mexico 1996; Ph.D. Arizona State University 2003; Professor of Theatre and Dance 2017, 2005.

WILLIAM MISSOURI DOWNS, B.S. Northern Michigan University 1977; M.F.A. University of Illinois 1980; M.F.A. University of California-Los Angeles 1988; Professor of Theatre and Dance 2004, 1994.

MARSHA F. KNIGHT, B.F.A. University of Utah 1979; M.F.A. 1983; Professor of Theatre and Dance 1998, 1984.

MARGARET WILSON, B.A. University of Wyoming 1981; M.S. 1987; Ph.D. Texas Woman's University 2007; Professor of Theatre and Dance 2016, 2005.

LOU ANNE WRIGHT, B.A. California State University-Northridge 1990; M.F.A. National Theatre Conservatory 1993; Professor of Theatre and Dance 2007, 1994.

Assistant Professors:

PATRICK KONESKO, B.A. Saginaw Valley University 2008; M.A. Bowling Green State University 2009; Ph.D. 2013; Assistant Professor of Theatre and Dance 2015.

SCOTT TEDMON-JONES, B.F.A. University of Wyoming 2001; M.F.A. Carnegie Mellon University 2010; Assistant Professor of Theatre and Dance 2018.

Adjunct Professor:

Neil F. Humphrey

Degrees Offered

The Department of Theatre and Dance offers curricula leading to the B.A. degree and the Bachelor of Fine Arts and courses which fulfill a part of University Studies and various colleges' requirements, including the College of Arts and Sciences.

Curricula

Students may not take a course for S/U credit to satisfy course requirements in the major. This does not apply to courses offered for S/U only. Requirements for students majoring in the areas of the department are indicated below.

Theatre

The study of theatre provides students with a broad understanding of the art of theatre appropriate to theatre's position as a fine art in a liberal arts college. The study of theatre is considered to provide a basis for more specialized theatre study in a graduate or professional school. The liberal arts education in theatre together with extensive experience in the production program also provides the foundation for a professional career in theatre, motion pictures, or television drama for those individuals with special desires and abilities. Secondary teaching certification in theatre can be obtained through this program of study.

Dance

The dance concentration within the Department of Theatre and Dance is designed to provide students with a broad foundation in the humanities and specific emphasis in performance and production aspects of dance. Students pursuing this course of study will have opportunities to attain technical competency in ballet and/or modern dance, to perform in

yearly dance productions, to obtain practical experience in the fundamentals of teaching dance and to gain experience in technical theatre as an aid to dance production. The program seeks to provide a comprehensive view of dance as an artistically expressive medium, as well as a creative and recreational tool to human expression.

Students completing this program will qualify for more advanced private instruction as well as advanced academic instruction.

All dance students are matriculated into the BA degree. Students wishing to apply for the BFA in Dance Performance or BFA in Dance Science do so the second semester of their freshman year.

Students must receive a C or better in all courses designated THEA to satisfy department degree requirements. A student's transfer courses in Theatre and Dance must also reflect a C or better to be accepted for credit. A grade of C- does not meet the requirement.

Programs

B.A. with Theatre Track

These are the required courses for a B.A. with Theatre Track. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

THEA	1040	0.5
THEA	1100	3
THEA	1200	3
THEA	2010	3
THEA	2020	3
THEA	2040	0.5
THEA	2150	3
THEA	2220	3
THEA	2800	3
THEA	3730	3
THEA	3740	3
THEA	3810	3
THEA	3820	3
THEA	4820	3
THEA	4930	3
THEA	4940	3
Foreign Language		8

B.A. with Dance Track

These are the required courses for a B.A. with Dance Track. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

THEA	1021	1
THEA	1040	0.5
THEA	1200	3
THEA	1405	1
THEA	1450	1
THEA	2040	0.5
THEA	2050	1
THEA	2200	3
THEA	2410	1.5
THEA	2420	1.5
THEA	2430	1.5
THEA	2440	1.5
THEA	2480	1
THEA	3021	1
THEA	3100	3
THEA	3410	1.5
THEA	3420	1.5
THEA	3430	1.5
THEA	3440	1.5
THEA	3480	1
THEA	4010	4
THEA	4030	4
Plus 4 credits in any combination of 4010 and 4030		
THEA	4200	3
THEA	4250	2
THEA	4260	2
THEA	4880	1
LIFE 1000 or LIFE 1010 or ANTH 1100		4
KIN	2040	3
KIN	2041	1
Foreign Language		8
First Aid/CPR		0

Bachelor of Fine Arts

This degree program in theatre and dance permits 60-70 credits in the major field. It is designed primarily for students who seek additional professional training in theatre and dance or who wish to enter M.F.A. graduate programs.

Students seeking the professional degree will be expected to meet degree requirements as specified by the College of Arts and Sciences. Students may substitute advanced theatre and dance courses for university electives.

For other requirements consult with the Department of Theatre and Dance.

Bachelor of Fine Arts

Theatre/English Concentration

This degree program permits a total of 60-70 credits in the major. It is designed primarily for those desiring to pursue professional education courses and certification to programs.

These are the required courses for a B.F.A. with Theatre/English Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

THEA	1040	0.5
THEA	1100	3
THEA	1200	3
THEA	2010	3
THEA	2020	3
THEA	2040	0.5
THEA	2150	3
THEA	2220	3
THEA	2800	3
THEA	3730	3
THEA	3740	3
THEA	3810	3
THEA	3820	3
THEA	4820	3
THEA	4830	3
THEA	4930	3
THEA	4940	3
ENGL	2000	6
ENGL	4000	9
ENGL	4110 or 4120	3
Foreign Language		8

Bachelor of Fine Arts

Concentration

This degree program permits a total of 60-70 credits in the major. It is designed primarily for those desiring to pursue additional pre-professional training in theatre and dance or for those preparing to enter M.F.A. graduate programs.

These are the required courses for a B.F.A. with Acting Concentration:
Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.

THEA	1040	0.5
THEA	1100	3
THEA	1200	3
THEA	1700	2
THEA	2010	3
THEA	2020	3
THEA	2040	0.5
THEA	2160	2
THEA	2170	3
THEA	2220	3
THEA	2720	2
THEA	2790	3
THEA	3730	3
THEA	3740	3
THEA	3750	3
THEA	3950	3
THEA	4710	3
THEA	4720	3
THEA	4730	2
THEA	4820	3
THEA	4930	3
THEA	4940	3
Foreign Language		8
and three hours from the following:		
THEA	1410	1
THEA	1430	1
THEA	1450	1
THEA	1480	1

Bachelor of Fine Arts
Dance Performance Concentration

This program permits a total of 71-74 credits in the major. It is designed primarily for students in dance who wish to pursue additional preprofessional training in theatre and dance or for those preparing to enter M.F.A. graduate programs.

The BFA in Dance Performance is a professionally oriented degree for students interested in a career of performing or choreographing In addition to specific course work, BFA students complete a senior project which provides summation and synthesis to their training. Admission to the BFA is by application only. Students will be required to submit an application no sooner than spring of their freshman year and interview during the end of the spring semester. All students admitted to the BFA program are considered on provisional status in their first year in the program, and are evaluated on a yearly basis on maintaining a 3.000 GPA in dance required courses, demonstrating appropriate progress in artistic and technical growth and active participation in the Department of Theatre and Dance productions and research. Students wishing to apply for the BFA in Dance Performance do so the second semester of their freshman year.

These are the required courses for a B.F.A. with Dance Performance Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

THEA	1021	1
THEA	1040	0.5
THEA	1100	3
THEA	1200	3
THEA	1405	1
THEA	1450	1
THEA	2040	0.5
THEA	2050	1
THEA 2160 or 2800 or 3820		2-3
THEA	2200	3
THEA	2410	1.5
THEA	2420	1.5
THEA	2430	1.5
THEA	2440	1.5
THEA	2450	1
THEA	2480	1
THEA	3021	1
THEA	3100	3
THEA	3410	1.5
THEA	3420	1.5
THEA	3430	1.5
THEA	3440	1.5
THEA	3480	1
THEA	3490	1
THEA	4001	2
THEA	4010	4
THEA	4030	4

Plus 8 credits total in any combination of 4010 and 4030

THEA	4200	3
THEA	4250	2
THEA	4260	2
THEA	4700	1
THEA	4880	1
THEA	4880	1
THEA 4950 or THEA 4960		2
THEA	4975	1-12
LIFE 1000 or LIFE 1010 or ANTH 1100		4
KIN	2040	3
KIN	2041	1
Foreign Language		8
First Aid/CPR		0

Bachelor of Fine Arts
Dance Science Concentration

This program permits a total of 78 credits in the major. It is designed primarily for students in dance who wish to pursue additional preprofessional training in theatre and dance or for those preparing to enter M.F.A. graduate programs.

The BFA in Dance Science is a professionally oriented degree for students interested in a career of dance research and wish to pursue some aspect of the science field in relation to dance. In addition to specific course work, BFA students complete a senior project which provides summation and synthesis to their training. Admission to the BFA is by application only. Students will be required to submit an application no sooner than spring of their freshman year and interview during the end of the spring semester. All students admitted to the BFA program are considered on provisional status in their first year in the program, and are evaluated on a yearly basis on maintaining a 3.000 GPA in dance required courses, demonstrating appropriate progress in artistic and technical growth and active participation in the Department of Theatre and Dance productions and research. Students wishing to apply for the BFA in Dance Science do so the second semester of their freshman year.

These are the required courses for a B.F.A. with Dance Science Concentration. *Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.*

THEA	1021	1
THEA	1040	0.5
THEA	1200	3
THEA	1405	1
THEA	1450	1
THEA	2040	0.5
THEA	2050	1
THEA	2200	3
THEA	2410	1.5
THEA	2420	1.5
THEA	2430	1.5
THEA	2440	1.5
THEA	2480	1
THEA	3021	1
THEA	3100	3
THEA	3410	1.5
THEA	3420	1.5
THEA	3430	1.5
THEA	3440	1.5
THEA	3480	1
THEA	4010	4
THEA	4030	4

Plus 2 credits total in any combination of 4010 and 4030

THEA	4200	3
THEA	4250	2
THEA	4260	2
THEA	4880	1
THEA	4990	3
LIFE	1010	4
KIN	2040	3
KIN	2041	1
KIN	3050	2
PSYC	1000	4
FCSC	1141	3
KIN 4020 or KIN 3034		3
KIN 3037 or KIN 3038		3
Foreign Language		8
First Aid & Personal Safety Certification		0

Additional upper-division required course work (minimum 6 hours from the following courses):

KIN	3021	4
KIN	3040	3
KIN	3042	3
FCSC	3145	3
FCSC	4147	3
PSYC	3120	3
PSYC	3250	3
PSYC	4070	3

Bachelor of Fine Arts
Design Tech Management Concentration

Students in the B.F.A. degree program who are completing the Design Tech Management concentration will have the option of petitioning for permission to serve on the production staff of a departmental production as a designer or technician. Ordinarily, the petition would be submitted to the departmental faculty during the student's junior year and the project would be completed during the student's senior year. This project would be done under THEA 4880 or 4990 for 1 to 3 hours of credit.

These are the required courses for a B.F.A. with Design Tech Management Concentration.
Certain substitutions may have to be made and all scheduling of classes should be discussed with an adviser.

THEA	1040	0.5
THEA	1050	3
THEA	1100	3
THEA	1200	3
THEA	2010	3
THEA	2020	3
THEA	2040	0.5
THEA	2150	3
THEA	2220	3
THEA	2250	3
THEA	2790	3
THEA	2800	3
THEA	2990	3
THEA	2995	3
THEA	3730	3
THEA	3805	3
THEA	3810	3
THEA	3820	3
THEA	3850	2
THEA	4810	3
THEA	4820	3
THEA	4850	3
THEA	4930	3
THEA	4940	3

Recommended Electives:

THEA	2145	3
THEA	2160	2
THEA	2810	3
THEA	2900	3
ART	2010	3
ART	2020	3

Bachelor of Fine Arts
Theatre and Dance (Musical Theatre Performance Concentration)

The following are the required courses for a Bachelor of Fine Arts in Performance (Musical Theatre):

THEA	1040	0.5
THEA	1100	3
THEA	1200	3
THEA	1300	4
THEA	1360	3
THEA	1700	2
THEA	2010	3
THEA	2020	3
THEA	2040	0.5
THEA	2160	2
THEA	2170	3
THEA	2220	3
THEA	2340	6
THEA 2720 or 4730		2
THEA	2790	3
THEA	3730	3
THEA	3740	3
THEA	3950	3
THEA	4330	3
THEA	4710	3
THEA	4720	3
THEA	4820	3
THEA	4930	3
Foreign Language		8

Plus 3 hours from the following:

THEA	1410	1
THEA	1430	1
THEA	1450	1
THEA	1480	1

Plus two additional dance courses in an area of choice.

Minor Programs

The following courses are required for a minor in Theatre:

THEA	1040	0.5
THEA	1100	3
THEA	1200	3
THEA	2010	3
THEA	2020	3
THEA	2040	0.5
THEA	2220	3
THEA 2800 or 3810* or 3820		3

Plus 3 hours of electives in Theatre and Dance (must be 4000 level or above)

*THEA 2150 is a prerequisite for THEA 3810

The following courses are required for a minor in Dance:

THEA	1021	1
THEA	1040	0.5

Four (4) consecutive classes in Ballet technique.* Choose from: 5-6
THEA 1410, THEA 1420, THEA 2410, THEA 2430, THEA 3410, THEA 3420, THEA 4010

Four (4) consecutive classes in Modern technique.* Choose from: 5-6
THEA 1430, THEA 1440, THEA 2430, THEA 2440, THEA 3430, THEA 3440, THEA 4030

Two (2) consecutive classes in Jazz or a mix of Jazz and Tap classes.* Choose from:.....2
THEA 1450, THEA 1480, THEA 2450, THEA 2480, THEA 3480, THEA 3490

THEA	2200	3
THEA	4250**	2

Elective at 3000-4000 level 2-3
Suggested: THEA 4010, THEA 4030, THEA 4001, or THEA 4200 (COM3)

Minor Total 17.5-22.5

Scholarships

A number of scholarships are available to interested majors in theatre or within the dance option. The University Theatre also maintains a summer company. Applications should be sent to the Department of Theatre and Dance, Dept. 3951, 1000 E. University Ave., Laramie, WY 82071.

Departmental Activities/ Organizations

The department sponsors one of the largest all-student activities on campus. Nearly 250 students take part in its productions each season. All students are eligible to participate in its productions through auditions.

Productions are mounted in the Center for the Fine Arts which includes a flexible proscenium theatre and an experimental-studio theatre complete with scene and costume support facilities.

Auditions, open to all university students, are publicly announced for each production. Qualified students may receive credit in performance and production areas (THEA 2050).

The Wyoming Summer Theatre presents a season of plays of varying types during the summer session. Theatre majors and minors are urged to spend at least one summer working with this group.

Graduate Study

At present, no program for graduate degrees in theatre and dance is offered; however, courses may be counted at the graduate level.

Theatre and Dance (THEA)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1000. Introduction to Theatre, TV & Film. 3. [CA◀▶H] A broad examination of theatre, television and film through the ages including history, production, dramatic literature, creativity, art, entertainment and censorship.

1021. Academic and Professional Issues in Dance. 1. [I,L◀▶(none)] Introduces freshman to the discipline of dance and academic study at the University of Wyoming. Key intellectual and literacy concepts will be introduced, including, but not limited to: critical thinking and analysis, knowledge of the discipline, career options, diversity of the discipline, university and region.

1040. Production Crew I. 0.5. Participation in one Departmental production during semester enrolled. Contribute to the preparation and/or actual production of one stage play in the areas(s) of lighting, costume construction, set construction, scenic painting, stage properties, or arts management. Required for all Theatre & Dance freshmen. *Prerequisite:* consent of instructor.

1050. Beginning Drawing and Painting. 3. An introductory drawing and painting technique course for students to achieve a working knowledge of a variety of mediums that cross the disciplines of scenic, costume, and lighting design. Form, perspective, texture and basic color theories will be explored.

1100. Beginning Acting. 3. [CA◀▶H] Explores inner resources of beginning actor and brings these resources to bear upon the art of creating a believable stage image.

1101. First-Year Seminar. 3. [(none)◀▶FYS]

1200. Introduction to Design. 3. Introduces and explores visual aesthetic principles as they relate to various aspects of stage design. Studio projects in scene, lighting, and costume design supplement lectures. Prerequisite for other design courses.

1300. Musical Theatre Workshop. 1 (Max. 8). Workshop production of a Musical or Musical Theatre scenes.

1360. Fundamentals of Music for Theatre Majors. 3. Basics of music theory to include music notation, rhythm, pitch, scales, key signatures, triads, and basic ear training and keyboard skills, specific to the needs of Musical Theatre. Assumes little or no music theory background.

1405. Introduction to Pilates Training. 1 (Max. 2). An introduction to Pilates based training, including mat work and exercises on the Reformer. *Prerequisite:* consent of instructor.

1410. Ballet I/I. 1. [CA◀▶H] Introduces principles and practices of classical ballet technique.

1420. Ballet I/II. 1. [CA◀▶H] Continues studies in classical ballet technique. Instructor permission required. *Prerequisite:* THEA 1410.

1430. Modern Dance I/I. 1. [CA◀▶H] Introduces principles and techniques of modern dance.

1440. Modern Dance I/II. 1. [CA◀▶H] Continues studies in modern dance technique. Instructor permission required. *Prerequisite:* THEA 1430.

1450. Beginning Tap Dance. 1. Explores basic tap techniques and related principles of tap dance composition.

1470. Men's Technique. 1 (Max. 2). Introduces and develops the principles and techniques of movement and dance specific to men.

1480. Beginning Jazz. 1. [(none)◀▶H] Introduces jazz dance.

1700. Voice for the Actor. 2. Introduction to voice work. Emphasizes breath freedom, flexibility and support for the actor. Methodologies studied include: Fitzmaurice Voicework, Linklater and Lessac systems.

2005. Creative Drama in the Classroom. 3. Focuses on K-12 Theatre teaching methods. Students discover teaching methods for integrating improvisation, storytelling, movement/dance, and puppetry into the school curriculum. Students design and implement theatre lessons using these creative drama techniques. To engage real life practice teaching, students are given opportunities to teach creative drama lessons to the class.

2010. Theatrical Backgrounds Drama I. 3. First semester of a two-course series. Introduces dramatic literature through the ages.

2020. Theatrical Backgrounds Drama II. 3. Second semester of a one-year course. Continues THEA 2010. *Prerequisite:* THEA 2010.

2030 [3500]. Beginning Playwriting. 3. Introduces writers to the creative process of playwriting (writing for the stage) or screenwriting (writing for the movies). Strongly emphasizes character and story development, as well as practical side of the industry. Students write a play or screenplay. *Prerequisites:* WA and THEA 1000, 1100.

2040. Production Crew II. 0.5. Continues the "hands-on" production crew experience provided by Production Crew I. Contribute to a Theatre Department production in the area(s) of lighting, costume construction, set construction, scenic painting, stage properties, stage management, or arts management. Required for all Theatre & Dance majors. *Prerequisite:* THEA 1040.

2050. Theatre Practice. 1-2 (Max. 4). Encompasses individually supervised practical training in performance and production. Offered for S/U only. *Prerequisite:* consent of instructor.

2060. Introduction to Performance Studies. 3. [(none)◀▶COM2] Introduces students to the theories and practices of Performance Studies as an interdisciplinary field. Students will apply these concepts as a way of exploring issues of culture and identity, particularly in an international context.

2145. Costume Construction. 3. Teaches the basic skills and terminology that are used in costume construction. Teaches hand and machine sewing focusing on techniques used to stitch historical and modern costumes as well as basic knowledge of fabric.

2150. Drafting for Design. 3. Introduces Design and Technical students to the basics of hand drafting and numerous drafting techniques and conventions. After completing this course, students will be well prepared for scenic and lighting design courses.

2160. Stage Makeup. 2. Introduction to theatrical makeup with the stage performer in mind. Focus on principles, materials, and techniques; concentrating on problems of designing and executing specific makeup designs and applications for a wide range of ages, types, and styles.

2170. Speech for the Actor. 3. Studies speech techniques, including the International Phonetic Alphabet and Standard American Speech for the Stage. Builds upon the Fitzmaurice-Voicework technique as well as other voice methodologies. *Prerequisites:* THEA 1100 and 1700.

2180. Costume Crafts. 3. Focuses on the area of costume crafts which may include but not limited to dyeing, millinery, masks, fabric painting and distressing, working with a variety of materials. *Prerequisite:* THEA 2145.

2200. Backgrounds of Dance. 3. [CA,G◀▶H] Surveys ethnic and theatrical dance forms from primal society to 20th century. Examines the place of the arts as a reflection of the culture.

2220. Stagecraft. 3. Introduces students to basic stage production practices and techniques, including safe rigging practices, set construction, scenic painting, stage properties, and stage lighting. Students are encouraged to participate in "hands-on" demonstrations during classes.

2250. Computer Aided Design I. 3. Building on skills and techniques learned in THEA 2150 Drafting for Design, the course intruduces and provides students with training on commonly used software, that may include CAD, 3D-modeling, and photo editing soft-

ware. Skills acquired will be built upon in later courses. *Prerequisite:* THEA 2150 or by permission of instructor.

2340. Musical Theatre Voice Lesson. 1 (Max. 8). Solo instruction in singing techniques and performance styles associated with Musical Theatre. Includes demonstration, brief lecture, discussion, and active participation through singing, analyzing, movement, and performance.

2400. Vertical Dance I. 1. An introduction to vertical dance including safety issues, beginning rigging and performance. Satisfactory/Unsatisfactory only. *Prerequisite:* consent of instructors.

2410. Ballet II/I. 1.5 (Max. 3). A first year, first semester ballet technique class for dance majors and minors. This course focuses on expanding the dancer's understanding and knowledge of technique, vocabulary and principles of classical ballet. *Prerequisite:* Limited to dance majors and minors; admission by permission only.

2415. Pointe I. 1 (Max. 4). A beginning level point class based on the principles of classical ballet. *Prerequisite:* Completion of or concurrent enrollment in THEA 2410, or permission of the instructor. Limited to dance majors and minors.

2420. Ballet II/II. 1.5 (Max. 3). Second semester of the first year ballet technique class for dance majors and minors. This course focuses on expanding the dancers understanding and knowledge of technique, vocabulary and principles of classical ballet Class meets three times per week. *Prerequisite:* Successful completion of THEA 2410 or equivalent required. Limited to dance majors and minors; admission by permission only.

2425. Pointe II. 1 (Max. 4). An intermediate level pointe class based on the principles of classical ballet. *Prerequisite:* THEA 2415 or permission of the instructor. Limited to dance majors and minors.

2430. Modern Dance II/I. 1 (Max. 3). A first year, first semester, modern dance technique class for dance majors and minors. Knowledge of basic vocabulary and principles will be augmented with an understanding of historical techniques and their application to contemporary dance. Class meets three times per week. *Prerequisite:* Limited to dance majors and minors; admission by permission only.

2435. Repertory. 1 (Max. 4). A beginning level repertory class based on the principles of modern dance. *Prerequisite:* Status in the dance department, or permission of the instructor is required before enrolling.

2440. Modern Dance II/II. 1 (Max. 3). A first year, second semester, modern dance technique class for dance majors and minors. Mastering vocabulary and principles will be augmented with a deeper understanding of historical techniques and their application to contemporary dance. Class meets three times per week. *Prerequisite:* THEA 2430. Limited to dance majors and minors; admission by permission only.

2445. Repertory II. 1 (Max. 4). A beginning level partnering class based on the principles of ballet or modern dance. *Prerequisite:* Status in the dance department, or permission of the instructor is required before enrollment.

2450. Tap II. 1. Continues studies in techniques and principles of tap dance. *Prerequisite:* THEA 1450.

2480. Jazz II. 1. [(none)◀▶H] Continues studies in techniques and principles of jazz dance. Instructor permission required. *Prerequisite:* THEA 1480.

2720. Intro to Stage Combat. 2. The basic techniques used in staging both unarmed stage combat and rapier and dagger fight scenes. Students will experience the process of learning, rehearsing, and performing fight scenes. Includes analysis, discussion, training exercises, and choreographed performance. General curriculum follws that set forth by the Society of American Fight Directors. *Prerequisite:* THEA 1100.

2790. Stage Management. 3. Study of the essential elements of supervising theatrical productions. Stresses the art of organizing auditions, casts, crews, rehearsals, and performances while developing a unique professional relationship with directors, designers and actors. Students will work on a live production. *Prerequisite:* THEA 1100, 1200, 2220.

2800 [3800]. Stage Lighting I. 3. Examines the elemental aspects of stage lighting including equipment, facilities, color, and fundamental electricity. Requires studio work on departmental productions. Intended for majors in the program. *Prerequisite:* THEA 2150 and THEA 2220.

2810. Scenic Painting for the Theatre. 3. Introduces the art of scenic painting by the hands-on use and instruction of a variety of scenic paints, application on select construction materials, the use of unique tools and techniques commonly used to paint scenery for the stage. Safe use and proper handling of such material are addressed. *Prerequisite:* THEA 2220.

2900. Sound Design for Theatre and Dance. 3. Examines the basic aspects of sound design for the theatre, dance, entertainment and film worlds. Topics covered include recording, sampling, live mixing, playback, and non-linear editing through several software packages. *Prerequisite:* THEA 2220.

2990. Period Style for Theatre I. 3. First semester of a one-year survey. Studies antiquity to the Renaissance with an overview of the architecture, décor, clothing, arts and culture as related in their use and understanding of Western drama. The social, economic, and political histories of each period will be discussed as well. THEA 2990 and 2995 should be taken in sequence.

2995. Period Style for Theatre II. 3. Second semester of a one-year survey. Studies Renaissance to Contemporary with an overview of the architecture, decor, clothing, arts and culture as related in their use and understanding of Western drama. The social, economic, and political histories of each period will be discussed as well. THEA 2990 and 2995 should be taken in sequence. *Prerequisite:* THEA 2990 or permission of instructor.

3000. Special Topics in Theatre. 3. (Max. 9) Provides undergraduates with the opportunity for in-depth study in areas of Theatre not offered in regular courses or independent study. Course includes discussions on specific topics as well as studio work. *Prerequisites:* 6 credit hours in Theater/Dance.

3021. Foundations of Dance Pedagogy. 1. Introduces students to basic theories and practices of dance pedagogy. Lecture and discussion will be balanced with peer teaching and coaching, observation of lessons and integration within a dance classroom situation with some teaching responsibilities and development of a portfolio with lessons and resources for teaching. *Prerequisites:* sophomore standing in the department of Theatre and Dance; successful completion of THEA 3420 or THEA 3440.

3100. Kinesiology for Dance. 3. Encompasses seminar in current kinesiology research for dancers. Includes practicum based projects, lectures and supplementary materials. *Prerequisite:* ZOO 2040.

3160. Advanced Stage Makeup. 2. Extension of Stage Makeup, focusing primarily on the development of a life mask and ultimately prosthetics using a variety of mediums. *Prerequisite:* THEA 2160.

3400. Vertical Dance II. 1 (Max. 2). A continuing course in vertical dance emphasizing the math and physics of the rigging; safety and design, choreography and research in the field. *Prerequisites:* completion of THEA 2400 and consent of instructors.

3410. Classical Ballet III/I. 1.5 (Max. 3). A second year, first semester ballet technique class for dance majors and minors. Class meets

three times per week. Emphasis is placed on improving technical skills and learning more advanced steps. Includes research into one discipline of ballet. *Prerequisites:* successful completion of THEA 2440 and admission by permission only. Limited to dance majors and minors.

3420. Classical Ballet III/II. 1.5 (Max. 3). Second semester of the second year ballet technique class. Emphasizes broadening the dancer's movement vocabulary while refining acquired technical skills. Dancers begin work in study of Baroque dance terms. Class meets three times per week. *Prerequisites:* successful completion of THEA 3410 or equivalent required. Limited to dance majors and minors; admission by permission only.

3430. Modern Dance III/I. 1.5 (Max. 3). A second year, first semester, intermediate level modern dance technique class for dance majors and minors. Continued training in classical modern dance and continued historical survey of modern dance will be augmented by rhythmic analysis and compositional forms. Class meets three times per week. *Prerequisite:* successful completion of THEA 2440 or its equivalent. Limited to dance majors and minors; admission by permission only.

3440. Modern Dance III/II. 1.5 (Max. 3). A second year, second semester, modern dance technique class with continuing studies of sequential modern dance technique at the intermediate level, introduction of Laban effort/shape theory, compositional forms, improvisation and additional rhythmic analysis. Class meets three times per week. *Prerequisite:* THEA 3430 or its equivalent. Limited to dance majors and minors; admission by permission only.

3480. Jazz III/I. 1 (Max. 2). An intermediate jazz technique class. Students will learn varying styles of jazz dance, ranging from historical to contemporary, and will perform these for evaluation and incorporate them into class compositions. *Prerequisite:* THEA 2480.

3490. Jazz III/II. 1 (Max. 2). An advanced class in jazz technique and performance. Students will learn varying styles of jazz dance, ranging from historical to contemporary, and will perform these for evaluation as well as incorporate them into class compositions. *Prerequisite:* THEA 3480.

3501. Screen Writing and Television Writing. 3. This class introduces students to the craft of writing for movies and television. Strong emphasis is placed on character and story development as well as how the Hollywood entertainment industry works. *Prerequisite:* COM1 or consent of instructor.

3600. Teaching Theatre in Elementary or Secondary School. 3. Focuses on aspects of age appropriate teaching methods, strategies, and curriculum planning for either elementary or secondary education. Additional emphasis include planning a production season, arts management and budgeting, using national and state content and performance standards, assessing student growth, and developing community advocacy plans. *Prerequisite:* THEA 1100.

3650. Theatre for Young Audiences: Plays and Production. 3. Highlights aspects of performance and directing for child audiences. Students will explore the work of outstanding contemporary playwrights who are writing for young audiences, and develop techniques in writing, acting, and directing for and with young people. *Prerequisite:* THEA 1100.

3730. Intermediate Acting. 3. Develops the actor's voice and body for characterization and character interaction through performance of scenes. Study of character and scene analysis. *Prerequisites:* THEA 1100.

3740. Acting Styles. 3. Focuses on textual analysis of plays from different periods and styles of dramatic literature. Emphasizes vocal and physical interpretation of character as represented in non-realistic styles of drama. *Prerequisites:* THEA 1100 and 3730.

3750. Acting for the Camera. 3. Addresses performance skills required in acting for the camera. Covers various techniques, styles, and skills necessary to be successful in the professional world of film and television as an actor. Students perform scenes for 3-camera and single camera set-ups, and become familiar with rudimentary technical skills as crewmembers for shoots. Lecture and test material cover career opportunities, union affiliations, and current trends in the film and television industry. *Prerequisites:* THEA 1100 and 3730.

3805. Stage Lighting II. 3. Analyze proposed productions in terms of period, style, theatre limitations and instrumental inventories. Determine appropriate design solutions in written descriptive analyses that result in 2-D drawings of the design. Produce all supporting paperwork including drafting a plan view, section view, instrument schedules, magic sheets and proposed cue lists. *Prerequisites:* THEA 2800.

3810. Scene Design I. 3. An in-depth study of idea development from script analysis through design conception using different types of theaters and source material. The design process will cover research, drawing, drafting, model making, and rendering. *Prerequisites:* THEA 2150 and THEA 2220 or by permission of instructor.

3820 [4840]. Stage Costuming I. 3. A study of basic drawing and rendering skills, and a selective study of historical silhouettes. Objectives include the ability to trust instinct, application of the basic elements of design, applying historical reference and research to a specific character, developing a concept and finally the application of these principles to a final project. *Prerequisite:* THEA 1100.

3840. Historical Costumes from the Skin Out. 3. Learning how to replicate period gowns and undergarments prior to the 1920s by draping and flat-patterning techniques. Includes the research and construction of one complete set of period undergarments and gown either as an individual or in a team to be determined by the complexity of the garment and the skill level of the students. *Prerequisite:* FCSC 3174 (4170) or FCSC 3175.

3850. Design and Technology Seminar. 2. Introduces designer/technician to process of preparing successful interview material, including a professionally developed portfolio. Exposes designer/technician to business aspects of the theatre world, including resumes, letters of inquiry and application, contracts, unions and professional organizations, internships, apprenticeships, URTAs and professional design/technical training programs. Culminates in junior End-of-the-Year Evaluations. *Prerequisite:* junior standing in the BFA Program with Design/Technical emphasis.

3890. Lighting CADD. 3. Designed for the advanced lighting student, provides further exploration of the computer technology that has become so critical for modern lighting design. Introduces students to software programs such as VectorWorks, Lightwright, and Photoshop, as well as networking and advanced programming for modern light boards. *Prerequisites:* THEA 2250 and 2800.

3910 [591]. 20th Century Theatre Diversity. 3. Studies plays and production techniques, within the context of historical and sociological events, as developed in the 20th Century that has led to the cultural diversity seen in modern theatre. *Prerequisite:* junior standing.

3950. Dialects for the Actor. 3. Introduces the actor to five major dialects for the stage. Examines sensibility, vowel and consonant changes, pitch placement and charting. *Prerequisites:* THEA 1100, 1700, and 2170.

4001. Historical Dance. 2 (Max. 2). Historical dance forms in the "Noble Style" dating from the 15th through 18th Centuries. Class work covers the relationship of musical forms to the specific step vocabulary and dances of each period, deportment, period costume as it relates to movement, social environment, pe-

riod style with an emphasis on reconstruction of 17th and 18th Century dances from Feuillet notation. *Prerequisite:* THEA 3440.

4010. Advanced Ballet. 1-3 (Max. 8). A continuing course in the principles and techniques of classical ballet. Emphasis is placed on continuing to broaden the dancer's movement vocabulary while refining acquired technical skills. *Prerequisite:* THEA 3420. Limited to dance majors and minors; admission by permission only.

4030. Advanced Modern Dance. 1-3 (Max. 8). This class will develop a professional dancer capable of working within diverse modern dance styles and techniques through the interweaving of classical and contemporary movement modalities along with an experiential anatomy approach. *Prerequisite:* THEA 3440. Limited to dance majors and minors; admission by permission only.

4060. English/Theatre Studies in _____. 3. Identical to ENGL 4060.

4200. 20th Century Dance. 3. [CA,WC◀▶COM3] Intensely studies dance in 20th Century, emphasizing contemporary movement in modern, ballet, jazz and musical theatre dance. Examines social, political and aesthetic trends influencing dance theory and performance. *Prerequisite:* THEA 2200.

4230. Greek Tragedy. 3. Reading and discussion of major plays by Aeschylus, Sophocles, and Euripides, together with examination of the performance and social context of Greek drama, its use of traditional myths, and selected issues in contemporary scholarship on the tragedies. Cross listed with CLAS/ENGL 4230. *Prerequisite:* WB or COM2. **4250. Beginning Dance Composition. 2.** Presents and criticizes movement studies based on various approaches to composition. Explores experimentation in choreography. *Prerequisite:* THEA 2420, 2440.

4260. Intermediate Dance Composition. 2-3 (Max. 3). *Prerequisites:* THEA 4250 and consent of instructor.

4330. History of American Musical Theatre. 3. [WC◀▶COM3] History of the American Musical from its inception to today. Emphasis on developments and literature. *Prerequisites:* THEA 2010, 2020, 6 hours in theatre at the 3000-level.

4500. Advanced Playwriting. 3. An intensive continuation of THEA 3500. Focuses on the creation, analysis and rewriting of play script(s), culminating in a public reading or performance of the script(s). *Prerequisite:* THEA 2030.

4600. Teaching Theatre Artists: Service Learning in the Community. 3. Focus on Service Learning in the Community. Students will have the opportunity to observe various settings in the community of development of theatre program. Some areas of observation and practicum include drama/theatre-in-education, community-issue-focused-theatre, and theatre with special populations, crisis prevention, drama therapy, Preventive Medical Agencies, etc. *Prerequisite:* THEA 1100.

4700. Auditioning and Careers in Dance. 1. Designed for dance majors as a culminating course in preparation for final semester auditions and applications for companies and graduate schools. Through this course, students will set career goals, create an audition portfolio, and gain exposure to the many challenges and opportunities in dance. *Prerequisites:* senior standing, THEA 1021, and one semester of THEA 4010 or 4030.

4710. Advanced Scene Study. 3 (Max. 6). Involves intensive work at an advanced level dealing with individual actor's problems through the medium of scene study. *Prerequisite:* THEA 3740.

4720. Auditioning and Professional Issues. 3. Introduces actors to process of finding, preparing and executing successful audition material, including monologues, songs and dance combinations. Exposes actors to business aspects of the theatre world, including resumes, photos, contracts, unions, internships, apprenticeships, Equity Membership Candidacy programs, URTA's and professional actor training graduate programs. Culminates preparation for final semester auditions for the company/school of choice. *Prerequisites:* THEA 1100, 3730 and 3740.

4730. Movement for Actors. 2. An exploration of the underlying physical skills of actors as well as the art of physical acting and nonverbal storytelling. We will be using a mix of Viewpoints, LeCoq, Suzuki, and other practitioners' contributions, including Mask, Mime, Clowning, Devised Theatre and more. *Prerequisite:* THEA 1100 and 1700.

4770. Summer Theatre. 1-3 (Max. 6). Offers credit for participation in the Wyoming Summer Theatre program in all phases of production. Offered for S/U only. *Prerequisites:* 12 hours in theatre and consent of instructor. (Offered summer session)

4800. Stage Lighting-Production. 3. Explores design and execution of lighting for theatrical production. Includes practical laboratory work with Theatre & Dance productions. *Prerequisite:* THEA 2800, 2900, and 3805.

4810. Scene Design II. 3. Building on previous coursework, this course will focus on further development of the individual creative and design processes, honing research and presentation skills, and refinement of artistry and craftsmanship. Strong emphasis will be on the presentation of ideas and the advancement of the portfolio. *Prerequisite:* THEA 2250 and 3810.

4820. Directing I. 3. Tools course. Focuses on basic pictorial and blocking skills of the director. Includes in-class exercises that cover structural and character analysis of play scripts, blocking annotation and prompt scripts, developing ground plans, creating compositions with emphasis, focus and balance, and employing movement as a dynamic tool. Requires two outside directing projects with verbal evaluations of all project work. Prerequisites: THEA 2010, 2020, 3730, and 3810 or instructor permission.

4830. Directing II. 3. Focuses on creative process of developing directorial concepts, establishing the world and style of the play, working with the actor, and functioning as a designer. Includes exercises that analyze different directorial approaches, as well as the audition and casting process. Culminates one-act mounted production performed before invited audience. *Prerequisites:* THEA 4820 and written permission of instructor.

4845. Costume Fit and Alteration. 3. Focuses on fitting modern clothing and historical costumes to individuals. Students learn how to identify fit issues in a fitting, make the proper corrections and fit the garment again. Students use a combination of previously constructed garments and also pattern garments to fit. *Prerequisite:* FCSC 3174 (4170) or FCSC 3175.

4850. Stage Costuming II. 3. Explores costume design, emphasizing various rendering techniques. Emphasis is placed on the portfolio. *Prerequisite:* THEA 3820.

4880. Advanced Theatre Practice. 1-2 (Max. 4). Encompasses individual problems in theatre or interpretation. Includes research, writing and practical work. *Prerequisites:* 12 hours in theatre and consent of instructor.

4930. Theatre History I. 3. [WC◀▶COM3] First semester of a one-year series. Surveys theatrical and dramatic practices from origins of Western European theatre to the theatre of the avant-garde. Specifically focuses on the climate of ideas and theoreticians, theatrical practitioners and audiences. Offered fall semester. *Prerequisites:* THEA 2010, 2020, 6 hours in theatre at 3000-level.

4940. Theatre History II. 3. Second semester of a one-year series. Continues THEA 4930. *Prerequisite:* THEA 4930.

4950. Senior Thesis. 3. Encompasses senior research project under faculty member guidance and supervision. *Prerequisite:* senior standing.

4960. Senior Project. 1-3 (Max. 3). Exercise in the practical application of production, centered on a UW production, either main stage or studio. It may deal with design in scenery, costumes, properties, sound, makeup, playwriting, technical direction, directing, dance pedagogy, or choreography. The project is intended to be a "real" exercise in theatrical production.

4975. Theatre/Dance Internship. 1-12 (Max. 12). The intent of this course is designed to provide professional experiences to students outside of the academic curriculum of Theatre and Dance Department. It is designed to advance the students potential career opportunities and help advance their knowledge in the field. Restricted to sophomores, juniors, and seniors. *Prerequisite:* Must have completed 6 hours in the department of Theatre and Dance.

4990. Research in Theatre. 1-3 (Max. 6). *Prerequisite:* 6 hours in area of research and consent of instructor.

Zoology and Physiology

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

Professors:

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

CRAIG W. BENKMAN, B.A. University of California at Berkeley 1978; M.S. Northern Arizona Sate University 1981; Ph.D. State University of New York at Albany 1985; Robert Berry Professor of Ecology, Professor of Zoology and Physiology 2004.

CARLOS MARTINEZ del RIO, B.Sc. Universidad Nacional de Mexico 1984; Ph.D. University of Florida 1990; Professor of Zoology and Physiology 2004, 2000.

DAVID B. MCDONALD, A.B. Harvard College 1973; Ph.D. University of Arizona 1987; Professor of Zoology and Physiology 2010, 1996.

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

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

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

Associate Professors:

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

ANNA D. CHALFOUN, B.A. Smith College 1995; M.S. University of Missouri-Columbia 2000; Ph.D. University of Montana-Missoula 2006; Associate Professor of Zoology and Physiology 2016, 2011.

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

MICHAEL E. DILLON, B.S. University of Texas, Austin 1998; Ph.D. University of Washington 2005; Associate Professor of Zoology and Physiology 2015, 2009.

JACOB R. GOHEEN, B.S. Kansas State University 1998; M.S. Purdue University 2002; Ph.D. University of New Mexico 2006; Associate Professor of Zoology and Physiology 2015, 2010.

MATTHEW J. KAUFFMAN, B.A. University of Oregon 1992; Ph.D. University of California, Santa Cruz 2003; Associate Professor of Zoology and Physiology 2014, 2006.

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

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

JONATHAN F. PRATHER, B.S. University of Virginia 1995; Ph.D. Emory University 2001; Associate Professor of Zoology and Physiology 2015, 2009.

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

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

Assistant Professors:

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

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

FETZER, WILLIAM WARREN, B.S. University of Wisconsin-Madison 2005; M.S. Cornell University 2009; Ph.D. 2013.

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

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

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

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

Senior Academic Professional Research Scientist:

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

Assistant Academic Professional Research Scientist:

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

Professors Emeritus:

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

Academic Professional Lecturer Emeritus:

Jane Beiswenger

Wyoming Cooperative Fish and Wildlife Research Unit

Unit Leader: Matthew W. Kauffman
Assistant Unit Leader for Fisheries: Annika W. Walters
Assistant Unit Leader for Wildlife: Anna D. Chalfoun

The Department of Zoology and Physiology offers a variety of courses in the biological sciences that encompass many aspects of animal form, function, and biology.

Whether you are interested in the intricacies of cell biology or the complexities of ecosystem functioning and whether you want to become a wildlife biologist or a physician, we offer a major that will suit your needs. Students can choose from four undergraduate degrees: biology, physiology, wildlife and fisheries biology and management, or zoology. Course requirements for each degree are detailed on our website: www.uwyo.edu/zoology.

Undergraduate Degrees

Physiology Major

Physiology is the study of how animals work: how they breathe, feed, interact with their environment, and carry out many other activities and functions. Physiology is the knowledge that the health sciences are built on and so is especially important for students who may be thinking of becoming medical practitioners, veterinarians or health care professionals.

All courses in the major must be completed with a grade of "C" or better.

Foundation Courses:

MATH 1400
MATH 1405
(MATH 1450 may substituted for MATH 1400 and 1405)
MATH 2200
STAT 2050 or 2070
CHEM 1020
CHEM 1030
Two additional CHEM courses: CHEM 2230 or 2300 or 2420 or 2440 or 3020 or 3550 or 4050 or 4230 or 4400 or MOLB 3610*
PHYS 1110
PHYS 1120
LIFE 1010
LIFE 2022 or MICR/MOLB 2021
LIFE 3050

*MOLB 3610 may be used as a CHEM elective, but cannot also count as a Core Elective

Physiology Core Required Courses

ZOO 3115
ZOO 4125
ZOO 4100 and 4101 (or approved USP C3 substitute)

Physiology Core Electives

A minimum of 10 of the 18 Physiology Core Elective credits must be exclusive to the PHSO major. Choose a total of 18 credits from:

ANSC 4120 or 4260 or ANTH 4210 or 4230 or KIN 3021 or 3038 or 3042 or 4042 or LIFE 3600 or MOLB 3610 or 4100 or 4400 or 4670 or NEUR 4295 or 5100 or 5295 or 5685 or 5887
PATB 4130 or 4140 or 4400 or 4710
PHCY 3450 or PSYC 3250 or 4040 or 4080 or 4250 or SOC 3550 or 4160 or ZOO 3010 or 4110 or 4280 or 4340 or 4670 or 4735 or 5100 or 5685 or SPPA 3265 or CHEM 3550**

**cannot count towards PHSO electives if used as a CHEM requirement in the Foundational Courses

At the end of this program students will have a thorough knowledge of physiology, will be well prepared to enter health sciences or graduate education, and will have a range of skills attractive to employers.

Wildlife and Fisheries Biology and Management Major

Wildlife and Fisheries Biology and Management is a professional degree designed to prepare students for state, federal, and other positions in resource management and conservation biology. The degree provides students with knowledge of the natural world, understanding of processes governing dynamics of wildlife and fish populations, as well as an appreciation of human-mediated effects on wildlife and fish populations. A student graduating with this degree will be familiar with the theory of resource management as well as with methods used to determine population status, habitat quality, and conservation. In Wyoming the abundance of wild animals and pristine habitats provide a unique natural laboratory for studying the responses of wildlife and fish populations to changing climates and habitats.

Foundation Courses

MATH 1400
MATH 1405
(MATH 1450 may substitute for MATH 1400 and 1405)
MATH 2200 (may substitute MATH 2350)
STAT 2050 or 2070 or LIFE 2100
CHEM 1020
CHEM 1030
Physical Science (GEOL 1100, PHYS 1110, or SOIL 2010)
COSC 1200 or approved Data Sciences course
LIFE 1010
LIFE 2022

Core Required Courses

LIFE 3050
LIFE 3400
LIFE 3410
ZOO 2450
ZOO 4190
ZOO 4400
ZOO 4970
ZOO 4100 and 4101 (or approved USP C3 substitute)

Complete Terrestrial OR Aquatic Option

TERRESTRIAL OPTION

A minimum of 10 of the TERRESTRIAL OPTION requirements listed below (BOT 4700 and ZOO 4300 and Restricted Electives) must be exclusive to the WFBM major.

BOT 4700
ZOO 4300
Plus 14 Credits Restricted Electives from:
ZOO 3600 or 4235 or 4310 or 4330 or 4350 or 4370 or 4380 or 4415 or 4420 or 4430 or 4440 or 4540 or BOT 0000:5999 or ENR 0000:5999 or SOC 3950 or REWM 0000:5999 or CHEM 2230 or AGEC 3750 or LIFE 2023

AQUATIC OPTION

A minimum of 10 of the AQUATIC OPTION requirements listed below (ZOO 4330 and ZOO 4440 and ZOO 4430 and Restricted Electives) must be exclusive to the WFBM major.

ZOO 4330
ZOO 4440
ZOO 4430
Plus 15 Credits Restricted Electives from:
ZOO 3600 or 4235 or 4300 or 4310 or 4350 or 4370 or 4380 or 4415 or 4420 or 4540 or CHEM 2230 or BOT 0000:5999 or REWM 0000:5999 or ENR 0000:5999 or SOC 3950 or AGEC 3750 or LIFE 2023

A student graduating with a degree in WFBM will have comprehensive knowledge of wildlife and fisheries biology and management, will have earned a degree that is compatible with the requirements for professional certification with the American Fisheries Society or the Wildlife Society, and will have a range of knowledge and skills that are valuable to potential employers.

Zoology Major

Zoology is the study of animals: their structure, physiology, development and evolution. One of the enduring fascinations of zoology is that we can learn so much about ourselves and our environment by studying what our fellow creatures do.

Foundation Courses

MATH 1400
MATH 1405
(MATH 1450 may substitute for MATH 1400 and 1405)
MATH 2200
STAT 2050 or 2070 or LIFE 2100
CHEM 1020
CHEM 1030
CHEM 2230 or 2300 or 2420 or 2440 or 3020 or 3550 or 4050 or 4230 or 4400
PHYS 1110

PHYS 1120
LIFE 1010
LIFE 2022
LIFE 3050
LIFE 3400
LIFE 3500
ZOO 4100 and 4101 (or approved USP C3 substitute)

Advanced Zoology course*

One of: ZOO 4330 or 4350 or 4370 or 4380 or 4540.

* if more than one of the required courses is completed, additional courses can count towards the Zoology Approved Core Electives below.

Zoology Approved Core Electives

A minimum of 10 of 18 Zoology Approved Core Electives must be exclusive to the ZOOL major.

Choose a total of 18 credits from:

ZOO 3115 or 3600 or 4190 or 4235 or 4300 or 4310 or 4330 or 4340 or 4350 or 4370 or 4380 or 4540 or 4400 or 4415 or 4420 or 4430 or 4440 or 4735 or ANSC 3010 or 3100 or 3150 or MOLB 3000 or BOT 4235 or 4550 or 4664 or 4790 or GEOG 3150 or 3480 or ENTO 4300 or 4682 or 4678 or 4684 or PATB 4170 or 4310 or 4360 or 4710

At the end of this program students will have a comprehensive knowledge of zoology, will be well prepared for graduate education, and will be equipped to enter any of the many employment opportunities that are available.

Learning Outcomes for Undergraduates

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

- Competence in basic sciences;
- Competence in the content of the specific courses that constitute the principal knowledge of the degree;
- Ability to comprehend, analyze, and interpret biological data where appropriate; and
- Ability to synthesize information from the biological literature, and communicate it effectively in writing or orally.

Undergraduate Minor

Minors in human and animal physiology, wildlife fisheries biology management, neuroscience, and zoology are offered. Contact the department for further information.

Human and Animal Physiology Minor

Requirements for the minor in human and animal physiology (AHPY) include a minimum of 18 credit hours. Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Courses

ZOO 3115

AND at least one of these three*: ZOO 4125, ZOO 4190, PHCY 3450

AND at least three courses from the Electives list.

* if more than one of the three required courses is completed, additional courses can count towards Physiology Core elective courses requirement below.

Elective Courses

Physiology Core Electives. At least three courses from:

ANSC 4120 or 4260 or ANTH 4210 or 4230 or KIN 3021 or 3038 or 3042 or 4042 or LIFE 3600 or MOLB 3610 or 4100 or 4400 or 4670 or NEUR 4295 or 5100 or 5295 or 5685 or 5887

PATB 4130 or 4140 or 4400 or 4710

PSYC 3250 or 4040 or 4080 or 4250 or SOC 3550 or 4160 or ZOO 3010 or 4110 or 4280 or 4340 or 4670 or 4735 or 5100 or 5685 or SPPA 3265 or CHEM 3550

Wildlife Fisheries Biology Management Minor

Requirements for the minor in wildlife fisheries biology management (WFBM) include a total of 18-22 credit hours. Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Courses

9 or 11 credit hours required from the following: LIFE 3400, ZOO 2450, and ONE (1) course from ZOO 4300 or ZOO 4310

Elective Courses

Select three (3) of the following courses, one of which must have a laboratory component: LIFE 3050, ZOO 3600, ZOO 4190, ZOO 4330, ZOO 4350, ZOO 4370, ZOO 4380, ZOO 4400, ZOO 4415, ZOO 4420, ZOO 4440, ZOO 4540

Zoology Minor

Requirements for the minor in zoology (ZOOL) include 17-20 credit hours. Courses counted towards one minor may not be counted towards another. A grade of C or better is required in all courses.

Required Course

LIFE 3050

Elective Courses

Select four (4) of the following courses, one of which must have a laboratory component: LIFE 3400, LIFE 3500, ZOO 3115, ZOO 3600, ZOO 4190, ZOO 4235, ZOO 4330, ZOO 4340, ZOO 4350, ZOO 4370, ZOO 4380, ZOO 4540, BOT 4235

Graduate Study

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

Program Specific Admission Requirements

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

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

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

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

Program Specific Degree Requirements

Master's Program
Plan A (thesis)

Includes 26 hours of coursework and 4 hours of thesis research.

Applicants should have at least 20 semester hours of undergraduate work in zoology, physiology, or other areas of the biosciences and have completed introductory courses in mathematics, chemistry, and in at least one other natural or physical science. Early in the second semester the student must file a program of study with the university and have a graduate committee appointed. Plan A candidates shall orally defend the thesis before the graduate committee.

All M.S. candidates will be required to complete credit in two graduate seminars. A student may enroll in more than one of these required seminars during one semester or academic year.

After two semesters in the department, a Plan A master's candidate may request permission from the department's graduate advisory board to proceed directly to the Ph.D. degree; however, such a bypass is granted only by the department head after considering recommendations from the graduate advisory board.

Zoology and physiology may be used as a field by a candidate working for the interdisciplinary master of science in natural science in the College of Arts and Sciences and the College of Education.

Plan B (non-thesis)

Includes 30 hours of coursework.

The program for the Plan B is established by the student and a faculty adviser and must be approved by the department head during the student's second semester or summer session.

The graduate committee will require the candidate to take a written examination. An oral examination may also be required. The final examination is comprehensive, covering all areas of zoology, but emphasizing one major area.

Doctoral Program

This is a 72 hour program.

A Ph.D. applicant must have 20 hours of undergraduate work in zoology, physiology, or other areas of biology and also have completed substantial undergraduate work in other sciences. Under exceptional circumstances, a student with an undergraduate major in a scientific discipline other than biology may be admitted. After the Ph.D. student has completed two semesters of graduate work, s/he must be approved for continued work toward the doctorate by the graduate advisory board. This board can reconsider a candidate thereafter if it so desires.

A graduate committee shall be appointed for the individual student no later than the third semester. After consultation with the student, this committee will prescribe special requirements (courses, minors, research tools, etc.) that must be fulfilled. At this time, the graduate committee shall consult with the candidate on the proposed research and shall identify the subject matter areas to be included in the preliminary examination. The preliminary examination will consist of a written research proposal, its oral defense, and a written and oral preliminary examination. When training outside zoology and physiology is specified by the committee, certification of satisfactory completion of the requirement will be made by the appropriate department.

In addition to the general university requirements for the Ph.D. degree, the department requires the following:

The coursework program should include work in a discipline outside the department, generally in the sense of a minor, to be identified in consultation with the graduate committee.

The preliminary examination consisting of written and oral portions should be taken no later than midterm of the fourth semester in residence. The graduate committee will certify satisfactory performance for the preliminary examination.

The dissertation must be received by each member of the graduate committee three weeks before the final dissertation seminar. As oral defense of the dissertation, the candidate will deliver a formal 50 minute seminar on original research from the dissertation. The seminar will be followed by an examination by the graduate committee.

Some time during their degree program, all Ph.D. candidates will be required to complete credit in three graduate seminars. A student may enroll in more than one of these required seminars during one semester or academic year.

All candidates for the Ph.D. degree shall be required to teach for one semester during their program.

The dissertation may be written in a format suitable for publication in a journal and the usual extensive literature review, description of study sites, technical details, raw data, supporting figures, charts, and photographs should be included in a well-organized appendix. (See also format requirements by the university.)

Learning Outcomes for M.S. Students

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

Learning Outcomes for Doctoral Students

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

Zoology (ZOO)

USP Codes are listed in brackets by the 2003 USP code followed by the 2015 USP code (e.g. [QB◀▶Q]).

1101. First-Year Seminar. 3. [(none)◀▶FYS]
2450. Fish and Wildlife Management in the Anthropocene. 4. [{none}<>COM2] Course examines fundamental principles in management of natural resources, especially fish and wildlife populations. Students explore historical to contemporary context of management, population biology, management tools and their application, career opportunities, with specific emphasis on human dimensions, law, and policy. Students will develop oral and written communication skills. Crosslisted with ENR 2450. *Prerequisite:* LIFE 1010, LIFE 2022, and COM1.
3010. Vertebrate Anatomy, Embryology, and Histology. 4. Provides a comprehensive overview of vertebrate anatomy. The structural organization, embryological derivation, and histological organization of the major organ systems will be emphasized. The evolution and functional organization of anatomical structure will also be emphasized. Includes laboratory sessions. Fulfills degree requirement

in physiology subsection for zoology major. *Prerequisites:* LIFE 2022 or equivalent, and a semester of chemistry.

3115. Human Systems Physiology. 4. Covers the fundamental function(s) of the human body systems, from cells and tissues through organs and systems, focusing also on biological communication and homeostasis. Students learn how to interpret physiological data. Includes laboratory and tutorial sessions. Fulfills degree requirement in physiology subsection for zoology major. *Prerequisites:* At least ((C in CHEM 1020 or CHEM 1050) or B in CHEM 1000) and C in LIFE 1010.

3600. Principles of Animal Behavior. 3. Intensively introduces scientific study of animal behavior. Utilizes evolutionary, ecological and physiological approach. *Prerequisite:* introductory course in zoology, biology or psychology. (Normally offered spring semester)

4100. Scientific Communication. 2. [WC,L◆COM3] This course is designed to provide intensive instruction in written, oral, and digital communication for zoology and physiology, biology, and botany majors. The course teaches students to communicate and execute research using practices common in the biological sciences. Cross listed with BOT 4100. *Prerequisites:* COM1, COM2, and concurrent or prior upper division BOT, ZOO, or LIFE course. Preference given to seniors.

4101. Scientific Communication Lab. 1. This course is designed to provide intensive instruction in written, oral, and digital communication for zoology and physiology, biology, and botany majors. The course teaches students to communicate and execute research using practices common in the biological sciences. Cross listed with BOT 4101. *Prerequisites:* COM1, COM2, and concurrent or prior upper division BOT, ZOO, or LIFE course. Preference given to seniors.

4110. HIV/AIDS: The Disease and the Dilemma. 3. Explores the basic biology of the HIV virus, and its effects upon the human body, the magnitude of the global HIV/AIDS pandemic, treatment and prevention of AIDS, and the social, political, economic, and legal issues of HIV/AIDS. *Prerequisite:* LIFE 1003 or LIFE 1010.

4125 [3120]. Integrative Physiology. 5. Examines how functional organ systems are coordinated and integrated by the CNS and endocrine systems to establish and maintain health. Includes lecture, flipped component and tutorial session. Students must register for lecture and tutorial. *Prerequisites:* grade of C or higher in ZOO 3115; and/or a Pharmacy 1 standing.

4190 [4230]. Comparative Environmental Physiology. 4. Studies and interprets principles of physiology which adapt animals to various environmental constraints. Introduces discipline which has risen between traditional fields of physiology and ecology and provides understanding of animal distribution and survival. Fulfills degree requirements in physiology subsection for the zoology major. Dual listed with ZOO 5190. *Prerequisites:* LIFE 2022 or LIFE 2023 and CHEM 1030 or CHEM 1060. (Offered spring semester)

4235. Marine Biology. 3. This course explore major topics of physical oceanography, marine biodiversity and ecology, and human impacts on the ocean. Emphasis is placed on reading, evaluating, and synthesizing primary literature. Dual listed with ZOO 5235. Cross listed with BOT 4235. *Prerequisite:* LIFE 3400 with a grade of C or better.

4280. Introduction to Neuroscience. 3. Examines the basic electrical properties of neurons and from there identifies determinants of brain development, how neuronal "circuits" are formed and how these neuronal systems enable the processing of sensory information, coordinated movement, adaptation to the environment, and other complex functions (e.g., sleep, sex). Dual listed with ZOO 5280. *Prerequisite:* ZOO 3115 or equivalent.

4295. Neurodevelopment. 3. Through lecture and discussion of research articles, students learn mechanisms of nervous system development, from the birth and differentiation of neurons to the formation of synapses and circuits. Focus is on classical experiments done in vertebrates (Xenopus tadpole, chick, zebrafish, and mouse) and invertebrates (nematode and drosophila). Dual listed with ZOO 5295; cross listed with NEUR 4295. *Prerequisite:* ZOO 4280.

4300 [4720]. Wildlife Ecology and Management. 5. Integrates concepts of vertebrate ecology with the art of wildlife management, stressing approaches to deal with the inherent uncertainty of managing populations. Strategies to increase or decrease populations of target species, tools used to determine population status (e.g., viability analysis, monitoring, habitat assessment), and ecosystem management approaches. Laboratory included. Dual listed with ZOO 5300. *Prerequisites:* LIFE 3400, STAT 2050 or 2070, and ZOO 2450. (Offered fall semester)

4310 [4730]. Fisheries Management. 3. Acquaints students with theory and techniques of inland fisheries management. Includes methods of evaluating growth and production, rates of mortality and recruitment and use of yield models in fisheries biology. Includes laboratory and field exercises. Dual listed with ZOO 5310. *Prerequisite:* ZOO 4330. (Normally offered fall semester)

4330 [4750]. Ichthyology. 3. Anatomy, physiology and classification of fishes, emphasizing classification and identification of Wyoming fishes. Includes laboratory. Dual listed with ZOO 5330. *Prerequisite:* LIFE 2022. (Normally offered spring semester)

4340. Developmental Biology and Embryology. 4. Introduces study of vertebrate embryology and cellular differentiation. Includes gametogenesis, fertilization, blastulation and organogenesis, growth and differentiation, teratology, metamorphosis, regeneration and asexual reproduction. Emphasizes mechanisms that create form and regulate cellular differentiation. Dual listed with ZOO 5340. *Prerequisite:* one year of life sciences, one year of chemistry. (Normally offered spring semester)

4350 [4780]. Ornithology. 3. Acquaints students with classification, identification, morphology, distribution, natural history and ecology of the birds of North America. Includes laboratory. Dual listed with ZOO 5350. *Prerequisite:* LIFE 2022. (Offered spring semester)

4370 [4790]. Mammalogy. 3. Studies mammals of the world, emphasizing natural history, distribution, taxonomy, ecology and morphology of mammalian species. Includes laboratory. Dual listed with ZOO 5370. *Prerequisite:* LIFE 2022. (Offered fall semester)

4380. Herpetology. 3. Introduces the ecology, behavior, morphology, evolution, systematics and conservation of reptiles and amphibians. Dual listed with ZOO 5380. *Prerequisite:* LIFE 2022.

4400. Population Ecology. 3. Explores quantitative ecology of animal populations, emphasizing theoretical and empirical work. Provides modern coverage of principles of population ecology for wildlife majors and others who expect to deal with ecological problems in their careers. Dual listed with ZOO 5400. *Prerequisites:* LIFE 1010, LIFE 3400 and STAT 2050 or consent of instructor. (Offered spring semester)

4415. Behavioral Ecology. 3. Applies empirical and theoretical approaches to ecological and evolutionary underpinnings for behaviors ranging from foraging and predation to social grouping and mating systems. Emphasizes comparative analyses (what phylogenetic patterns exist across diverse species?) as well as genetic/fitness benefits (how do individuals benefit from apparently puzzling behaviors?). Dual listed with ZOO 5415. *Prerequisites:* ZOO 3600 or LIFE 3400 or permission of the instructor. (Offered fall semester)

4420. Conservation Biology. 3. Addresses the broadest environmental issues facing society (habitat loss, invasion, overexploitation) and the mechanisms driving them, with particular attention to the Intermountain West. Through computer exercises, students also learn how to evaluate conservation efforts and make management recommendations. Cross listed with BOT/ENR 4420. *Prerequisites:* LIFE 3400 and one of the following: ENR 3500, STAT 2050, or STAT 2070.

4430. Limnology Laboratory. 2. Utilizes basic field techniques in limnology. Emphasizes analysis and interpretation of data obtained from field and laboratory exercises. *Prerequisite:* concurrent enrollment in ZOO 4440. (Offered fall semester)

4440. Limnology. 3. Studies ecology of inland waters; biological, chemical and physical features of lakes and streams. *Prerequisites:* LIFE 1010, LIFE 3400 and CHEM 1030 or consent of instructor. (Offered fall semester)

4540. Invertebrate Zoology. 4. Studies major invertebrate phyla of the animal kingdom. Studies each phylum with respect to morphological and taxonomic characteristics; functional and evolutionary relationships; environmental adaptations; life cycles of representative types. Includes laboratory. Dual listed with ZOO 5540. *Prerequisite:* LIFE 2022. (Offered fall semester)

4650. Tropical Field Ecology Ecuador. 4. Course comprises 10 days in Ecuador in January (before spring semester), followed by one lecture per week during spring semester. Focus will be ecology, biodiversity and conservation of tropical forests and behavioral ecology of birds and mammals. Field site is at 1100m on west slope of the Andes. Dual listed with ZOO 5650. *Prerequisite:* LIFE 2022.

4735. [5730] Advanced Topics in Physiology. 1-4 (Max. 12). Designed to cover advanced topics in Physiology for students specializing in Physiology or related fields. Examples of topics include endocrinology, cardiovascular, renal, neurological, respiratory, and metabolic physiology. Integrative topics (e.g. circadian rhythms, thermal stress) may also be included. Dual listed with ZOO 5735. *Prerequisites:* ZOO 3115 or equivalent as approved by the instructor.

4740. Fish Culture and Nutrition. 3. Studies methods in artificial propagation of fishes. Includes spawning, hatchery methods, water quality requirements and nutritional requirements. Includes laboratory. *Prerequisite:* LIFE 2022, CHEM 1020. (Offered fall semester)

4900. Problems. 1-8 (Max. 8). For advanced students. Studies some particular problem or phase of zoology, or presents reviews and discussions of current advancement in zoological investigations. Content is arranged to suit individual needs of students. Satisfactory/Unsatisfactory only. *Prerequisites:* courses necessary to pursue the problem selected; prior written consent of the instructor.

4970. Internship in Wildlife Management. 1 (Max. 1). Provides practical field experience in resource management for undergraduate credit. Satisfactory/unsatisfactory only. *Prerequisite:* consent of instructor.

4971. Internship in Zoology and Physiology. 1-3 (Max. 6). Provides practical experience in selected biological fields by working with a professional to help bridge the gap between academic and the world of work. Satisfactory/Unsatisfactory only. *Prerequisite:* consent of instructor.

4975. Practicum in Laboratory Instruction. 1-3 (Max. 6). For advanced students. Students will assist GAs and professors in laboratory preparation and demonstration in undergraduate teaching labs. Satisfactory/Unsatisfactory only. *Prerequisite:* consent of instructor.

5060. Fundamental Concepts in Evolution. 3. Explores fundamental concepts in evolutionary biology including evolutionary ecology, population genetics, and speciation with an emphasis on both theoretical frameworks and practical applications. Discussion included. Cross listed with ECOL/BOT 5060. Prerequisite: graduate student in good standing.

5050. Statistical Methods for the Biological Science. 3. General statistical analyses and their application to the biological and behavioral sciences. Analysis of variance, regression and correlation methods are studied from a data analytic perspective, emphasizing the conceptual understanding of where and when these techniques should be used and the interpretation of their results. Available computer programs will be utilized. Credit cannot be earned in more than one of the following courses: STAT 2020, 3050, 5050, 5060, 5070. Cross listed with STAT 5050. *Prerequisite:* one course in statistics (all introductory courses except 2000).

5100. Structure and Function of the Nervous System. 4. Aimed at understanding the structure and interconnections within the nervous system, and how structure gives rise to the complex functions mediated by the brain. This is an essential feature of neuroscience. Covers gross anatomy of the central and peripheral nervous system, followed by detailed consideration of the divisions of the brain and their functional significance. Cross listed with NEUR 5100. *Prerequisites:* admission to the graduate neuroscience program, or graduate standing in another related program, or permission for undergraduate enrollment following discussion with the instructor.

5190. Comparative Environmental Physiology. 4. Studies and interprets principles of physiology which adapt animals to various environmental constraints. Introduces the discipline which has risen between the traditional fields of physiology and ecology and provides an understanding of animal distribution and survival. Dual listed with ZOO 4190. *Prerequisites:* LIFE 2022 or LIFE 2023 and CHEM 1030 or CHEM 1060. (Offered spring semester)

5235. Marine Biology. 3. This course explore major topics of physical oceanography, marine biodiversity and ecology, and human impacts on the ocean. Emphasis is placed on reading, evaluating, and synthesizing primary literature. Dual listed with ZOO 4235. Cross listed with BOT 5235. *Prerequisite:* graduate standing.

5270. Writing and Reviewing Science. 4. This course will help students prepare a scientific manuscript for submission to a peer-reviewed journal; in so doing, students will become more effective, efficient, and confident writers. Students will learn principles of effective writing, how to prepare a manuscript for publication, navigate the peer-review process, and write a constructive review. Cross listed with ENR 5270. *Prerequisite:* Students must have graduate standing and an analyzed dataset on which the manuscript will be based. Students must have approval from their advisors and key collaborators before embarking on this journey. Students are also encouraged to maintain this approval throughout the semester.

5280. Introduction to Neuroscience. 3. Examines the basic properties of neurons and from there identifies determinants of brain development and how neuronal circuits are formed. How neuronal circuits underlie processing sensory information, coordinated movement, complex functions (e.g. sleep, learning) and homeostasis are discussed. Cross listed with NEUR 5280; dual listed with ZOO 4280. *Prerequisite:* ZOO 3115 or equivalent.

5295. Neurodevelopment. 3. Through lecture and discussion of research articles, students learn mechanisms of nervous system development, from the birth and differentiation of neurons to the formation of synapses and circuits. Focus is on classical experiments done in vertebrates (Xenopus tadpole, chick, zebrafish, and mouse) and invertebrates (nematode and drosophila). Dual listed with ZOO 4295; cross listed with NEUR 5295.

5300. Wildlife Ecology and Management. 5. Concepts of vertebrate ecology integrated with the art of wildlife management, stressing

approaches to deal with the inherent uncertainty of managing populations. Strategies to increase or decrease populations of target species, tools used to determine population status (e.g. viability analysis, monitoring, habitat assessment), and ecosystem management approaches are discussed. Lab included. Dual listed with ZOO 4300. *Prerequisites:* LIFE 3400, STAT 2050 or 2070, and ZOO 2450.

5310. Fisheries Management. 3. Acquaints students with theory and techniques of inland fisheries management. Includes methods of evaluating growth and recruitment, and the use of yield models in fisheries biology. Laboratory and field exercises included. Dual listed with ZOO 4310. *Prerequisite:* ZOO 4330.

5330. Ichthyology. 3. Studies anatomy, physiology, and classification of fishes, emphasizing classification and identification of Wyoming fish. Includes laboratory. Dual listed with ZOO 4330. *Prerequisite:* LIFE 2022 or 2023.

5340. Developmental Biology and Embryology. 4. Introduces study of vertebrate embryology and cellular differentiation. Includes gametogenesis, fertilization, blastulation and organogenesis, growth and differentiation, teratology, metamorphosis, regeneration, and asexual reproduction. Emphasizes mechanisms that create form and cellular differentiation. Dual listed with ZOO 4340. *Prerequisite:* one year of life science or one year of chemistry.

5350. Ornithology. 3. Acquaints students with classification, identification, morphology, distribution, natural history, and ecology of the birds of North America. Laboratory included. Dual listed with ZOO 4350. *Prerequisite:* LIFE 2022.

5370. Mammalogy. 3. Studies mammals of the world, emphasizing natural history, distribution, taxonomy, ecology, and morphology of mammalian species. Includes laboratory. Dual listed with ZOO 4370. *Prerequisite:* LIFE 2022 or 2023.

5380. Herpetology. 3. Introduces the ecology, behavior, morphology, evolution, systematics and conservation of reptiles and amphibians. Dual listed with ZOO 4380. *Prerequisite:* LIFE 2022.

5405. Winter Ecology of the Yellowstone Ecosystem. 2. Winter Ecology emphasizes the effects of winter abiotic conditions on organisms and organismal adaptations. Energy flux, snowpack physics, organismal adaptations, avalanche awareness, and the influence of winter on wildlife management are emphasized through lectures and field laboratories. Students will develop an independent research project and present their results. *Prerequisite:* graduate standing.

5400. Population Ecology. 3. Explores quantitative ecology of animal populations, emphasizing theoretical and empirical work. Provides modern coverage of principles of population ecology for wildlife majors and others who expect to deal with ecological problems in their careers. Dual listed with ZOO 4400. *Prerequisites:* LIFE 1010, 3400 and STAT 2050.

5415. Behavioral Ecology. 3. Behavioral ecology applies empirical and theoretical approaches to ecological and evolutionary underpinnings for behaviors ranging from foraging and predation to social grouping and mating systems. Emphasizes comparative analyses (what phylogenetic patterns exist across diverse species?) as well as genetic/fitness benefits (how do individuals benefit from apparently puzzling behaviors?). Dual listed with ZOO 4415. *Prerequisite:* ZOO 3600 or LIFE 3400.

5420. Ecological Inquiry. 3. Addresses basic ecological concepts and natural resource management issues in the Greater Yellowstone Ecosystem (GYE). Emphasis will be placed on developing critical thinking skills and exploring the effects of resource management policy and actions. Course direction will involve moving from a known facts way of thinking in to realm of evaluating effects of human management of the GYE. *Prerequisites:* LIFE 2022, 3400, and graduate standing.

5430. Ecology of the Greater Yellowstone Ecosystem. 3. Covers plant and animal community ecology from both a qualitative and quantitative perspective. Topics include: community interaction of plants and animals; community dynamics, succession, and disturbance; basic data collection and statistical analysis of habitat association data; and the effect of abiotic factors on community structure. *Prerequisite:* LIFE 2022, 3400, and graduate standing.

5500. Quantitative Analyses of Field Data. 3. A practical guide to the analysis of messy field data, including data exploration, generalized linear and additive models, mixed models, autocorrelation, and model selection using Program R. Students will spend one intensive week learning methods and the rest of the semester analyzing their own data and writing a manuscript. Cross listed with ECOL 5500. *Prerequisite:* graduate standing.

5530. R Intro for Wildlife Ecology. 1-4 (Max. 4). An intensive introduction to program R for graduate students in the fields of wildlife and fisheries ecology. Students will gain a general knowledge of R code and an ability to identify and solve problems for their particular data management and analysis needs.

5520. Habitat Selection. 3. In this course we wll cover theory and behavioral/evolutionary concepts related to the process of habitat selection, the contexts under which habitat choices are adaptive or maladaptive, and different types of anthropogenic habitat change and the consequences for animals in the wild. Cross listed with ECOL 5520. *Prerequisite:* graduate students in good standing.

5540. Invertebrate Zoology. 4. Studies invertebrate phyla of the animal kingdom. Studies each phylum with respect to morphological and taxonomic characteristics; functional and evolutionary relationships; environmental adaptations; life cycles of representative types. Includes laboratory. Dual listed with ZOO 4540. *Prerequisite:* LIFE 2022.

5600. Research in Physiology. 1-16 (Max. 16). Opportunities are available for research in physiology and in animal behavior. Maximum credit not to exceed 8 hours for master's candidates and 16 hours for PhD candidates.

5650. Tropical Field Ecology Ecuador. 4. Course comprises 10 days in Ecuador in January (before spring semester), followed by one lecture per week during spring semester. Focus will be ecology, biodiversity and conservation of tropical forests and behavioral ecology of birds and mammals. Field site is at 1100m on west slope of the Andes. Dual listed with ZOO 4650; cross listed with ECOL 5650. *Prerequisite:* graduate standing.

5685. Neurophysiology. 3. Designed to investigate the structure and function of nervous systems, drawing information from both vertebrate and invertebrate organisms. Topics such as sensory systems, motor coordination and central integrative mechanisms are covered in addition to the basic neurophysiology of nerve cells. The laboratory complements the lecture sequence. Cross listed with NEUR 5685. *Prerequisite:* one course in physiology, chemistry, physics.

5690. Advanced Animal Behavior. 3. An advanced consideration of research in, and theory of, animal behavior. *Prerequisite:* senior or graduate standing in zoology or psychology.

5715. Seminar in Neuroscience. 2 (Max. 20). A continuing seminar. All students in the graduate neuroscience program are expected to register for this seminar each semester. The interdisciplinary approach to the nervous system is used employing work from physiology, neuroanatomy and neurochemistry, psychology, pharmacology, and biochemistry. Cross listed with NEUR 5715. *Prerequisite:* admission to the graduate neuroscience program or graduate standing.

5725. Transmission Electron Microscopy. 3. With the emphasis on modern techniques, course prepares students via theory and technical experience to use transmission electron microscopy in biological and material science research. An individual research project is required. *Prerequisite:* consent of instructor.

5735. Advanced Topics in Physiology. 1-4 (Max. 12). Designed to cover advanced topics in Physiology for students specializing in Physiology or related fields. Examples of topics include endocrinology, cardiovascular, renal, neurological, respiratory, and metabolic physiology. Integrative topics (e.g. circadian rhythms, thermal stress) may also be included. Dual listed with ZOO 4735. *Prerequisites:* ZOO 3115 or equivalent as approved by the instructor.

5740. Biological Confocal Microscopy. 2. With the advances of technology, confocal microscopy is an increasingly important tool for biological research. Teaches students the basic principles of confocal microscopy and its biological applications. This is a hands-on course and students have the chance to practice on a state-of-the-art confocal microscope.

5750. Research: Ecology. 1-16 (Max. 16). A wide variety of biotic communities, both terrestrial and aquatic, occur in Wyoming which afford excellent opportunities for ecological studies with responses of animals to the physical, chemical, and biotic factors of their environment. The research must be conducted under the supervision of a faculty member.

5820. Research in Vertebrate Fauna. 1-16 (Max. 16). Wyoming affords unusual opportunities for the study of a wide variety of vertebrate animals. The taxonomy, distribution, and certain aspects of the life histories of these animals are still inadequately known and afford excellent opportunities for research. Numerous problems concerning the management of our game animals remain to be investigated. The research must be conducted under the supervision of a zoology faculty member.

5840. Advanced Fisheries Management. 3. Familiarizes students in wildlife management and ecology with the advanced methods and techniques in fisheries management. *Prerequisite:* ZOO 4310/5310 and consent of instructor.

5890. Graduate Seminar. 1-4 (Max. 10). Provides an opportunity for graduate students to critically evaluate publications on zoological research. *Prerequisite:* 20 hours of biological sciences.

5900. Practicum in College Teaching. 1-3 (Max. 3). Work in classroom with a major professor. Expected to give some lectures and gain classroom experience. *Prerequisite:* graduate standing.

5920. Continuing Registration: On Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5930. Network Analysis. 2. Addresses problems in ecology, neurobiology, sociology, geography and behavioral ecology. Networks consists of entities (nodes) such as neurons, individuals or locations, linked by interactions (e.g., flow of information, pollen or behavior). Students will analyze topics of interest using R scripts. 2 hour lecture each week in spring semester. Cross listed with ECOL 5930. *Prerequisite:* graduate standing.

5940. Continuing Registration: Off Campus. 1-2 (Max. 16). *Prerequisite:* advanced degree candidacy.

5960. Thesis Research. 1-12 (Max. 24). Designed for students who are involved in research for their thesis project. Also used for students whose coursework is complete and are writing their thesis. *Prerequisite:* enrollment in a graduate degree program.

5980. Dissertation Research. 1-12 (Max. 48). Designed for students who are involved in research for their dissertation project. Also used for students whose coursework is complete and are writing their dissertation. *Prerequisite:* enrollment in a graduate level degree program.

5990. Internship. 1-12 (Max. 12). *Prerequisites:* graduate standing.