College of Education

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The College of Education prepares teachers counselors, administrators and other service personnel for positions in public education in Wyoming, throughout the nation, and the world. The teacher education program incorporates content area courses from the various colleges on campus with experiences in educational methodology. Programs are designed to provide students with a maximum amount of experience in the classroom.

Graduates of the College of Education are prepared to deal with youth growing up in a rapidly changing world. Programs are experiential, collaborative, outcomes based, and technologically supported. Emphasis is placed on professional ethics, a commitment to lifelong learning, and respect for all individuals in our culturally diverse society.

Programs of Study
Undergraduate Degrees

Bachelor of Science
Agricultural education

Bachelor of Arts
Elementary education
Secondary education

Graduate Degrees

Master of Science

Master of Science in Counseling

Master of Arts

Doctor of Philosophy

Doctor of Education

Doctor of Counselor Education and Supervision

Accreditation

The College of Education, a member of the American Association of Colleges of Teacher Education, is accredited by the National Council for Accreditation of Teacher Education. The Wyoming Professional Teaching Standards Board and the North Central Association of Colleges and Schools approve the college as an accredited teacher-preparing institution.

The Counseling programs are fully accredited by the Council for Accreditation of Counseling and Related Educational Programs Board.

Organization of the College

The College of Education includes undergraduate teacher education and graduate studies in education. Departments offering undergraduate and graduate programs in the college include Professional Studies, Educational Studies, Elementary & Early Childhood Education, Secondary Education, and Curriculum and Instruction.

Undergraduate and graduate education are supported by several units. The Office of Teacher Education, McWhinnie Hall room 100, coordinates activities dealing with undergraduate academic advising, field experiences, and certification.

The Counselor Education Training Clinic provides counseling services to students, staff, faculty of the university, as well as the community at-large.

The College of Education, College of Arts and Sciences, Wyoming community colleges, many Wyoming districts, and the State Department of Education are part of the Wyoming School-University Partnership, which grounds collaborative efforts across the state related to K-12 preservice and inservice education.

The Laboratory School, an Albany County School District entity, serves the college, the university, the school district, and the state as an educational center for research, development, instructional advancement, and inservice education. The school enrolls students in pre-school through ninth grade.

Computer laboratories in the college feature a wide range of capabilities including Internet access. The laboratory equipment is frequently updated to serve the needs of students, faculty and staff.

The Learning Resource Center is a branch of the university library system. Educational materials are available to serve the needs of K-12 students, university students, university faculty and public school faculty in Wyoming

Wyoming Teacher Education Program

The Wyoming Teacher Education Program consists of increasingly demanding phases of professional preparation. Competencies based on professional standards, including those mandated by the Wyoming Professional Teaching Standards Board (PTSB), are addressed developmentally. A teacher candidate graduating from this program will have mastered competencies required by the PTSB and the education profession.

Freshman year (Preprofessional): Students concentrate on the University Studies Program requirements. EDST 2450, Foundations of Development and Learning, must be completed prior to moving into Phase I.

Phase I: Sophomore students are introduced to teaching and learning through EDST 2480, Diversity and the Politics of Schooling. This course includes a field experience in a public school setting.

Phase II: A junior-level experience extends student competence through EDST 3000, Teacher as Practitioner. The practicum experience is in a public school guided by practicing K-12 faculty.

Phase IIIa/b: A two-semester sequence in the final year consists of pedagogy course work and fieldwork in the first semester. The second semester consists of a 16-week, full-time classroom experience. Field experiences are completed in Partner Schools districts.

Partner Schools are regional Wyoming district settings with collaborative agreements for concentrated field placements. These partnerships are focused on interactive mentoring by university and K-12 faculty and emphasize applied pedagogy.

Second Bachelor's (SBA)/Post-baccalaureate teacher certification program students must have a cumulative GPA of 2.750 or higher from UW or from another accredited college or university, in order to declare a major in Education. A valid Wyoming Substitute Teaching Permit will be required, which will also serve as an approved background check.

Admission to the Wyoming Teacher Education Program

Effective fall semester 2013, new first-time students who meet the University of Wyoming's standards for admission may declare their major in Elementary Education, Secondary Education in a specific content area, or Education Undecided (EDUD), provided that they have a minimum ACT Composite score of 21 and an ACT Math score of 21. A lower ACT Math score can be replaced by a Math Placement Examination (MPE) score of 2 or higher. Education Undecided majors should decide on a specific content area no later than the first semester of their sophomore year.

All incoming students pursuing teacher certification and/or teacher endorsement programs must undergo an initial criminal background check prior to full admission to the College of Education. Any costs associated with the background checks will be the students' responsibility. Specific information regarding this process can be found at: http://www.uwyo.edu/ted/background-checks/index.html). A second background check is included as part of the state application process for the Wyoming Substitute Teaching Permit, which is required for admission to Phase II and Phase III of the Wyoming Teacher Education Program.

For those students who do not meet the above admissions requirements, it is suggested that they major in general undeclared (UNDC) so that they will receive more appropriate advising and access to support services through the Center for Advising and Career Services until they have attained a minimum 2.750 UW grade point average (with at least 15 UW credits), and successfully complete an approved background check.

Current UW students wishing to change their major to Education but do not yet have a UW grade point average must wait until they meet the requirement of a minimum 2.750 UW grade point average, with at least 15 UW credits posted to their transcript. It is recommended that they complete a Program Change form and contact the Office of Teacher Education in McWhinnie Hall, room 100 to initiate the background check process. Students' progression through the Education curriculum could be delayed until all requirements are fulfilled and their major officially changed to Education.

Transfer students from out of state institutions, as well as from Wyoming community colleges wishing to declare a major in Education must have completed a minimum of 15 transferable credits, including the USP 2015 "Q" requirement (as determined by the UW Registrar) to do so. Transfer students must have a minimum Transfer GPA of at least 2.750 and successfully complete an approved background check.

For transfer students not meeting these requirements, it is suggested that they major in general undeclared (UNDC) so that they will receive more appropriate advising and access to support services through the Center for Advising and Career Services until they meet requirement of a minimum 2.750 UW grade point average (with at least 15 UW credits), and successfully complete an approved background check.

Re-admitted students who return to UW after two or more semesters away, and wish to (re-)declare a major in Education, must have a minimum 2.750 UW GPA (with at least 15 UW credits) to do so and successfully complete an approved background check.

Academic Advising

Students are assigned an academic adviser who will assist in planning a program combining University Studies requirements, core content requirements, and professional education courses. Students are expected to consult with their adviser regularly. The Office of Teacher Education coordinates advising and provides students and faculty with assistance in areas related to academic advising.

Degree Program Curricula

The following curricula summarize the programs offered by the College of Education. Students complete content courses in their major as well as professional education courses, some of which can also be counted toward their University Studies Program requirements. The University Studies Program requirements include:

Communication I (COM1)	3
Communication II (COM2)	3
Communication III (COM3)	3
First-Year Seminar (FYS)	3
Human Culture (H)	6
Physical and Natural World (PN)	6
Quantitative Reasoning (Q)	3
U.S. & Wyoming Constitutions (V)	3

The minimum total credit hours required to complete a degree in Education is 120. Of the minimum credit hours required to complete a program, 42 credit hours must be completed at the upper division level (3000-level or higher), with 30 of those credits being completed at UW. Additional College of Education requirements are:

1. 2.750 UW Total Institution grade point average
2. ITEC 2360, Teaching with Technology
3. 2.500 grade point average in the content courses required for each specific major
4. A valid Wyoming substitute teaching certificate

Further information on each program is available in:

Office of Teacher Education (OTE)
McWhinnie Hall room 100
Dept. 3374, 1000 E. University Ave.
Laramie, WY 82071
(307) 766-2230.

Acceptability of Coursework

Courses taken to satisfy professional education requirements and major content requirements must be taken for a conventional grade (A-F) unless offered for S/U grading only. **Please note that grades of C- will not satisfy this requirement.**

Professional education courses taken prior to the last 10 years will not be accepted in a degree and/or teacher certification program.

The College of Education does not accept transfer credits for Professional Education or content area courses with equivalents at UW when the grade earned was less than a C. Please note that grades of C- will not satisfy this requirement. The College of Education does not accept either teaching methodology or student teaching coursework or credits completed at other colleges or universities.

Student Responsibility

College of Education students are responsible for knowing and meeting graduation requirements. Students are expected to maintain a 2.750 UW Total Institution grade point average to enter Phases II and III of the Wyoming Teacher Education Program and continue in the professional education sequence and to graduate from the teacher education program. Prior to enrolling in professional education courses, students are expected to have met the specific program and course prerequisites as listed in this publication. Students are expected to make reasonable academic progress toward completion of a degree.

Agricultural Education Curriculum
Professional Education Requirements

EDST	2450	3
ITEC	2360	3
EDEX	2484	3
EDST	2480	4
EDST	3000	6
EDST	3550	2
EDSE	3278	3
EDSE	4278	4
EDSE	4500	15

Agricultural Education with Area of Concentration

This program consists of a minimum of 120 total hours. Minimum of 2.750 cumulative GPA and minimum of 2.500 content GPA required. This major will be advised in the College of Education, with a secondary adviser in the College of Agriculture and Natural Resources. Refer to the College of Education for specific curriculum requirements.

Major Content

AGEC	1010 or 1020	3
AECL	1000	4
SOIL	2010	4
REWM	2000	3
ANSC	1010	4
ANSC	2020	4
PLNT	2025	3
EDAG	4170	3
EDAG	4180	3
LIFE	1010	4
CHEM	1000	4
LIFE	2022 or 2023	4
LIFE	3400	3

Areas of Concentration (15-16 hours) or Minors - All Ag Ed students are required to either complete courses in an area of concentration below, or complete a minor in the departments of Animal and Veterinary Science, Plant Science, Renewable Resources, Agricultural Communications, or Agricultural and Applied Economics. Minors must be declared and cannot be added after the B.S. degree has been earned. Completing a minor may require additional hours beyond the required 120 credit hours. Your AGNR adviser should be consulted when working on a minor for requirements.

Areas of Concentration:
Animal and Veterinary Science (ANVS) 16 hrs.

ANSC	3100	3
ANSC	3010	4
FDSC	2040	3
And, one of the following:		
PATB 4110 or ANSC 4120 or ANSC 4540 or FDSC 3060		3
Upper Division Course (TBA)		3

Agroecology (AECL) 15 hrs.

AECL	2026	1
AECL	3030	3
Upper Division Coursework in ENTO, PLNT, SOIL		8
Upper Division course (TBA)		3

Rangeland Ecology and Watershed Management (REWM) 15 hrs.

REWM	2500	3
REWM	3020	3
REWM	4530	1
REWM	4700	3
Upper Division Coursework in REWM		5
Upper Division course (TBA)		3

Soil Science (SOIL) 15 hrs.

SOIL	4120	3
SOIL	4150	3
SOIL	4160	3
Upper Division course in SOIL		3
Upper Division course (TBA)		3

Agricultural Communication/ Leadership (AGCM) 15 hrs.

COJO	1040	3
COJO	2010	3
Upper Division Coursework in COJO or approved Leadership courses		6
Upper Division course (determined with advisor)		3

Agricultural Business (AGBS) 15 hrs.

AGEC	1010 or 1020	3
AGEC	4050	3
AGEC	4060	3
Upper Division course in AGEC		3
Upper Division course (determined with advisor)		3

Art Education with Concurrent Major in Art Curriculum

The art education program consists of a minimum of 120 total hours and prepares students for K-12 certification. Transfer students are required to take at least 26 hours of upper-division art course work from the University of Wyoming. Majors must earn a grade of C or better in all content courses. A minimum GPA of 2.500 in major content courses is required.

Professional Education Requirements

EDST	2450	3
EDST	2480	4
EDEX	2484	3
ITEC	2360	3
EDST	3000	6
EDST	3550	2
EDSE	3272	3
EDSE	4272	4
EDSE	4500	8
EDEL	4500	8

Art Foundations Core Requirements

ART	1005	3
ART	1110	3
ART	1115	1
ART	1120	3
ART	1130	3
ART	2000	1
ART	2305	1

Art Studio Core

ART	2005	3
ART	2210	3
ART	1310	3
ART	2410 or 2420	3
Choose one additional elective course:		
ART	2112	3
ART	2255	3
ART	2265	3
ART	2350	3

The above major content courses must be completed before EDSE 4272. In addition to these courses, students must also take 9 hours of upper division studio, 6 hours of upper division art history electives, 3 hours of interrelated art electives, and an A&S Global Awareness course.

Art History Requirements

ART	2010	3
ART	2020	3
Art History Upper Division Electives		6

Upper Division Art Studio Requirements

ART	3510	3
Upper Division Art Studio electives		9

To be selected from the following:
ART 3005, 3052, 3112, 3120, 3140, 3180, 3210, 3250, 3265, 3310, 3320, 3330, 3345, 3350, 3410, 3420, 3500, 4005, 4050, 4052, 4110, 4120, 4140, 4210, 4250, 4265, 4310, 4330, 4355, 4360, 4400, 4410, 4420, 4430, 4510, 4520, 5430, 5660, 5670

Computer Science Endorsement

The College of Education offers courses that lead to an endorsement (grades 6-12) from the Wyoming Professional Teaching Standards Board in computer science. Secondary Education majors can also receive a minor in computer science; see information in the College of Engineering and Applied Science section of this catalog for more information about the computer science minor.

The endorsement consists of 27 credit hours including 9 upper division credits. It is recommended that students interested in obtaining the computer science minor apply tot he program by their freshman year or the beginning of sophomore year by completing the Program Change form, which may be found at www.uwyo.edu/registrar/students/forms_and_petitions.html. Students are encouraged to examine course prerequisites.

Required Courses (27 credits):

COSC	1010	4
COSC	1030	4
COSC	2030	4
COSC	2150	3
COSC	2300	3
COSC	3020	4
COSC	3050	1
COSC	3100	2
EDSE	4280	2

Elementary Education Curriculum Professional Education Requirements

This program consists of a minimum of 120 total hours.

EDST	2450	3
EDST	2480	4
EDEX	2484	3
ITEC	2360	3
EDST	3000	6
EDST	3550	2
EDEL	4109	5
EDEL	4309	5
EDEL	4409	5
EDEL	4500	15-16

Major Content

EDEL	2280	3
EDEC	4320	3
MATH	1100	3
EDEL	1410	1
MATH	1105	3
MATH	2120	3
EDEL	2410	1
LIFE	1020	4
EDEL	1430	1
ASTR/GEOL	1070	4
EDEL	1450	1
PHYS	1090	4
EDEL	1440	1
HLED	2006	1
GEOG	1000 or 1020	3

The above major content courses must be taken prior to enrollment in EDEL 4109, 4309, 4409. EDST 3550 must also be completed before EDEL 4109, 4309, 4409.

Additional Content Courses

Each of the following areas must be represented in the program. An additional content course may fulfill one University Studies requirement or be part of the area of concentration. No courses may be double counted within these four areas. Courses for speech and acting and American diversity must be selected from lists of designated courses, which are available from the Office of Teacher Education, or the college web site.

American Diversity		3
EDEL	3170	3
Music		3
Speech and acting		3

Choose one: COJO 1010 or 2010, COJO 1030, COJO 1040, THEA 1100, or EDCI 4140

Areas of Concentration

Elementary education majors must take a minimum of 18 semester hours in a specific area of concentration. The following approved areas provide specialization in:

1. Creative arts
2. International Education Studies or American Cultural Diversity
3. Environmental studies
4. Interdisciplinary early childhood
5. Individual and society (at UW-Casper only)

A list of required courses and specific requirements for each area of concentration may be obtained from The Office of Teacher Education, or the college web site.

Minors

As part of the requirements towards graduation, students in the Elementary Education program can use a university approved minor in lieu of an area of concentration.

Two additional minor programs are offered by the Department of Elementary and Early Childhood Education: Literacy Education (ELIE), and Early Childhood Education (ECE). Either one may be substituted for the Area of Concentration. A list of required courses and specific requirements for each minor program may be obtained from the Office of Teacher Education, or the college web site.

Please note that all required courses and the chosen elective(s) must be completed before the student plans to graduate from the major program.

English Education with Concurrent Major in English Curriculum

This program consists of a minimum of 120 total hours. All English courses must be passed with a grade of C or better. A minimum GPA of 2.500 in major content courses is required.

Professional Education Requirements

EDST	2450	3
EDST	2480	4
EDEX	2484	3
ITEC	2360	3
EDST	3000	6
EDST	3550	2
EDSE	3270	3
EDSE	4270	4
EDSE	4500	15

Major Content

ENGL	2025	3

Choose two:
ENGL 2425; ENGL 2430; ENGL 2435 6

Choose one:

ENGL	3200	3
ENGL	3300	3
ENGL	3400	3
ENGL	3500	3
ENGL	3600	3

Literature credits examining diversity-related issues, 2000-level or above 6

ENGL	3010	3

EDCI 4761 or EDCI 4762 or ANTH 2000 .. 3

Elective credits from the approved Rhetoric/Composition/Professional Writing list 9

ENGL	4990	3
EDCI	4120	3

Credits in a single World Language, or in American Sign Language 12

Mathematics Education with Concurrent Major in Mathematics Curriculum

Total hours required for the mathematics education curriculum is 120.

Professional Education Requirements

EDST	2450	3
EDST	2480	4
EDEX	2484	3
ITEC	2360	3
EDST	3000	6
EDST	3550	2
EDSE	3271	3
EDSE	4271	4
EDSE	4500	15

Major Content

It is necessary to complete a minimum of 50 hours in math coursework. Work must include 27 credit hours of upper-division mathematics. The grade in each course of this 50-hour requirement must be C or better. A minimum GPA of 2.500 in major content courses is required.

MATH	2200	4
MATH	2205	4
MATH	2210	4
MATH	2310	3
MATH	2250	3
MATH	2800	2
MATH	3500	3
MATH	3340	3
MATH	3205	3
MATH	4600	3
MATH	4000	3
MATH	4150	3

MATH 4510 and 4520 or
MATH 4340 and 4440 or
MATH 4200 and 4205 6

One of the following:

MATH 3310 3
MATH 3700 3
MATH 4230 3
MATH 4255 3
MATH 4265 3
MATH 4300 3
MATH 4400 3
MATH 4500 3
Statistics Requirement 3-4
Choose one:
STAT 2000 3
STAT 2050 4
STAT 2070 4
STAT 3050 3

Modern Languages Education

Secondary education programs are offered in French, German, and Spanish. Total minimum hours required for the modern languages education curriculum is 120 credits.

Modern Language Secondary Education programs require that all candidates score at the *Advanced Low* level or higher on the American Council of Teachers of Foreign Language Oral Proficiency Interview (OPI), as well as on the Writing Proficiency Test (WPT) in their language major/the language they intend to teach. In order to be admitted to the Methods II course, students must demonstrate having attained a rating of at least the *Advanced Low* proficiency level on the OPI and the WPT. Post-baccalaureate teacher certification program students must score at these levels prior to admission to Modern Language Secondary Education programs. Given these requirements, it is important that students take advantage of study abroad experiences that will assist them in reaching high levels of second language proficiency. For information on UW study abroad opportunities, contact the International Programs office at 766-3677, or consult their web site at www.uwyo.edu/intprograms.

Professional Education Requirements

EDST 2450 3
EDST 2480 4
EDEX 2484 3
ITEC 2360 3
EDST 3000 6
EDST 3550 2
EDSE 3276 3
EDSE 4276 4
EDSE 4500 15

With Concurrent Major in French

The major consists of at least 57 hours beyond FREN 2030. Students who have taken French in high school should consult the Department of Modern and Classical Languages about proper placement. FREN 1010, 1020, and 2030 do not count toward the major; however, these courses may need to be taken as prerequisites.

French Major Content

FREN 2040 3
FREN 2130 or 3110 3
FREN 2140 3
FREN 3005 3
FREN 3050 3
FREN 3060 3
FREN 4100 3
FREN 4110 3
FREN elective (above 2030) 3
FREN electives (4000-level) 6
Other Required Courses
COJO 2010 or THEA 1100 3
EDCI 4761 or EDCI 4762 3
EDCI 4350 3
EDCI 4450 3
and
French (FREN) or courses related to the history, art and political science of the francophone world, in consultation with your academic adviser. [In addition to other required course work.] For those who wish to complete the ESL Endorsement, six of these hours can be earned by taking EDCI 5430 and EDCI 5440, or through study abroad in a French-speaking country 12

With Concurrent Major in German

The major consists of at least 57 hours beyond GERM 2030. Students who have taken German in high school should consult the Department of Modern and Classical Languages about proper placement. GERM 1010, 1020, and 2030 do not count toward the major; however, these courses may need to be taken as prerequisites.

GERM 2040 3
GERM 2140 3
GERM 3050 3
GERM 4100 3
GERM 4110 3
GERM elective (above 2030) 3
GERM electives (above 3000) 15
Other Required Courses
COJO 2010 or THEA 1100 3
EDCI 4761 or EDCI 4762 3
EDCI 4350 3
EDCI 4450 3
and
German (GERM) or courses related to the history, art and political science of the German-speaking world, in consultation with your academic adviser. [In addition to other required course work.] For those who wish to complete the ESL Endorsement, six of these hours can be earned by taking EDCI 5430 and EDCI 5440, or through study abroad in a German-speaking country 12

With Concurrent Major in Spanish

The major consists of at least 58 hours beyond SPAN 2030. Students who have taken Spanish in high school should consult the Department of Modern and Classical Languages about proper placement. SPAN 1010, 1020, and 2030 do not count toward the major; however, these courses may need to be taken as prerequisites.

SPAN 2040 3
SPAN 2140 3
SPAN 3050 3
SPAN 3060 3
SPAN 3080 or 4070 3
SPAN 3100 3
SPAN 3120 3
SPAN 4080 3
SPAN 4090 or 4310 3
SPAN electives (above 3000) 6
Other Required Courses
COJO 2010 or THEA 1100 3
EDCI 4761 or EDCI 4762 3
EDCI 4350 3
EDCI 4450 3
and
Spanish (SPAN) or courses related to the history, art and political science of the Spanish-speaking world, in consultation with your academic adviser. [In addition to other required course work.] For those who wish to complete the ESL Endorsement, six of these hours can be earned by taking EDCI 5430 and EDCI 5440, or through study abroad in a Spanish-speaking country 12

Science Education Curriculum

Concurrent majors in Science Education are offered in Biology, Chemistry, Environmental System Science, Geology, and Physics.

A grade of C or better must be earned in each course included in the major content. A minimum GPA of 2.500 in major content courses is required.

Professional Education Requirements

EDST	2450	3
EDST	2480	4
EDEX	2484	3
ITEC	2360	3
EDST	3000	6
EDST	3550	2
EDSE	3275	3
EDSE	4275	4
EDSE	4500	15

Biological Science Education with Concurrent Major in Biology

Total minimum program hours: 120

In addition to the professional education requirements, a minimum of 56 semester hours, including the major content courses (21-23 hours), biology electives (15 hours) and required electives (20 hours minimum).

Science Electives

At least one course from each of the following areas is required: chemistry, physics, environmental science, earth and space sciences.

Major Content

Required Courses

LIFE	1010	4
LIFE	3400	3
LIFE	3050	4
LIFE	3500	3
LIFE	3600	4

Plus choose two:

LIFE	2022	4
LIFE	2023	4
MICR/MOLB 2021		4

Elective Courses

9 hours in the Biological Sciences. Electives may be from one or more of these areas of emphasis: Microbial Emphasis; Plant and Fungal Emphasis; Animal Emphasis; Ecology Emphasis; Genetics and Evolution Emphasis (choices available from the Office of Teacher Education or the college web site). A minimum of 6 hours must be upper division.

Other Required Electives (20 hours minimum)

CHEM	1020	4
CHEM	2300	4
MICR/MOLB 3610		4
PHYS	1110	4
PHYS	1120	4
MATH	2200	4
STAT	2050	4
COSC 1010 or COSC 1030		4
Earth/Space Science		3-4

Chemistry Education with Concurrent Major in Chemistry

Total minimum program hours: 120

In addition to the professional education requirements, a minimum of 51 semester hours, including the major content courses (42 hours), science electives (9 hours) are required.

Required Content Courses

CHEM	1020 or 1050	4
CHEM	1030 or 1060	4
CHEM	2230	4
CHEM	2420	4
CHEM	2440	4
CHEM	4110	3
CHEM	4100	4
CHEM 4440 or MOLB 3610		3-4
CHEM	4507 or 3550	3
LIFE	1010	4
MATH	2200	4
MATH	2205	4
MOLB/MICR 2021		4
PHYS	1110 or 1210	4
PHYS	1120 or 1220	4
STAT	2050	4

Minimum 6 Additional Credits from:

Any upper division (3000-level or higher) CHEM, LIFE, MOLB course 6

Earth Science Education with Concurrent Major in Environmental Systems Science

Total minimum program hours: 120

In addition to the professional education requirements, a minimum of 59 semester hours, including the major content courses, additional courses, and elective courses are required.

Foundations

ESS	1000	2
ENR 1200 or LIFE 1010		4
ENR/GEOL 1500 or GEOG 1010 or GEOL 1100		4

Foundations of Physical Science

PHYS	1110	4
CHEM	1020	4
CHEM	1030	4
ESS/GEOL 2000		4

Spheres

ANTH/ENR 4310 or ENR/GEOG 4040	3
ATSC 2100 or GEOG 3450 or GEOL 3500	3-4
LIFE 2022 and/or LIFE 2023 and/or LIFE 3400 and/or MICR/MOLB 2021 and/or GEOG 4460	6-8

Lithosphere

GEOG 3480 or GEOL 3500	3-4
GEOL 2150 or GEOG 3010 or REWM/ENR 4285 or GEOG 4450	3-4

Skills & Tools

MATH 2200	4
ENR/GEOL 4525 or ENR 4500	3-4
GEOG 2150 or BOT/GEOG 3150 or BOT/GEOG 4111 or GEOG 4200	3-4
ESS 4970: Internship (met through successful completion of Residency in Teaching: EDSE 4500)	

Earth Science Education with Concurrent Major in Geology

Total minimum program hours: 120

In addition to the professional education requirements, a minimum of 64 semester hours, including the major content courses (30 hours), required electives (15 hours) and elective courses in one Emphasis Area (18 hours) are required.

Required Geology Courses

GEOL	1100 or 1500	4
GEOL	2000	4
GEOL	2010	3
GEOL	2020	2
GEOL	2100	4
GEOL	2080 or 4717	3-6
GEOL	4820	3

Required Electives

LIFE	1010	4
CHEM	1020	4
PHYS	1110	4
STAT	2050	4
MATH	1405 or 1450	3-5
ASTR	1050	4

Elective Courses: 6 courses from the following recommended list

ATSC 2000 or GEOG 3450		3-4
GEOL	2050	3
GEOL	2070	4
GEOL	2005 or 3005	4
GEOL	3400	4
GEOL	3500*	4
GEOL	3600	4
GEOL	4444	4
GEOL	4490	3
GEOL	4610	4

GEOL 4835 3
ECON 2400 3
GEOG 3010 3
POLS 4051 3
SOIL 4120 4
ECON 4400 3
ECON 4410 3

*Highly recommended.

Physics Education with Concurrent Major in Physics

Total minimum program hours: 120

In addition to the professional education requirements, a minimum of 63 semester hours, including the major content courses (32 hours), and science (16 hours), and mathematics (15 hours) courses are required.

Major Content

Required Courses

PHYS 1210 or 1310 4
PHYS 1220 or 1320 4
ASTR 2310 or 2320 or PHYS 2310 or 3640 4
PHYS 2320 4
PHYS 4210 3
PHYS 4310 or ASTR 4610 3
PHYS 4410 3
PHYS 4510 3
PHYS elective, 2000-level or higher** 2
Upper division PHYS elective 3

Notes: Credit can only be earned with the following combinations as options for PHYS 2310: ASTR 1050 and ASTR 2320 or ASTR 1000 and ASTR 2310.

**We encourage students to apply to become Supplemental Instruction (SI) teachers to fulfill the PHYS 2000-level or higher elective. Students must have successfully completed the course for which they would like to lead the SI group, and they must contact the instructor of the course regarding this option in advance of contacting the SI program coordinator.

Required Science Courses

LIFE 1010 4
CHEM 1020 4
ASTR 1000 or 1050 3-4
COSC 1010 or 1030 4

Required Mathematics Courses

MATH 2200 4
MATH 2205 4
MATH 2210 4
MATH 2310 3

Endorsements to Teach Additional Science Subjects

By state statute, the University of Wyoming's College of Education is allowed to provide institutional recommendations for add-on endorsements in Biology, Chemistry, Earth Science, and Physics to those who have completed the Wyoming Teacher Education Program in secondary-level Science content areas.

A teaching endorsement is not a stand-alone teacher certification program. Endorsements are issued by the Wyoming Professional Teaching Standards Board (PTSB) to state-licensed Elementary (K-6) and Secondary (6-12) teachers qualified to teach in specific subject areas, in addition to their initial certification(s).

Biology Endorsement - 24 hrs. minimum

LIFE 1010 4
LIFE 2022 4
LIFE 2023 or LIFE 3600 or other BOT/ZOO at the 3000/4000 level 3-4
LIFE 3400 3
LIFE 3050 3
MICR/MOLB 2021 4
BOT/LIFE/MOLB/MICR/SOIL/ZOO at 3000/4000 level 3
EDSE 3275 3
EDSE 4275 4

Chemistry Endorsement - 24 hrs. minimum

CHEM 1020 4
CHEM 2420 4
CHEM 4110 3
MOLB 3610 or MOLB 4100 or GEOL 4777 or BOT 4780 or SOIL 4535 3-4
CHEM 3550 3
CHEM 4507 3
CHEM 2230 4
CHEM 4230 4
EDSE 3275 3
EDSE 4275 4

Earth Science Endorsement - 24 hrs. minimum

LIFE 1010 4
CHEM 1020 4
GEOL 2000 4
PHYS 1110 4
LIFE 2022 or LIFE 2023 4
ESS/GEOG 3480 or GEOL 3500 or BOT 4780 or SOIL 4353 or ESS/ATSC/BOT/GEOL 4001 or BOT/GEOG 4111 3-4
EDSE 3275 3
EDSE 4275 4

Physics Endorsement - 24 hrs. minimum

PHYS 1310 4
PHYS 1320 4
PHYS 2310 3
PHYS 2320 3
PHYS 4410 3
PHYS 4510 3
EDSE 3275 3
EDSE 4275 4

Social Studies Education Professional Education Requirements

EDST 2450 3
EDST 2480 4
EDEX 2484 3
ITEC 2360 3
EDST 3000 6
EDST 3550 2
EDSE 3273 3
EDSE 4273 4
EDSE 4500 15

Major Content

Concurrent majors in social studies education are offered in Geography (120 minimum credits total), History (120 minimum credits total), and Political Science (120 minimum credits total).

Majors must maintain a G.P.A. of 2.500 in major content courses and earn a grade of C or better in all content classes.

Social Studies Education with Concurrent Major in Geography

Geography Core Requirements - 34 credit hours minimum

GEOG 1000 3
GEOG 1010 4
GEOG 1020 3
GEOG 2150 4
GEOG 3050 3
GEOG Electives 17
At least 9 hours of the 17 must be 3000 or 4000-level

Required Additional Content - 32 credit hours minimum

HIST 1211 3
HIST 1221 3
HIST 1110 or 1320 3
HIST 1120 or 1330 3
POLS 1000 3
ECON elective 3
PSYC elective 3
SOC or ANTH elective 3
Single foreign language 8

Social Studies Education with Concurrent Major in History
History Core Requirements - 36 credit hours minimum

HIST 1211 3
HIST 1221 3
HIST 1251 3
HIST 1110 or 1320 3
HIST 1120 or 1330 3
HIST 2000 level and above elective 3
HIST 3020 3
Native American content course (AIST/HIST) 3
3000 or 4000-level HIST electives 12
MUST include a minimum: 6 hours of non-U.S. history and 6 hours of U.S. history

Required Additional Content - 27 credit hours minimum

GEOG 1010 4
GEOG 1000 or 1020 3
POLS 1000 3
ECON elective 3
PSYC elective 3
SOC or ANTH elective 3
Single foreign language 8

Social Studies Education with Concurrent Major in Political Science
Political Science Core Requirements - 33 credit hours minimum

POLS 1000 3
POLS 1200 or 1250 3
POLS 2460 or 3600 3
POLS 48XX 3
POLS electives 18
At least 9 hours of the 18 total must be 3000 or 4000-level
At least 6 hours of the 18 total must be related to the U.S. Constitution

Required Additional Content - 36 credit hours minimum

HIST 1211 3
HIST 1221 3
HIST 1110 or 1320 3
HIST 1120 or 1330 3
GEOG 1010 4
GEOG 1000 or 1020 3
ECON elective 3
PSYC elective 3
SOC or ANTH elective 3
Single foreign language 8

Graduate Study

The four departments of the College of Education provide support for master's and doctoral degree programs. Faculty and staff work to deliver these programs by providing campus-based courses, courses taught through video conferencing, courses taught on-site at different locations in Wyoming, courses taught online, and courses taught in hybrid formats.

The College of Education is dedicated to offering high quality graduate programs that will provide students with the necessary skills to become educational leaders within their areas of specialization and expertise. All graduate students in the College of Education are expected to become scholars, researchers, and practitioners. They must, therefore, be knowledgeable about the ever-changing literature and research in education, the characteristics and needs of learners, and methods for facilitating learning. They must also understand the process of change and how to facilitate changes in learning settings that reflect what is known about the teaching/learning process. These skills are important to all graduate students, regardless of their areas of specialization or major emphasis.

Degree Programs

College of Education programs fall under one of the following university approved degree titles:

- Master of Arts
- Master of Science
- Master of Science in Counseling
- Doctor of Education (Ed.D)
- Ph.D. in Education
- Ph.D. in Counselor Education and Supervision
- Ph.D. in Curriculum and Instruction

The departments in the college are approved to offer one or more of the above listed degrees with specialization in their particular areas. The specializations available are:

- Counselor Education (Counselor Education and Supervision, Mental Health Counseling, and School Counseling)
- Curriculum Studies
- Curriculum and Instruction
- Educational Administration (Adult and Post Secondary Education, K-12 Educational Leadership)
- Instructional Technology
- Literacy Education
- Mathematics Education
- Science Education
- Special Education

Master's Programs

Currently graduate programs in the college are outcome-based. Faculty in the various specializations work with students to develop individual competencies. Consult each department for current degree requirements and program expectations.

Doctoral Programs
Doctor of Education (Ed.D.)

The College of Education Ed.D. program prepares students for scholarly inquiry and professional leadership in education. The program consists of (1) applied research, (2) courses and professional experiences in education and related fields designed to develop a comprehensive academic basis for leadership roles in education, and (3) applied professional experiences tailored to individual needs and career goals. Each student works closely with an adviser and a supervisory faculty committee to select courses, topics of research, and professional opportunities.

Preparation in the above areas combine to:

- Convey deep scholarly knowledge of education and foster its application in practice;
- Promote a broad understanding of various methods of inquiry in education and foster its application in practice settings;
- Advocate practices that demonstrate a commitment to diversity in education;
- Foster ethical and professional research and practice in education;
- Promote excellence in applied professional practice.

The degree of Doctor of Education (Ed.D.) is offered to competent students who wish to pursue a program of study and to participate in appropriate activities in preparation for professional service and leadership in education. The program is designed to meet the needs of those for whom intensive research is not a practical prerequisite to professional goals. Doctoral students are expected to participate not only in organized coursework but also in other activities that will ensure breadth of outlook and technical competence.

Options in the Ed.D. are:

- Curriculum and Instruction
- Educational Administration
- Instructional Technology

Ph.D. in Education and Ph.D. in Curriculum and Instruction

The College of Education Ph.D. program prepares students for careers of scholarly inquiry and teaching in higher education. The program consists of (1) continuous research or inquiry, (2) courses and professional experiences in education and related fields designed to develop a comprehensive academic basis for future work in research and teaching, and (3) teaching and other related experiences tailored to individual needs and career goals. Each student works closely with an adviser and a supervisory faculty committee to select courses, topics of research and inquiry, and teaching experiences.

All coursework in the Ph.D. in Education program addresses the following goals:

- To convey deep scholarly knowledge of education and related fields
- To promote a broad understanding of various methods of inquiry in education and develop competency in several of those methods
- To advocate practices that demonstrate a commitment to diversity in education
- To foster ethical and professional research and practice in education
- To promote excellence as a college teacher

Effective preparation for the Ph.D. stems from collaborative research and inquiry into topics of mutual interest by students and faculty scholars/researchers. A major portion of the program consists of the individual student and selected faculty members(s) jointly engaged in research and inquiry. Successful Ph.D. applicants tend to have high aptitude for research and inquiry and express interest in general topics which the faculty of the college are actively inquiring and researching.

Options in the Ph.D. in Education are:

- Educational Administration (Adult and Post Secondary Education, K-12 Educational Leadership)
- Instructional Technology
- Special Education

Options in the Ph.D. in Curriculum and Instruction are:

- Curriculum Studies
- Literacy Education
- Mathematics Education
- Science Education

Ph.D. in Counselor Education and Supervision

The PhD program in Counselor Education and Supervision is CACREP accredited and prepares professionals for positions as faculty in Counselor Education departments through personalized, developmentally oriented coursework emphasizing the integration of theory and experiential learning. This doctoral program is ideal for self-initiating persons who thrive in an atmosphere supportive of faculty/student interactions, small class environments, intensive class discussions and opportunities for self-direction and scholarly activity. The doctoral program is built upon the basis of a strong Master's program and upholds the philosopical orientations, coherent principles, and applied knowledge and skills as counselors and supervisors.

The dotoral degree program is 60 credit hours for individuals who have completed a 60-hour CACREP master's program. Students with a 48-hour CACREP master's degree are required to complete an additional 12 semester credits. Students, through coursework, practica and faculty guidance, develop competencies in the areas of counseling, supervision, teaching, leadership, advocacy, research and scholarship.

Learner Outcomes

Doctoral Students in the Counselor Education and Supervision will demonstrate the following learner outcomes.

1. **Academic and Professional Goals:** Students will demonstrate a clear vision of their professional and academic goals and academic preparation by developing and completing an approved program of study that meets the standards set forth by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).
2. **Professional Licensure:** Students will obtain professional licensure as a Licensed Professional Counselor (LPC) in the state of Wyoming and/or develop a plan to obtain licensure for the state in which they intend to relocate upon graduation.
3. **Democratic Perspectives:** Students will demonstrate development as a culturally competent, creative, skilled & ethical counselor, supervisor and educator including the areas of advocacy, leadership, social justice, and promotion of caring communities.
4. **Research and Scholarship:** Students will develop a professional identity as an academic researcher by demonstrating a clear and active research agenda that includes a plan of action for professional presentations and manuscripts.
5. **Professional Development:** Students will develop a clear and diligent plan to becoming a skilled, ethically competent counselor educator.

For further information on each program, contact the College of Education, 100 McWhinnie Hall, 766-2230.

Curriculum and Instruction Graduate Programs

The Program

The master of arts and doctor of education in education with an option in curriculum and instruction are offered by three departments in the College of Education that collaborate to deliver the degrees: Educational Studies, Elementary and Early Childhood Education, and Secondary Education. A doctor of philosophy is being offered through the College of Education. These degree programs consist of required courses in curriculum and in research with a choice of electives chosen for their curricular emphasis. A graduate student in curriculum and instruction may choose a curricular emphasis in any of the following areas: agriculture, art, early childhood education, early childhood special education, English, English as a Second Language (ESL), literacy, mathematics, modern languages, science, social studies education and Teachers of American Indian Children.

Educators wishing to broaden their theoretical understanding of curriculum and instruction, to increase their knowledge and skills in their content specializations, to pursue additional endorsements, and to develop new strategies and materials for their classrooms should consider the Master of Arts in Education, with a concentration in Curriculum and Instruction. Educators wishing to pursue advanced graduate level study with a school-based, practitioner-oriented focus should consider the Doctorate of Education, with a concentration in Curriculum and Instruction. Educators interested in engaging more intently on educational research and in pursuing a career in higher education should consider the Doctorate of Philosophy in Education, with a concentration in Curriculum and Instruction. Successful completion of any of these

programs contributes to the professional development of educators and prepares them for roles of leadership within their subject areas, schools and/or higher education institutions.

The website for Curriculum and Instruction can be found at: (www.uwyo.edu/ci/)

For more information about any of the Curriculum and Instruction program offerings, please contact the Curriculum and Instruction Office Associate at: (307) 766-6371 or curriculum@uwyo.edu.

Program Specific Degree Requirements Master of Arts in Education, Option: Curriculum and Instruction

- Minimum of 32 hours of graduate credit
- Courses delivered via Outreach using distance technologies
- Core Courses: 16 hours of program area core graduate credits
- Concentration: 15+ hours in either a certificate or endorsement program, academic content area, or general curriculum and instruction area of interest (with direction and consent of faculty adviser)
- Capstone consisting of one of the following:
  - o Plan A (thesis) – EDCI 5960: Thesis Research (4 graduate credits)
  - o Plan B (non-thesis) - EDCI 5090: Plan B Research (2 graduate credits)
  - o National Board Certificate – EDCI 5890: Directed Professional Study (1 graduate credit) and/or EDCI 5515 NBC Seminar

C&I Program Core:

- Classroom Assessment (EDCI 5500, 3 credits)
- Principles of Curriculum (EDCI 5000, 3 credits)
- Issues in Multicultural Education (EDCI 5450, 3 credits)
- Learning Theories and Instructional Principles (EDCI 5790, 3 credits)
- Action Research (EDRE 5550, 3 credits) OR Intro to Research (EDRE 5530, 3 credits)
- Midpoint Portfolio (EDCI 5400, 1 credit)

Areas of Concentration

- Certificates or Endorsements
  - o Early Childhood and Early Childhood – Special Education (see www.uwyo.edu/elemed/early-childhood-programs/)
  - o English as a Second Language (see www.uwyo.edu/esl)
  - o Literacy (see www.uwyo.edu/elemed/endorsements/certificate-of-literacy.html)
  - o Teachers of American Indian Children (see www.uwyo.edu/taic/)
- Content Studies – Math, History, Art, Music, Science, etc.
- Curriculum and Instruction Studies – focus on special education, educational leadership, diversity studies, counseling, instructional technology, etc.

Program Specific Admission Requirements

Application deadlines and materials can be found on the Curriculum and Instruction program web page (www.uwyo.edu/ci/).

- One year teaching (or its equivalent) required for admission
- Minimum 3.000 GPA on applicant's most recent degree from an accredited institution

Program Specific Degree Requirements Master of Arts in Education, Option: Curriculum and Instruction with an Emphasis in Teacher Certification

This program provides a post baccalaureate student the opportunity to earn a teaching certification while taking hours that lead to a master's degree. The intent is to provide distance learning opportunities required for this master's program after the certification is earned. It begins with classes in summer. Once students have completed the teacher credential portion of the program, they can apply for the master's program. NOTE: Acceptance to the master's is via application and contingent upon successful completion of the teacher credential. Meeting requirements for the master's does not guarantee acceptance.

Requirements include:

- Bachelor's degree completed prior to application
- 2.500 GPA minimum required in content course work; a 2.750 UW Institutional GPA minimum must be achieved throughout the teacher certification coursework
- Completed additional content courses, as required for the area in which certification is sought (i.e., Elementary, Secondary English, etc.). Specific course requirements for each certification area can be found in program sheets for each area, also available through the Office of Teacher Education's website: http://www.uwyo.edu/ted/post-baccalaureate-program
- EDST 2450 and ITEC 2360 program prerequisites
- Current Wyoming Teacher Substitute Certificate (contact the State of Wyoming Professional Teacher Standard Board)
- Teacher Credential Core Courses: 19 credits (secondary) or 28 credits (elementary)
- Admissions requirements consistent with those described in Master's of Arts in Education program (described above) with exception of one year teaching experience
- Master's Course Additional Requirements: 20-22 credits

Teacher Credential Core Requirements:

- Introduction to Special Education (EDEX 2484, 3 undergraduate credits)
- Foundations of Education in a Diverse Society (EDST 4000, 3 undergraduate credits)
- The Art and Science of Teaching (EDCI 5550, 4 graduate credits)
- Advanced Topics in Pedagogy (EDCI 5250, 3 graduate credits)
- Educational Assessment (EDST 3550, 2 undergraduate credits)
- Seminar in Assessment (EDCI 5560, 1 graduate credit)
- Methods II (Secondary Only; EDSE 42XX, 3 undergraduate credits)
- Humanities (Elementary Only; EDEL 4109, 5 undergraduate credits)
- Science (Elementary Only; EDEL 4409, 5 undergraduate credits)
- Literacy (Elementary Only; EDEL 4309, 2 undergraduate credits)
- Residency in Teaching (EDSE 4500 Secondary; EDEL 4500 Elementary, 11 undergraduate credits)
- Internship (EDSE 5990 Secondary and Elementary, 4 graduate credits)

C&I Master's Core Requirements:

- Principles of Curriculum (EDCI 5000, 3 credits)
- Issues in Multicultural Education (EDCI 5450, 3 credits)
- Learning Theories and Instructional Principles (EDCI 5790, 3 credits)
- Action Research (EDRE 5550, 3 credits) OR Intro to Research (EDRE 5530, 3 credits)
- Midpoint Portfolio (EDCI 5400, 1 credit)
- Classroom Assessment (EDCI 5500, 3 credits) OR EDCI 5XXX (elective; in consultation with adviser)
- Capstone consisting of one of the following:
  - o Plan A (thesis) - EDCI 5960: Thesis Research (4 credits)
  - o Plan B (non-thesis) - EDCI 5990: Plan B Research (2 credits) and EDCI 5XXX (elective, in consultation with adviser)
  - o National Board Certificate - EDCI 5890: Directed Professional Study (1-4 credits)

For more information, contact the Office of Teacher Education or visit the web page (http://www.uwyo.edu/ted/post-baccalaureate-program)

Program Specific Admission Requirements

Application deadlines and materials can be found on the Curriculum and Instruction program web page (www.uwyo.edu/ci/).

Program Specific Degree Requirements Doctor of Education (Ed.D.) in Education, Option: Curriculum and Instruction

- Bachelor and master's degree required for admission
- 30 credits transferable (as part of master's) from UW or other accredited university
- 3 years teaching experience (required)
- EDRE 5530 Introduction to Research (or equivalent; required)
- Minimum of 80 graduate credit hours in the following:
  - o Core Courses (15 graduate credit hours)
  - o Cognate (Area of Interest) (18 graduate credit hours)
  - o Research (9-12 graduate credit hours)
  - o Practicum/Internship (2 graduate credit hours)
  - o Dissertation (6 graduate credit hours)

Core courses

- EDCI 5600 - Diversity in Education
- EDCI 5730 - Learning and Cognition
- EDAD 5720 Educational Leader as Change Agent
- EDAD 5650 - Educational Leader as Communicator
- EDRE 5660- Proposal Writing

Cognate courses and advanced courses (minimum of 18 credits)

- EDCI 5800 – Curriculum Development
- EDCI 5790 – Learning Theories and Instructional Principles
- An additional 12 credits (elective, in consultation with adviser and/or committee)

Advanced research courses (minimum of 9-12 credits)

- EDRE 5530 Introduction to Research (may have been met in master's program)
- Some combination of Educational Research courses (in consultation with adviser and/or committee)

Practicum/Internship

- EDCI 5580 - Internship (2 credits)

Dissertation Hours

- The required number of dissertation credits is a minimum of 6.
- Preliminary exam (after coursework is completed): Guidelines determined by program, department, or committee
- Problem-Based Dissertation or project (after preliminary exam): Guidelines determined by program, department, or committee

Notes:

These requirements for an Ed.D. in Education are minimum requirements only.

Program Specific Admission Requirements

Application deadlines and materials can be found on the Curriculum and Instruction program web page (www.uwyo.edu/ci/)

Program Specific Graduate Assistantships

Applicants interested in a Graduate Assistantship must submit a graduate assistantship application to the Curriculum and Instruction Office.

Program Specific Degree Requirements Doctor of Philosophy (Ph.D.) in Curriculum and Instruction, Options in Curriculum Studies, Literacy Education, Mathematics Education, and Science Education

- Bachelor and master's degree required for admission
- 30 credits transferable (as part of master's) from UW or other accredited university
- Residency requirement: 1-2 consecutive full-time semesters on campus
- Minimum of 81 total credits required in the following areas:
  - o Core Courses (9 graduate credit hours)
  - o Cognate (Area of Interest) (18 graduate credit hours)
  - o Research (12-15 graduate credit hours)
  - o Dissertation (12 graduate credit hours)

Core courses (minimum of 9 credits)

All PhD option areas require PRST 5610, Intro to Doctoral Studies. In addition, doctoral students, with direction from their committees, will choose a minimum of two additional courses from the remaining five core courses:

- EDCI 5900 (Practicum in College Teaching)
- EDCI 5810 (Writing for Professional Publication)
- EDCI 5730 (Learning and Cognition)
- EDRE 5660 (Dissertation/ Thesis Prospectus Writing)

We also understand that students may meet the requirements for the core content in other ways, such as a master's degree in an area that emphasizes coursework in diversity or multi-cultural education. Committees may determine that the requirements for additional course(s) have been met. However, Introduction to Doctoral Studies may not be waived.

Cognate courses and advanced courses (minimum of 18 credits)

- EDCI 5600 (Diversity in Education)
- EDCI 5730 (Learning and Cognition)
- EDCI XXXX (Elective, in consultation with adviser and/or committee)
- 9 additional hours in some area of advanced area of study

Advanced research courses (minimum of 15 credits)

- EDRE 5530 (Introduction to Research) (may have been met in master's program)
- Some Combination of Educational Research courses (in consultation with adviser and/or committee)

Dissertation Hours

- The required number of dissertation credits is a minimum of 12.
- Preliminary exam (after coursework is completed): Guidelines determined by program, department, or committee
- Dissertation (after preliminary exam): Guidelines determined by program, department, or committee

Notes:

These requirements for a PhD in Education are minimum requirements only.

Program Specific Admission Requirements

Application deadlines and materials can be found on the Curriculum and Instruction program web page (www.uwyo.edu/ci/).

Program Specific Graduate Assistantships

Applicants interested in a Graduate Assistantship must submit a graduate assistantship application to the Curriculum and Instruction Office.

Certificates and/or Endorsements

Teachers of American Indian Children Certificate Leading to a Wyoming Endorsement

In this graduate program, the University of Wyoming 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 will receive official recognition of their achievement on their University of Wyoming transcripts and an official certificate.

Required program courses:

- EDCI/AIST 5450 – Issues in Multicultural Education
- EDCI/AIST 5110 – Educational Foundations of American Indian Education
- EDCI/AIST 5121 – History and Philosophy of American Indian Education
- EDCI/AIST 5130 – Cultural Foundations of American Indian Education
- EDCI/AIST 5141 – Instructional Methods in American Indian Education

For more information, visit the web page (http://www.uwyo.edu/taic)

Literacy Certificate Leading to a Wyoming Reading Endorsement

The University of Wyoming offers the required courses in the graduate literacy program. The program is designed to serve graduate level K-12 teachers in Wyoming who wish to obtain the Wyoming Reading Endorsement, and those who choose to apply the course work toward a master's or doctoral degree in Curriculum & Instruction.

Required Courses:

- EDCI 5710 [5070]: Genre-Based, Discipline-Based Literacies (3 credits)
- EDCI 5720: Literacy Difficulties: Assessment and Instruction (3 credits)
- EDCI 5750: Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part 1 (K-6) (3 credits)
- EDCI 5760 [5870]: Social Literacies (3 credits)
- EDCI 5755 Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part 2 (K-6)
- EDCI 5770 Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part 1 (6-12)
- EDCI 5775 Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part 2 (6-12)

Endorsement K-6: 18 hours - EDCI 5760, 5710, 5720, 5750, 5755 plus one elective

Endorsement 6-12: 18 hours - EDCI 5760, 5710, 5720, 5770, 5775 plus one elective

Endorsement K-12: 21 hours - EDCI 5760, 5710, 5720, 5750, 5755, 5770, 5775

Electives

EDCI 5120 Young Adult Literature.....3

EDCI 5160 Recent Trends in Children's and Young Adult Literature 3

For more information, visit the web page (http://www.uwyo.edu/elemed/endorsements/certificate-of-literacy)

English as a Second Language Certificate leading to a Wyoming English as a Second Language Endorsement

The English as a Second Language (ESL) endorsement is designed to meet the ten state of Wyoming standards for teaching second language learners. It is offered in conjunction with departments in the College of Arts and Sciences. The need to address the specific educational issues and challenges English language learner students face by way of culturally and linguistically responsive professional practices is of critical importance to the vitality of our classrooms, schools, and communities

Required Courses:

- EDCI 4762: Essential Sociolinguisitcs for English as a Second Language Learning and Teaching (3 credits)
- EDCI 4350/5350: Introduction to Second Language Acquisition(3 credits)
- EDCI 5430: Theory and Methods of ESL I (3 credits)
- EDCI 5440: Theory and Methods of ESL II (3 credits)
- EDCI 5580: Internship in English as a Second Language (3 credits)

For more information, visit the web page (http://www.uwyo.edu/esl)

The Early Childhood Special Education Program (Birth to Five) Leading to Wyoming Certification

Post-baccalaureate students who have earned a BA/BS in Elementary Education, Family and Consumer Sciences/Child Development Option, or a related field in early childhood development are eligible for this program. This is a pre-k program and does not prepare candidates to work in kindergarten or primary grade classrooms.

Required courses:

- EDEC 5220: Children with Disabilities: Birth to Five (3 credits)
- EDEC 5230: Curriculum and Materials for the Young Child with Disabilities (3 credits)
- EDEC 5240: Evaluation of Young Children with Disabilities (3 credits)
- EDEC 5250: Legal Issues in Early Childhood Special Education (3 credits)
- FCSC 4124: Families of Young Children with Special Needs (3 credits)
- EDEC 4350: Health Management Issues in Early Childhood Special Education (3 credits)
- EDEC 4320: Oral and Written Language Acquisition (3 credits)
- EDCI 5580: Internship in Early Childhood Special Education (6 credits)

For more information, visit the web page (http//www.uwyo.edu/elemed/early-childhood-programs)

Curriculum and Instruction (EDCI)

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

4000. Environmental Education for Teachers. 2-3 (Max. 6). An introduction to the philosophy, methods and content of environmental education for students in elementary and secondary education. *Prerequisite:* senior standing.

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 EDCI 5050; cross listed with WMST 4050. *Prerequisites*: completion of WA and WMST 2000 with C or better.

4120 [LIBS 4120]. Literature for Young Adults. 3. Designed for prospective and working library media specialists and teachers who wish to strengthen their backgrounds in the utilization of literature with young adults in classrooms and libraries. The course involves the reading and critique of literature. Dual listed with EDCI 5120. *Prerequisite:* senior level or graduate standing. (Offered based on sufficient demand and resources)

4140 [LIBS 4140]. Storytelling. 3. An investigation of storytelling as an art and as an aid to instruction. Emphasis is on literature for preschool and elementary age children. Dual listed with EDCI 5140. *Prerequisite:* junior standing or EDCI 4120 is recommended. (Offered based on sufficient demand and resources)

4160 [LIBS 4160]. Recent Trends in Children's and Young Adult Literature. 3. Important new developments in the subject matter, settings and style of children's and young adult books are identified and studied. Students in this course are expected to have a strong basic knowledge of children's and young adult literature. Dual listed with EDCI 5160. *Prerequisite*: EDCI 4120.

4300. Introductory Diagnosis Corrective Reading Instruction. 3-4 (Max. 4). Provides students with opportunities to work with children who have severe reading problems. Students in this class tutor one or two children for an entire semester under the direct guidance of the course instructor and the supervising teacher of the teaching division of the reading clinic. *Prerequisite:* consent of instructor.

4330. Advanced Diagnosis, Corrective Reading Instruction. 3-4 (Max. 4). Designed to provide students with opportunities to work with children who have reading problems. Students in this class tutor under the direct guidance of the course instructor. *Prerequisites:* EDCI 3100, 4300 and consent of instructor.

4340. Integrating Computer-Based Technologies in Teaching _____. 1-3 (Max. 6). Equips students with information, skills and insights necessary for successful integration of computer-based technologies into classroom teaching. Content includes modeling of techniques, teaching strategies and appropriate applications of computer-based technologies in specific content areas and consideration of computer-related issues facing educators. *Prerequisite:* ITEC 2360 or equivalent.

4350. Introduction to Second Language Acquisition. 3. Addresses theoretical and conceptual foundations of working with second language learners. Focus is on the classroom applications of this theoretical base to interactions with English language learners, curriculum, instruction, assessment and evaluation, classroom organization, and school-community relations. Native American language revitalization issues are featured. Dual listed with EDCI 5350.

4390. Literature and Reading/Writing Instruction. 3. Links the use of literature for children with instruction and practice in reading, writing, spoken language, and critical thinking skills. Students are expected to have a strong background knowledge of literature for children before taking this course. Dual listed with EDCI 5390. *Prerequisite:* EDEL 2280, or basic children's literature course work.

4400 [3400]. The Middle School. 2-3 (Max. 3). This is the basic professional course in the program for the preparation of middle years educators. A review of the reorganization of junior high school leading to the establishment of the middle school philosophy, the teacher, and the unique function of the middle school compose the essential outline topics of the course. *Prerequisites:* EDST 3000, EDST 2450 or PSYC 4300, WA, 2.500 GPA.

4450 [4250]. Issues In Multicultural Education. 3. Provides the future teacher and other interested students with a better understanding of current issues and social foundations of multicultural America. Enables more accurate educational decisions related to utilizing strengths and diversity of each cultural group. Dual listed with EDCI 5450. *Prerequisite:* students must have at least 12 credit hours in education classes.

4665. History and Philosophy of American Education. 3. Provides cultural, philosophical, and historical perspectives drawn from the American experience and centered in the American ideology of equality of educational opportunity. Major trends and philosophies that have developed, and are developing, in American education will be shared through discussion, presentations, and written projects. Dual Listed with EDCI 5665. Cross listed with HIST 4665. Prerequisites Completion of WA with C or better.

4761. Linguistics, Sociolinguistics, and Social Literacies for Teachers. 3. Introduces key concepts in linguistics, sociolinguisitcs, and social literacies that are necessary for understanding and working with children from diverse linguistic and cultural backgrounds. As such, the course was designed to redirect students' attention from a sole focus on schooled language and literacy to an understanding of the diverse language and literacy knowledges and skills that children bring to school from their own sociocultural contexts. *Prerequisite:* EDST 2480.

4762. Essential Sociolinguistics for English as a Second Langauge Learning and Teaching. 3. This course is designed for the candidates in the ESL endorsement and graduate certificate program to focus on English as a second language teaching and learning. The issues addressed will include: (a) social and cultural approach to language and literacy; (b) second language learning and identity; (c) culture, ethnicity, race, and language variations; (d) bilingualism, and (e) language attitudes. *Prerequisite:* admission to the English as a Second Language Endorsement Program.

5000. Principles of Curriculum. 3. Provides an overview of general understandings fundamental to the study of all aspects of curriculum to include pre-school, kindergarten thru high school. Consideration is given to the various factors, institutions and societal issues that impinge on and affect the decision making processes of curriculum developers. *Prerequisite:* graduate standing in education.

5010. Supervision of the School Music Program. 2-4 (Max. 4). Two sections: vocal; instrumental. Designed for graduate students who have a background in music education and for other interested graduate students in education. *Prerequisite:* 12 hours of education and graduate standing.

5020. Curriculum Workshop. 1-4 (Max. 4). Two sections: vocal; instrumental. Designed for graduate students who have a background in music education and for other interested graduate students in education. *Prerequisite:* 12 hours of education and graduate standing.

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 EDCI 4050; cross listed with WMST 5050. *Prerequisites*: completion of WA and WMST 2000 with C or better; graduate standing; completion/concurrent enrollment in ADED 5260.

5070. Educational Trends. 1-6 (Max. 6). Provides reading, discussion, research, and appraisal of new methods, materials, equipment, and experimental programs concerned with the improvement of education as it pertains to curriculum and instruction. The maximum allowable credit applies to the total offerings under this number. *Prerequisite:* 12 hours of education courses.

5090. Plan B Research. 1-3 (Max. 9). Under the guidance of a committee chair, the enrolled graduate student will complete a scholarly Plan B project. Plan B projects emerge from practice, typically involving a problem of interest within a student's school, classroom, or work site. Admission in the Curriculum and Instruction graduate program required. Offered satisfactory/unsatisfactory only. *Prerequisite:* graduate standing.

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. Cross listed with AIST 5110. *Prerequisites:* AIST 1001 and 15 credit hours of AIST or EDST.

5120. Literature For Young Adults. 3. Designed for prospective and working library media specialists and teachers who wish to strengthen their backgrounds in the utilization of literature with young adults in classrooms and libraries. Involves reading and critiquing literature. Dual listed with EDCI 4120. *Prerequisite:* senior level or graduate standing.

5121. History and Philosophy of American Indian Education. 3. Addresses the history of Indian education in the U.S. and Canada, examination of missionary initiatives, government programs, and tribal efforts. Review of documentary accounts of Native education, review autobiographical accounts of Native teachers and children. We will develop insight necessary for development of appropriate teaching methods and materials. Cross listed with AIST 5121. *Prerequisites:* Post-Baccalaureate standing.

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 AIST 5130. *Prerequisites:* Post-Baccalaureate status.

5140. Storytelling. 3. An investigation of storytelling as an art and as an aid to instruction. Emphasis is on literature for preschool and elementary age children. Dual listed with EDCI 4140. *Prerequisite:* junior standing or EDCI 4120 is recommended.

5141. Instructional Methods in American Indian Education. 3. Addresses culturally responsive methodologies for teaching American Indian students, review of documentary accounts of Native education and autobiographical accounts of Native teachers and children as students develop appreciation of the complexity and difficulties of Native education. Students acquire insight necessary for development of appropriate teaching methods and materials. Cross listed with AIST 5141. *Prerequisites:* Post-Baccalaureate status.

5160. Recent Trends in Children's and Young Adult Literature. 3. Important new developments in the subject matter, settings and style of children's and young adult books are identified and studied. Students in this course are expected to have a strong basic knowledge of children's and young adult literature. Dual listed with EDCI 4160. *Prerequisite*: EDCI 4120. (Offered based on sufficient demand and resources)

5205. Methods of Teaching Middle-Level Mathematics. 3. Research based pedagogy and pedagogical content knowledge for teaching middle-level mathematics. Designed for practicing teachers of middle-grades mathematics. Cross Listed with NASC 5205. *Prerequisites:* admission to the SMTC program.

5215. Using Instructional Technology for Middle-Level Mathematics. 3. Covers the use of technology appropriate to middle-level mathematics teaching, such as microworlds, geographic information systems, spreadsheets, and other content appropriate technologies. Cross listed with NASC 5215. *Prerequisites:* admission to the SMTC Program.

5225. Assessment for Middle-Level Mathematics. 3. Middle-level Mathematics Initiative teacher participants examine, analyze, and implement a variety of assessments that are aligned with standards and instruction appropriate to the middle level math learner. Cross listed with NASC 5225. *Prerequisites:* admission to the SMTC program.

5250. Advanced Topics in Pedagogy. 3. A graduate level seminar to be taken concurrently with undergraduate methods courses in specific content areas (EDSE 425X-4260, EDEL 4309) EDCI 5250 is restricted to students pursuing teacher certification leading to a Master of Arts in Curriculum and Instruction. *Prerequisite:* Successful completion of EDCI 5550, EDST 3500, EDCI 5870, Seminar in Assessment, earned Bachelor's degree from an accredited institution.

5270. Seminar for Early Career Teachers. 3. Provides an opportunity to engage in critical issues facing beginning teachers as well as to address pressing challenges faced. Provides an opportunity for mutual support and academic engagement around these critical issues as well as propel the beginning teacher further into the teaching profession. *Prerequisite:* teaching credentials required.

5300. Perspectives In Reading Instruction. 3. Designed to provide an intense examination of reading instruction for the large number of students in typical classrooms. The teaching and learning of basic reading skills is analyzed and discussed. Reading materials, alternative approaches to reading instruction, and classroom organization schemes are examined. A major thrust of the class is the application of current developments in reading to classrooms.

5310. Reading Comprehension Processes and Instruction. 3. Designed to acquaint the student with recent developments, research findings, and newer practices. Viewpoints expressed by experts are compared, and an emphasis is given to the objectives of knowledge and to an understanding of attitude and skills. *Prerequisite:* graduate standing.

5320. The Writing Process in the Classroom. 3. Designed to acquaint the student with recent developments, research findings, and newer practices in the area of composition. Viewpoints expressed by experts are compared and an emphasis is given to the objectives of knowledge and to an understanding of attitudes and skills. *Prerequisite:* graduate standing.

5350. Introduction to Second Language Acquisition. 3. Addresses theoretical and conceptual foundations of working with second language learners. Classroom applications

of this theoretical base to interactions with English language learners, curriculum, instruction, assessment and evaluation, classroom organization, and school-community relations. Native American language revitalization issues are featured. Dual Listed with EDCI 4350. *Prerequisite:* graduate standing.

5390. Literature and Reading/Writing Instruction. 3. Links the use of literature for children with instruction and practice in reading, writing, spoken language, and critical thinking skills. Students are expected to have a strong background knowledge of literature for children before taking this course. Dual listed with EDCI 4390. *Prerequisite:* EDEL 2280, or basic children's literature course work.

5400. Midpoint Portfolio Reflection. 1. Allows students to reflect, self-assess, and receive guidance related to their progress in the C&I Master's Program. Requirements include: self assessment of progress toward the C&I program outcomes, completion of a series of research abstracts, formation of the students' graduate committees and approval of programs of study. *Prerequisites:* admission to the Curriculum and Instruction Master's Program and completion of at least 12 hours of EDCI coursework.

5430. Theory and Methods of ESL I. 3. Provides an overview of theoretical and practical considerations in the teaching of English as a second/foreign language; acquaints students with different approaches, methods and procedures in TESL/TEFL; examines issues in the profession; requires a teaching/tutoring component. *Prerequisite:* EDCI 5350.

5440. Theory and Methods of ESL II. 3. Continues the theoretical and practical considerations in the teaching of ESL. Emphasis on Specifically Designed Academic Instruction in English (SDAIE) and literacy development for intermediate and advanced English language learners. Application of different approaches, methods, and procedures in TESL/TEFL. Development of curriculum. Issues in the profession. Requires teaching/tutoring component. *Prerequisites:* EDCI 5430.

5450. Issues in Multicultural Education. 3. Provides future and inservice teachers and other interested students with a better understanding of current issues and social foundations of multicultural America. Enables more accurate educational decisions related to utilizing strengths and diversity of each cultural group. Additional assignments are required of students completing this course for graduate credit. Dual listed with EDCI 4450. *Prerequisite:* 12 credit hours of education classes.

5480. Short Course. 1-6 (Max. 6). Provides offerings in special topics in curriculum and instruction on the basis of need. The maximum allowable credit is six semester hours. *Prerequisite:* 6 hours of education courses.

5490. Individual Problems. 1-6 (Max. 6). Provides flexible credit for seniors who may need the credit for graduation, or for students who wish to undertake intensive study of a special problem identified in a regular class. *Prerequisite:* 12 hours of education courses and consent of instructor.

5500. Classroom Assessment. 3. Provides reading, discussion, and research examining a variety of classroom-based assessments with a focus on the alignment of teaching, learning, and classroom assessment at the P-12 level. *Prerequisite:* graduate status.

5510. Improvement of Instruction In:. 1-3 (Max. 12). This series of courses is designed to acquaint the student with recent developments, research findings, and newer practices in each of the fields listed. Viewpoints expressed by experts are compared, and an emphasis is given to the objectives of knowledge and to an understanding of attitudes and skills. *Prerequisite:* graduate standing and consent of instructor.

5515. National Board Certification Seminar. 1-3 (Max. 12). Provides information and support for teachers in the National Board Certification process. Content includes: reviewing, understanding, and applying best practice research; development of differentiated instruction; integration of formative assessment and reflective practice; understanding problem solving across the curriculum; and focuses on writing strategies for National Board Certification success. *Prerequisites:* graduate student standing.

5550. The Art and Science of Teaching. 4. Students will engage in a variety of experiences related to teacher decision making. Students research a variety of curriculum and instruction topics to discern the range of theories and associated models and develop personal theories and methods they plan to employ in their classrooms. *Prerequisite:* successful completion of EDST 4000 and earned Bachelor's degree from an accredited institution.

5560. Seminar in Assessment. 1. One credit hour course is designed for students in the (post baccalaureate) teaching credential program with master's option. Covers important concepts of assessment such as teachers as graders, self-and peer-assessment techniques, standardized assessment instruments, challenges facing new teachers, using assessment for planning/modifying instruction to improve learning experiences, and differentiated assessment in diverse classrooms. *Prerequisites:* successful completion of (grade C or higher) or concurrent registration in EDST 3550 or EDST 3500.

5580. Internship. 1 - 8. (Max 12). An internship experience may be required as part of the planned program in curriculum and instruction. A maximum of eight hours may be counted in meeting the minimum requirements of a graduate degree, but additional credit may be taken beyond this limit for the recording of appropriate supervised experience. *Prerequisite:* 15 hours of education, consent of department head, and graduate standing.

5600. Diversity in Education. 3. Provides practicing teachers and graduate level students with an understanding of the macrolevel influences on diversity in education. Includes an examination of competing models of diversity in education as well as reviews critical scholarly work in the field (including alternative methodological frameworks for engaging in this research). Includes competencies for developing advocacy-oriented skills and dispositions. Prerequisite: graduate level students only.

5650. Early Childhood Secondary Education Curriculum. 3. Graduate students specializing in curriculum and instruction work intensively on key issues, questions, and/or themes pertaining to early childhood through secondary school curriculum and participation in systematic, critical, interpersonal evaluation. *Prerequisite:* EDCI 5000 or concurrent enrollment in EDCI 5000.

5665. History and Philosophy of American Education. 3. Provides cultural, philosophical, and historical perspectives drawn from the American experience and centered in the American ideology of equality of educational opportunity. Major trends and philosophies that have developed, and are developing, in American education will be shared through discussion, presentations, and written projects. Dual Listed with EDCI 4665. Cross listed with HIST 5665. *Prerequisites*: Graduate student status; priority enrollment given to students registered in the C&I/Curriculum Studies area.

5700. Institute In Reading. 2-6 (Max. 6). *Prerequisite:* graduate standing.

5710. Genre-based, Discipline-based Literacies. 3. Designed to provide educators with knowledge of reading factors as they relate to various genres and disciplines. Includes new literacies, assessment and development of comprehension, writing and oral language as learning tools, techniques for the development of vocabulary, questioning and study strategies

appropriate to various disciplines and genres. *Prerequisite:* at least one year of successful classroom teaching experience in a recognized K-12 school setting.

5720. Literacy Difficulties: Assessment and Instruction. 3. Examines contemporary research and practice related to 1) literacy difficulties, 2) classroom assessment, and 3) RTI & school literacy reform. Students will read and discussion research addressing these issues and also engage in projects focused on intervention with struggling students and school wide-systems for literacy intervention. *Prerequisite:* at least one year of successful teaching experience in a recognized K-12 school setting.

5730. Learning and Cognition. 3. The purpose of this course is to explore and critically analyze various learning theories from 1900 to present, including, but not limited to, behaviorism, constructivism, information processing, situated cognition, meaning learning, and cognitivism. Focus is on applying learning theories to impact K-12 student outcomes. *Prerequisite:* graduate standing or permission of instructor.

5750. Research in Literacy Learning, Teaching, and Assessment in Classrooms, Grades K-5, Part I. 3-6 (Max. 6). Examines contemporary research and practice in literacy instruction. Read about and discuss cutting-edge literacy methods related to 1) word recognition, 2) beginning and fluent text reading, 3) reading comprehension, and 4) vocabulary development. In addition, students will analyze their current literacy instruction and develop, implement, and evaluate lessons that involve new instructional approaches. *Prerequisites:* EDEC 4320 or EDCI 4330, 5310 or 5320 or graduate standing in education.

5755. Research in Literacy Learning, Teaching, and Assessment in Classrooms, Grades K-5, Part II. 3. Second of two related courses that address research in literacy instruction in elementary classrooms. The two-course sequence is required for students seeking the Wyoming K-5 Literacy Endorsement. Can also serve as a literacy content course in the Literacy Education Ph.D. option or as an elective in other graduate degree programs. *Prerequisites*: EDCI 5750.

5760. Social Linguistics Literacies. 3. Introduces key concepts in linguistics, sociolinguistics, and social literacies necessary for understanding and working with children from diverse linquistic and cultural backgrounds. Redirects focus from schooled language and literacy to an understanding of the diverse language and literacy knowledges and skills that children bring from their own sociocultural contexts. *Prerequisite:* at least one year of successful classroom teaching experience in a recognized K-12 school setting.

5770. Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part I (6-12). 3. Critically examines reading-writing research for the express purpose of recognizing fundamentals of superior studies. Students are encouraged to select and pursue a topic in reading-writing research for intensive examination. Students may pursue areas of emphasis in elementary, secondary, or higher education. *Prerequisites*: Graduate standing in education.

5775. Research in Literacy Learning, Teaching, and Assessment in Classrooms, Part II (6-12). 3. Designed to be the second in a two-course sequence that focuses on research and practice in adolescent literacy learning, teaching, and assessment. Will focus on applying research to practice. *Prerequisites:* Graduate standing in education.

5790. Learning Theories and Instructional Principles. 3. This course focuses on making connections between theoretical perspectives on teaching and learning, empirical work, and the actual practice of teaching. As a result, learners should expect to examine multiple learning theories, read research based on those theories, explore pedagogy that grows out of these theories, and integrate theory into practice in their own classrooms. *Prerequisite:* graduate standing.

5800. Curriculum Development. 3. The process of developing an early childhood through grade 12 curriculum are learned. Factors involved in initiating, developing, and evaluating curricula are studied. *Prerequisite:* EDCI 5000 and 5650.

5810. Writing for Professional Publications. 3. Designed to give students a structured experience with writing to publish in professional journals. Students will be expected to have written and submitted a publishable article by the end of the course. *Prerequisite:* 8 hours of graduate coursework completed.

5870. Seminar. 1-6 (Max. 8). Advanced students in curriculum and instruction work intensively on current issues and problems and participate in systematic, critical interpersonal evaluation. Students may pursue areas of emphasis in elementary, secondary, or higher education in the seminar. Only six hours may be allowed in the curriculum and instruction program on a student's program under this number. Prerequisite: consent of instructor and graduate standing.

5880. Special Problems. 1-6 (Max. 9). Provides a broad perspective through selected reading material and, wherever possible, the student collects and uses original information from a practical school situation. All work is done independently under the direction of a faculty member. As many conferences are held as necessary to assure successful completion of the project. *Prerequisite:* consent of instructor and department head, and graduate standing.

5890. Directed Professional Study. 1-6 (Max. 9). Provides additional opportunity for the student to pursue advanced graduate work through independent research. Projects are done under the direction of a graduate faculty member. Offered in the areas of business education and distributive education. *Prerequisite:* consent of the instructor, the department head and 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 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. *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.

Literacy Education (LTED)

5800. Theoretical Perspectives on Literary Processes and Practices. 3. A doctoral seminar aimed at providing students with a broad introduction to theoretical perspectives on literacy processes and practices as well as the functions of theory in literacy research. Features reading and discussion of key works from cognitive, sociocultural, and critical research in literacy. *Prerequisite:* graduate student status.

5820. Research Methods in Literacy Education. 3. Doctoral seminar to examine the array of research methods (both quantitative and qualitative) employed in literacy research. *Prerequisite:* graduate student status.

5830. Review, Critique, and Synthesis of Literacy Research. 3. A doctoral seminar focused on a survey and analysis of historical and contemporary research in literacy. *Prerequisite*: Graduate standing.

5840. Research in Literacy Education with Diverse Populations. 3. Examines historical and current research on literacy practices with diverse students including African American, Latino, American Indian/Alaska Native, and English Language Learners of many cultures and linguistic groups. *Prerequisite*: graduate student status.

5860. History of Literacies. 3. Explores the nature of history and historical inquiry, the history of literacies from several perspectives, the history of global literacies across time, and the literacy histories of a diverse range of cultural groups. Also examines the history of literacy instruction in the United States. *Prerequisite*: Graduate standing.

5870. Special Topics in Literacy Education. 1-3 (Max 12). Advance students in literacy education work intensively on current issues and problems and participate in systematic, critical exploration of an identified issue or problem. Topics may incude the following: New Literacy Studies, Adolescent, Adult, and Workplace Literacies; Disciplinary Literacy Research. May be repeated with different topics, up to 12 credit hours. *Prerequisites*: Permission of instructor and graduate standing.

Mathematics Education (EMAT)

5100. Theory and Research for Mathematical Learning. 3 (Max. 6). Advanced study of theory and research related to learning of mathematics, with attention to significant human mental development factors. Critically examines the scholarly basis for mathematical learning, including reviews of epistemological foundations, research-based factors, core issues, and advocacies for educational practices. *Prerequisites:* enrollment in Mathematics Education Ph.D. specialization or permission of the instructor.

5200. Advanced Study of Mathematics Curriculum, Assessment, and Evaluation. 3 (Max. 6). Advanced study of theory, research and practices related to curriculum, assessment and evaluation in mathematics education. Critically examines the historical and contemporary influences on these, including mathematical, philosophical, psychological, pedagogical, social and political forces and factors. *Prerequisites:* enrollment in Mathematics Education Ph.D. program or permission of the instructor.

5300. Theory and Practice for Mathematics Teaching and Teacher Education. 3. Advanced study of theory and research of mathematics teaching teacher education. Examines the scholarly basis for current rationales and practices, including a critical review of evidential effectiveness, core issues, and advocacies for reform. A major emphasis will include analysis and critique of significant theoretical and research literature. *Prerequisites:* enrollment in Mathematics Education Ph.D. program or permission of the instructor.

5400. Analysis and Critique of Research in Mathematics Education. 3. Both theoretical and empirical research and scholarship in the field of mathematics education are critically analyzed. Students develop a deep understanding of pivotal historical and contemporary literature that helped shape the field of mathematics education and begin a formative development of their research interests. *Prerequisites:* at least two from EMAT 5100, EMAT 5200, or EMAT 5300.

5500. Colloquium in Mathematics Education. 1-3. (Max. 12). Provides for a broad perspective on mathematics education through selected reading materials. Students present and discuss ideas and summaries of the assigned reading and, wherever possible, the student collects and uses original information from practical situations. Students participate with the selected materials (journal articles, research, manuscripts, conference presentations) for class discussion. *Prerequisite:* Graduate student status.

5600. Quantitative Reasoning & Modeling in Mathematics and Science Education. 3. Advanced study of theories, issues, research and practices for teaching and learning mathematics and science focused on quantitative reasoning and mathematical modeling (QRaMM). Analysis of fundamental constructs relevant to QRaMM in education. Activities engage the scholarship of critical analysis, and interdisciplinary applications aimed at student knowledge and expertise in QRaMM. *Prerequisite:* Graduate student status.

5700. Principles and Methods for Integrated Teaching & Learning Mathematics & Science. 3. Advanced study of theory, research, and practice for teaching and learning mathematics and science using integrated approaches in curriculum, pedagogy, learning, and assessment. The course will be production oriented, with activities and developments aimed at stimulating and supporting manuscripts to be published in STEM-appropriate venues. *Prerequisite:* Graduate student status.

5980. Dissertation Research. 1-12 (Max 12). 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.

Science Education (ESCI)

5100. Science Education Research Colloquium. 1 (Max. 3). The overarching goal of this graduate course is for Ph.D. students to be exposed to the most recent research methods, results, and implications of research on science education. *Prerequisite*: Graduate standing.

5200. Contemporary Science Education Research. 3. Develop a deep understanding of, and become conversant in, the current trends in research methodology and contemporary scholarly literature in science education research. *Prerequisite*: Graduate standing.

5250. Cognition and Learning in Science and Math Education. 3. Develop a deep understanding of, and become conversant in, the current learning sciences literature of cognition and learning focusing on how students learn science and mathematics. *Prerequisite*: Graduate standing.

5600. History and Philosophy of Science and Mathematics Education. 3. Focuses on key individuals, theories and events of the past century which have contributed to the formation of current views, ideas, theories, and practices in mathematics and science education. *Prerequisite:* Graduate student status.

5630. Science Teacher Ed & K12 Professional Development. 3. Addresses philosophies, research, theories and current issues related to pre-service science teacher education and in-service science teacher professional development. This course fulfills core requirements in the Science Education PhD program option. *Prerequisite:* Graduate student status.

Department of Educational Studies

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Professors:
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JOHN KAMBUTU, B. A. University of Wyoming 1991; M. A. 1992; Ph.D. 1998; Professor of Educational Studies 2015, 1999.

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ANGELA JAIME, B.S. California State University, Sacramento 1995; M.A. San Franscisco State University 1997; Ph.D. Purdue University 2005; Associate Professor of Educational Studies 2010, 2004.
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Assistant Professors:
JOAN JAMES, B.A. Northern Michigan University 1974; M.S. University of Wyoming 1988; Ph.D. 2007; Assistant Professor of Educational Studies 2015.
JASON KATZMANN, B.S. Texas Women's University 1994; M.A. Colorado College 2000; Ph.D. University of Northern Colorado 2007; Assistant Professor of Educational Studies 2016, 2007.

Educational Studies encompasses curriculum designed to bring together courses offered in the academic areas of educational foundations (including introductory content in educational history, sociology, and policy), teaching and learning, assessment, multicultural education, and educational psychology (including developmental psychology). The department offers interdisciplinary, field-based courses for those candidates in the first two phases of the teacher education program. The connection between course work, multicultural education, educational psychology, and teaching and learning, along with field-based experiences, has the structural effect of bridging the gap between theory and practice.

The courses offered by the department are linked with the state of Wyoming's Professional Education Standards. In addition to striving to meet the state standards, the faculty works to engage students on issues of leadership, literacy, multiculturalism/diversity, special education, and technology. Authentic assessments are key aspects of department courses. Educational Studies courses are guided by the Wyoming Teacher Education Program (WTEP) Standards. These standards (available at www.uwyo.edu/ted/coe_standards.asp) are aligned with the state Professional Education Standards and are assessed via a series of WTEP Learner Outcomes. Additional information about learner outcomes and the Wyoming Teacher Education Program Assessment Plan can be found at www.uwyo.edu/ted/learner-outcomes-and-standards/.

Masters and Doctoral degrees in education are available. The Educational Studies Department joins with the departments of Secondary Education and Elementary and Early Childhood Education to offer graduate programs in Curriculum and Instruction. Additional information may be found on the Curriculum and Instruction Department's web page (www.uwyo.edu/ci/).

Educational Studies (EDST)

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]
1230. The Citizen Factory: Schooling and Democracy in the US. 3. [I, L◀▶(none)]. Introduction to active learning, inquiry of pressing issues, and individual and collaborative processing of ideas through the curriculum, skills which will be reinforced throughout the baccalaureate experience. Open to all, the course appeals to any student with an interest in the public schools or schooling for democracy.
1500. Education for Social Justice. 3. [I,L◀▶(none)]Provides an introduction to the College of Education, UW, and the field of education in general. Students discover the primary intellectual activities associated with diversity, multiculturalism, and social justice. Will be of most interest to those interested in teaching as a career.
2450 [EDFD 2450]. Foundations of Development and Learning. 3. [CS◀▶H] Introduces students to the essential understandings of child/adolescent development and learning. The course emphasizes various theories and concepts related to student development with attention to cognitive, social, and physical perspectives. *Prerequisite:* 2.500 UW institutional GPA. (Offered each semester)
2475. [EDUC 2475]. Independent Studies. 1-3 (Max. 9). Offers students the opportunity to complete special course-related work independently under direction of a college faculty member. Directed readings are done and projects are completed. Requires at least two conferences with instructor. *Prerequisite:* consent of instructor.
2480. Diversity and the Politics of Schooling. 4. [D◀▶H] Designed to acquaint the student with philosophical, social, and political influences on North American education, to develop an understanding of the qualities of critical thinking, to raise awareness of critical issues in education, to develop an understanding of individual differences, diversity and multiculturalism. *Prerequisites:* Grade of C or better in EDST 2450, sophomore standing, 2.500 cumulative University of Wyoming institutional GPA, and successful completion of approved background check. (Offered each semester)
3000 [EDUC 3000]. Teacher as Practitioner. 6. [WB,O◀▶COM2] Begins Phase II of the teacher education sequence. Practicum experiences are integral. Links theory and philosophy to classroom practice. Focuses on three major topics: planning for educational experiences, instructional models and strategies, and managing classrooms. *Prerequisites:* successful completion of WA, grade of C or better in QA, 2.750 cumulative GPA, grade of C or better in EDST 2480, grade of C or better in ITEC 2360, grade of C or better in EDEX 2484, junior standing, current State of Wyoming substitute teaching license. (Offered each semester)
3550. Educational Assessment. 2. Designed to introduce students to key concepts and issues in classroom and standardized education assessments. Topics include standards, reliability and validity of norm- and criterion-referenced assessments, and special issues surrounding the assessment of students with special needs. Addresses the basic ideas of classroom test design. *Prerequisites:* grade of C or better in QA course, and EDST 2480, 2.750 Cumulative UW Institutional GPA. (Offered each semester)
4000. Foundations of Education for a Diverse Society. 3. Designed to acquaint students with philosophical, social, and political influences of North American education; to develop an understanding of the qualities of critical thinking for reflective teaching; to raise awareness of contemporary critical issues

in education; to develop an understanding of individual differences, diversity, and multiculturalism. Practicum included. *Prerequisites:* earned bachelor's degree from an accredited institution, a cumulative UW institutional GPA of 2.750 or better and EDST 2450.

4050. Diversity & Social Justice: Theory and Practice. 3. Addresses multiple disciplines. Expose students to domestic and international perspectives of diversity and social justice. This course will move students from a theoretical lens of diversity and social justice toward becoming change agents. *Prerequisites:* Junior/senior standing and completion of EDST 1500 or WMST/CHST/AMST/AAST/AIST 1040.

4110. Foundations of 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. Cross listed with AIST 4110. Prerequisites: AIST 1001 and 15 credit hours of AIST or EDST.

4600. Diversity & Social Justice Minor Capstone. 3-6 (Max. 6). In community-engaged learning, sometimes called "service learning," students have the privilege of gaining work experience with the benefit of a community mentor. This course is a seminar class with a field experience. Students will meet as a group as well as assigned a community field placement experience. *Prerequisite:* EDST 4050.

4740 [EDFD 4740]. Field Studies in _____. 1-5 (Max. 12). Offered only through extension services. Broad and flexible; can be utilized in numerous situations to meet local needs. Credit in this course is not applicable toward advanced degrees. *Prerequisite:* 6 hours of education. (Offered based on sufficient demand and resources)

4750 [EDUC 4750]. Perspectives on Teaching. 1-3 (Max. 6). For undergraduate students selected to collaborate with UW faculty or professional staff in the delivery and sometimes the design of a university course, this course augments in-class experiences with an examination of basic learning and teaching principles. Offered for S/U only. *Prerequisites:* 3.000 GPA; consent of instructor.

Department of Elementary and Early Childhood Education

313 McWhinnie Hall, (307) 766-6366
FAX: (307) 766-2018
Web site: www.uwyo.edu/elemed
Department Head: Scott Chamberlin

Professors:

STEVEN M. BIALOSTOK, B.A. University of the Pacific 1975; M.S.W. California State University - Sacramento 1986; Ph.D. University of Arizona 1999; Professor of Elementary and Early Childhood Education 2015, 2000.

CYNTHIA BROCK, B.S. Oregon State University 1981; MGd Washington State University 1985; Ph.D. Michigan State University 1997; Wyoming Excellence in Education Literacy Chair 2015.

MICHELLE BUCHANAN, B.A. University of Utah 1974; M.Ed. University of Illinois 1976; Ph.D. University of Washington 1995; Professor of Elementary and Early Childhood Education 2011, 1997.

SCOTT A. CHAMBERLIN, B.A. Purdue University 1989 and 1993; M.Ed. University of Utah 1998; Ph.D. Purdue University 2002; Professor of Elementary and Early Childhood Education 2015, 2003.

JACQUELINE LEONARD, B.A. Saint Louis University 1981; M.A.T. University of Texas, Dallas 1991; M.T.S. Southern Methodist University 1994; Ph.D. University of Maryland at College Park 1997. Professor of Elementary and Early Childhood Education 2012.

ALLEN TRENT, B.A. Eastern Kentucky University 1986; M.S. University of Dayton 1992; Ph.D. The Ohio State University 2000; Professor of Elementary and Early Childhood Education 2012.

Associate Professors:

ALAN R. BUSS, B.A. Brigham Young University 1989; M.A. 1993; Ph.D. University of Wyoming 1998; Associate Professor of Elementary and Early Childhood Education 2003, 1997.

JENNIFER FORRESTER, B.S. Western Carolina University 2002; M.A.T. University of North Carolina at Charlotte 2006; Ph.D. North Carolina State University, expected 2010; Associate Professor of Elementary and Early Childhood Education 2016, 2010.

TAO HAN, B.A. Sungshin Women's University, Korea 1984; M.A. University of Arizona 1993; M.A. University of Nevada-Reno 2002; Ph.D. 2006; Associate Professor of Elementary and Early Childhood Education 2016, 2010.

TRICIA JOHNSON, B.S. Lehigh University 1991; M.Ed. 1993; Ed.S. George Washington University 1997; Ed.D. Columbia University 2004; Associate Professor of Elementary and Early Childhood Education 2012.

STEVEN LOCKE, B.A. Indiana University 1985; M.S. Portland State University 1991; Ph.D. Indiana University 1997; Associate Professor of Elementary and Early Childhood Education 2005, 2001.

SAMARA MADRID, B.A. University of Hawaii at Hilo 1998; M.A. San Jose State University 2000; Ph.D. Ohio State University 2007; Associate Professor of Elementary and Early Childhood Education 2014, 2009.

PATRICK MANYAK, B.A. Pepperdine University 1988; M.S. 1990; Ph.D. University of Southern California-Los Angeles 2001; Associate Professor of Elementary and Early Childhood Education 2007, 2001.

PETER WILLIAM MORAN, B.A. University of Wyoming 1987; M.A. Kansas State University 1993; Ph.D. 2000; Associate Professor of Elementary and Early Childhood Education 2006, 2001.

LYDIAH NGANGA, B.S. University of Wyoming 1998; M.S. 2000; Ph.D. 2005; Associate Professor of Elementary and Early Childhood Education 2011, 2005.

AMY ROBERTS, B.S. Indiana University 1986; M.A. Portland State University 1991; Ph.D. Indiana University 1996; Associate Professor of Elementary and Early Childhood Education 2004, 1998.

KATHERINE MUIR WELSH, B.A. University of California—Berkeley 1986; Single Subject Teaching Credential (Life Sciences) University of California—Santa Barbara 1990; Ph.D. University of California—Los Angeles 2002; Associate Professor of Elementary and Early Childhood Education 2008, 2002.

Assistant Professors:

ANA HOUSEAL, B.A. University of Iowa 1985; M.A. University of Northern Iowa 1998; Ph.D. University of Illinois 2010; Assistant Professor of Elementary and Early Childhood Education 2011.

TAMMY MIELKE, B.S. Martin Luther College 1991; M.A. Eastern Michigan University 2002; Ph.D. Coventry University, UK 2007; Assistant Professor of Elementary and Early Childhood Education 2011.

DANA ROBERTSON, B.A. Berklee College of Music 1996; M.Ed. University of Massachusetts 2001; Ed.D. Boston University 2012; Assistant Professor of Elementary and Early Childhood Education 2012.

Associate Lecturers:

NIKKI BALDWIN, B.A. University of Wyoming 1994; M.A. 2005; Associate Lecturer of Elementary and Early Childhood Education 2015, 2009.

KIMBERLY MILLER, B.A. University of Wyoming 1998; M.A. 2003; Ed.D. 2010; Associate Lecturer of Elementary and Early Childhood Education 2013, 2007.

AMY SPIKER, B.A. University of Wyoming 1989; M.A. 2004; Associate Lecturer of Elementary and Early Childhood Education 2013, 2007.

DIANA L. WIIG, B.A. University of Northern Iowa 1975; M.A. University of Wyoming 1990; Ph.D. 2004; Associate Lecturer of Elementary and Early Childhood Education.

Assistant Lecturer:

JENNIFER GERINGER, B.A. University of Texas - San Antonio 1991; M.S. University of Wyoming 1997; Ph.D. 2001; Assistant Lecturer of Elementary and Early Childhood Education 2015.

Professors Emeritus:

Barbara A. Chatton, Margaret Cooney, Judith Z. Ellsworth, Patricia McClurg, R. Timothy Rush

Elementary Education

The Elementary Education program prepares students to teach grades K-6. Students majoring in elementary education take general university studies courses, content courses in math, science, literacy, music, art, American diversity, and communication, and education courses in special education, democracy in schools, assessment, and content pedagogy. Additionally, elementary majors choose an area of concentration in which they take 18 credit hours. The areas of concentration include Early Childhood Education B-8, Creative Arts, International Studies/American Cultural Diversity, and Environmental Studies.

Literacy Minor

The Elementary Literacy Education minor allows interested students to develop expertise in teaching literacy in the elementary school. Through the minor program students will acquire advanced knowledge and skills related to teaching reading and writing and thus will be well prepared to compete for and excel in teaching positions in elementary schools in Wyoming and elsewhere. The Elementary Literacy Education minor fulfills the Area of Concentration requirement in the Elementary Education major program.The minor consists of 18 credit hours.

Required courses (18 credits)

- EDEL 2140: Teaching Literacy in Elementary School (3 credits)
- EDEL 4390/5390: Literature and Reading/Writing Instruction (3 credits)
- EDEL 3720: Literacy Difficulties: Assessment and Instruction (3 credits)
- EDEL 3710: Integrated Reading and Writing in the Disciplines (3 credits)

Elective Courses (6 credits): EDCI 4140/51403; EDCI 4160/5160; EDEC/EDCI 4320; EDCI 4760/5760; EDEL 2275 or 2280; EDCI 4120; EDCI 4350.

Elementary Education (EDEL)

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

1000. Exploring Hot Topics in Education. 2. [I◀▶(none)] Academic, content-based course designed for first year students. Focuses on critical-thinking skills necessary to understand, analyze, and produce knowledge within the framework of educational inquiry.

1010 [EDCI 1010]. Field Experience for Prospective Elementary and Secondary Teachers. 1-4 (Max. 4). Introductory course in teacher education. Provides an overview of the theory and practice of what is required to become and be a teacher. An initial practicum is included. Cross listed with EDSE 1010. *Prerequisite:* sophomore standing. (Offered based on sufficient demand and resources)

1410. [EDCI 1410]. Elementary School Mathematics Seminar I. 1. Covers selection of basic mathematics concepts, materials and curricula appropriate for elementary schools. This course parallels the content of MATH 1100 and should be taken during the same semester. Experiences in assigned mentor teacher classrooms are required. *Prerequisite:* consent of instructor.

1430. [EDCI 1430]. Life Science in the Elementary School. 1. Covers selection of basic life science concepts, materials and curricula appropriate for elementary school. This course parallels the content of LIFE 1020 and concurrent enrollment in LIFE 1020 is expected.

1440. [EDCI 1440]. Physical Science in the Elementary School. 1. Covers selection of basic physical science concepts, materials and curricula appropriate for elementary school. This course parallels the content of PHYS 1090 and concurrent enrollment in PHYS 1090 is expected.

1450. [EDCI 1450]. Earth Science in the Elementary School. 1. Covers selection of basic earth science concepts, materials, and curricula appropriate for elementary school. This course parallels the content of ASTR/GEOL 1070 and concurrent enrollment in ASTR/GEOL 1070 is expected.

2140. Teaching Literacy in the Elementary School. 3. Provides an acquaintance with basic assumptions underlying curriculum and processes in literacy and to give opportunity for selecting and using instructional materials. *Prerequisites:* ENGL 1010, sophomore standing, admitted into Elementary Education program.

2000 [EDCI 2000]. Undergraduate Seminar in ____. 1-2 (Max. 8). Designed to discuss strategies and instructional activities used in content courses the students take and to be a linkage between what the prospective teachers study and what they will teach. It provides the opportunity to discuss appropriate activities, strategies and programs in a teaching area related to the content area being studied. Cross listed with EDSE 2000. *Prerequisite:* consent of instructor. (Offered based on sufficient demand and resources)

2275. Literature for Young Children. 3. [CH◀▶(none)] Introduce major genres and conventions. Will develop critical skills for reading and writing about children's literature and culture; interpretive skills to enrich the understanding of literature for readers 0-7 years of age; and develop an awareness of shifts in children's literature for early readers. *Prerequisite:* ENGL 1010 and sophomore standing.

2280 [LIBS 2280]. Literature for Children. 3. [CH◀▶H] A survey course, the purpose of which is to prepare prospective elementary teachers and library-media specialists to provide knowledgeable service in the use of print and non-print materials for children. Includes study of evaluative criteria, wide reading, viewing and listening as well as discussion of literature for children. *Prerequisite:* successful completion of ENGL 1010, sophomore standing, education major.

2410. [EDEL 1420, EDCI 1420]. Elementary School Mathematics Seminar II. 1. Covers selection of basic mathematics concepts, materials and curricula appropriate for elementary schools. Parallels the content of MATH 2120 and concurrent enrollment in MATH 2120 is expected. *Prerequisite:* consent of instructor.

3140 [EDCI 3140]. Teaching Reading in the Elementary School. 2-4 (Max. 4). Provides an acquaintance with basic assumptions underlying curriculum and processes in reading and to give opportunity for selecting and using instructional materials. *Prerequisites:*

junior standing, 2.500 minimum cumulative GPA, satisfactory completion of WA requirements, committee approval. (Offered based on sufficient demand and resources)

3170 [EDCI 3170]. Art in the Elementary School. 3. [CA◀▶(none)] Provides a foundation for understanding art in order to facilitate the teaching of art and the integration of art education into the elementary school curriculum. Involves both applied reading and studio production. Attention is given to development of artistic skills and meaningful art experiences based on DBAE principles. *Prerequisites:* junior classification, 2.500 minimum cumulative GPA.

3550 [EDCI 3550]. Methods of Teaching: _____. 2-5 (Max. 10). Develops an understanding of methods common to all disciplines. Through reflective inquiry and problem solving students will become involved in teaching practices and techniques. Cross listed with EDSE 3550. *Prerequisites:* EDST 3000, junior class standing, 2.500 minimum cumulative GPA, must maintain grade of C or better in major. (Offered based on sufficient demand and resources)

3710. Disciplinary/Genre-Based Literacy. 3. Introduction to instruction in genre-specific and disciplinary appropriate literacy practices, with a focus on characteristics of a variety of genres and disciplines and how those characteristics inform appropriate comprehension instruction. *Prerequisite:* EDEL 2140.

3720. Literacy Difficulties: Assessment and Instruction. 3. Focuses on the causes of student difficulties with reading and writing and assessment and instruction for students with such difficulties. *Prerequisite:* EDEL 2140.

4000 [EDUC 4000]. Becoming a Reflective Practitioner: Practicum. 2. Part of Phase IIIa of the teacher education program. Practicum experience is integral to EDUC 4250 and must be taken concurrently. Cross listed with EDSE 4000. *Prerequisites:* 2.500 cumulative GPA, successful completion of EDST 3000 (grade, interview and portfolio).

4109 [EDUC 4109]. Elementary Humanities Education. 5. Content and pedagogy to develop the reflective practitioner of teaching humanities in the elementary school. The following themes are addressed: curriculum; theory translated into instructional planning and practice; practices that promote effective learning; behavior and relationships; and teaching strategies. *Prerequisites:* 2.750 cumulative GPA; 2.500 content GPA; grade of C or better in EDST 3000; successful completion of specific content courses required in major; grade of C or better in EDST 3550; concurrent enrollment in EDEL 4309 and EDEL 4409.

4309 [EDUC 4309]. Elementary Literacy Education. 2-5 (Max. 6). Encompasses content and pedagogy to develop the reflective practitioner for teaching literacy in the elementary school. Addresses the following themes: curriculum; theory translated into instructional planning and practice; practices that promote effective learning; behavior and relationships; and teaching strategies. *Prerequisites:* 2.750 cumulative GPA; 2.500 content GPA; Grade C or better in EDST3000, successful completion of specific content courses required in major; grade C or better in EDST3550. Concurrent enrollment in EDEL 4109 and EDEL 4409.

4409 [EDUC 4409]. Elementary Math/Science Education. 5-6 (Max. 6). [WC◀▶(none)] Includes content and pedagogy in teaching math/science in the elementary school. Addresses the following themes: curriculum; theory translated into instructional planning and practice; practices that promote effective learning; behavior and relationships; and teaching strategies. *Prerequisites:* 2.750 cumulative GPA; 2.500 content GPA; grade of C or better in EDST 3000; successful completion of specific content courses required in major; grade of C or better in EDST 3550; concurrent enrollment in EDEL 4109 and EDEL 4309.

4500 [EDUC 4500]. Residency in Teaching. 1-16 (Max. 24). Comprises the final professional academic semester of the teacher education program. A full-time residency, including a period of being intensively mentored and coached, a period of independent teaching and a period of team teaching. Available for S/U only. Cross listed with EDSE 4500 and EDEX 4500. *Prerequisites:* 2.750 cumulative GPA, 2.500 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.

4740 [EDCI 4740]. Field Studies in _____. 1-12 (Max. 45). Offered only through extension services. Broad and flexible and can be utilized in numberous situations to meet local needs. Credit in this course is not applicable toward advanced degrees. Cross listed with EDEL 4740. Offered S/U only. *Prerequisite:* 6 hours of education. (Offered based on sufficient demand and resources)

4975. [EDCI 4975] Independent Study. 1-3 (Max. 6). Primarily for upper-division students who can benefit from independent study with minimal supervision. Given to allow interested students to pursue specific aspects of curriculum and instruction. Cross listed with EDSE 4975. *Prerequisites:* 12 hours of education courses and consent of instructor.

Early Childhood

The College of Education offers an early childhood minor and three early childhood endorsement programs.

Early Childhood Minor

The minor consists of 22 credit hours including 9 hours of upper division credit. It is recommended that students interested in obtaining the early childhood minor apply to the program by the freshman year or the beginning of the sophomore year by completing the Change of Major, Adviser, Minor, Option/Concentration, College, and/or Graduation Status form, which may be found at http://www.uwyo.edu/registrar/students/forms_and_petitions.html.

Required courses (22 credits):

- EDEC 1020: Introduction to Early Childhood Education (3 credits)
- FCSC 2121: Child Development (4 credits) or PSYC 2300 and FCSC 2122 (4 credits)
- EDEC 2000: Engaging Families in Early Childhood Settings (3 credits)
- EDEL 2275: Literature for Young Children (3 credits) or EDEL 2280: Literature for Children (3 credits)
- EDEC 3000: Observing Young Children (3 credits)
- EDEC 3220: School Programs for Young Children (3 credits)
- EDEC 4320: Oral and Written Language Acquisition (3 credits)

Early Childhood Endorsement Programs

There are three early childhood endorsement programs available for students:

- The B-8 endorsement program for elementary education majors;
- The B-5 endorsement program for Family and Consumer Sciences/Child Development option majors (or majors in other fields related to early childhood);
- The B-5 early childhood special education program for post-baccalaureate students with a degree in education or a field related to early childhood.

In addition, undergraduate education majors may choose early childhood education as an 18 credit hour area of concentration. Specific advising in each of the early childhood program options suport students in their program development.

Early Childhood (EDEC)

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

1020 [EDCI 1020]. Introduction to Early Childhood Education. 3. Introduces students to the field of early childhood education through lecture, discussion, observation and participation. The student will be exposed to different programs currently in operation in the community and region. Special emphasis will be placed on evaluating early childhood education as a career.

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

2000. Engaging Families in Early Childhood Settings. 3. Focus on the philosophical, psychological, and sociocultural aspects of working with families and children in early childhood educational, home, and community settings.

3000. Observing Young Children. 3. The general goal of the course is to introduce students to observation and recording techniques appropriate for assessing the growth and development of young children in the school setting. A secondary goal is to understand how observation and recording techniques can facilitate curriculum planning and parent-teacher conferences. *Prerequisites:* EDEC 1020 and FCSC 2121.

3210 [EDCI 3210]. Program and Curriculum Development for Young Children. 2-3 (Max. 3). Provides an overview of early childhood education curriculum and the development of early childhood programs. Emphasis is placed on the development of a balanced early childhood curriculum. *Prerequisites:* EDEC 1020, 3000 and FCSC 2121.

3220 [EDCI 3220]. School Program for Young Children. 3. Describes, identifies, and examines programs and best practices of teaching young children in school settings. Lecture and discussion are supported by a two hour practicum in an early childhood school setting. *Prerequisites:* EDEC 1020 and FCSC 2121.

4320 [EDCI 4320]. Oral and Written Language Acquisition. 3. Introduces the student to the nature of language development as it pertains to oral and written communication in education. Recent research in the areas of oral and written language acquisition is compared and contrasted. Implications for facilitating the development of all language modes in educational settings is emphasized. *Prerequisites:* EDST 2480 or equivalent, junior standing and declared Elementary Education or Family and Consumer Sciences major.

4350. Health Management Issues in Early Education. 3. Provides the student the opportunity to examine the implications of a child's health status on his/her personal, educational, social and cognitive development. Provides personnel working closely with the young child with disabilities and his/her family an understanding of the issues related to health concerns and a framework for intervention planning. Special emphasis is placed on concerns specific to the child in a day care, preschool or other school setting. Cross listed with FCSC 4350. *Prerequisites:* junior standing and consent of the instructor.

5115. Interdisciplinary Early Childhood. 3. Advanced professional course for students interested in current trends and issues in early childhood development. Interdisciplinary in nature, drawing from research in communication disorders, kinesiology and health, elementary and early childhood education and special education, child and family studies, nursing and psychology. Cross listed with PSYC, HLED, and SPPA 5115. *Prerequisite:* graduate standing.

5220. Children with Disabilities. 3. Purpose is to introduce students to the effects of a disability on the development of the young child. Recent research in the area of early childhood special education will be examined. Educational implications will be emphasized. *Prerequisite:* Bachelor's degree in education.

5230. Curriculum and Materials for Young Children with Disabilities. 3. Involves the study and development of curriculum strategies appropriate for the child with disabilities from birth through age five. *Prerequisite:* graduate standing.

5240. Evaluation of Young Children with Disabilities. 3. Prepares students to select, administer, and interpret evaluation tools appropriate for planning with young children with disability. *Prerequisite:* graduate standing.

5250. Legal Issues in Early Childhood Special Education. 2. Introduces students to the legal issues surrounding the education of young children with disabilities. The intent and implications of P.L. 99457 will be explored and examined to better assist the specialist in serving children with disabilities and their families. *Prerequisite:* EDEC 5220.

Department of Professional Studies

332 Education Building, (307) 766-2366
and
316 Education Building, (307) 766-5649
Web site: www.uwyo.edu/clad
Department Head: Mary Alice Bruce

The School of Graduate Studies in Education includes the following program areas: Counseling, Educational Leadership, Higher Education Administration, Learning, Design and Technology, Research, and Special Education.

Professors:

MARTIN AGRAN, B.A. City College of New York 1969; M.A. University of Rochester 1971; M.S. Oregon College of Education 1974; Ph.D. University of Illinois 1982; Professor of Special Education 2005.

MARY ALICE BRUCE, B.S. Purdue University 1971; M.S. Iowa State University 1989; Ph.D. 1991; Professor of Counselor Education 2007, 1991.

CLIFFORD P. HARBOUR, B.A. Rhode Island College 1978; J.D. Ohio Northern University 1981; M.A. Duke University 1987; Ed.D. North Caroina State University 2000; Professor of Adult Education 2015, 2008.

KAY PERSICHITTE, B.A. University of Northern Colorado 1975; M.Ed. Colorado State University 1985; Ph.D. University of Northern Colorado 1993; Professor of Educational Studies 2003.

SUZANNE YOUNG, B.S. Metropolitan State College 1978; M.S. University of Northern Colorado 1990; Ph.D. 1995; Professor of Educational Research 2007, 1996.

Associate Professors:

DORIS BOLLIGER, B.S. Park University 1991; M.A. Bowie State University 1995; Ed.D. University of West Florida 2002; Associate Professor of Instructional Technology 2012, 2006.

KARA L. CARNES-HOLT, B.A. East Texas Baptist University 2000; M.S. Ed. Baylor University 2003; Ph.D. University of North Texas 2010; Associate Professor of Counselor Education 2016, 2010.

MICHAEL M. MORGAN, B.S. Brigham Young University 1993; M.S. Auburn University 1995; Ph.D. Purdue University 2003; Associate Professor of Counselor Education 2011, 2003.

CRAIG SHEPHERD, B.S. Brigham Young University 2002; Ph.D. University of Georgia 2008; Associate Professor of Instructional Technology 2015, 2008.
DOROTHY JEAN YOCOM, B.A. Whitworth College 1978; M.S. University of Oregon 1980; Ph.D. Oregon State University 1991; Associate Professor of Special Education 1997, 1991.

Assistant Professors:
RICHARD CARTER, B.S. Western Carolina University 2010; M.S.E. 2012; Ph.D. University of Kansas 2016; Assistant Professor of Special Education 2017.
ERIC DAFOE, B.A. University of North Texas 2006; M.Ed. 2008; Instructor of Counselor Education 2016.
AMANDA DeDIEGO, B.S. University of North Georgia 2009; M.S. 2012; Ph.D. University of Tennessee 2016; Assistant Professor of Counselor Education 2016.
TONIA A. DOUSAY, B.S. Texas A&M University 1999; M.S. 2000; Ph.D. University of Georgia 2013. Assistant Professor of Instructional Technology 2013.
W. TOBIAS HOLMES, B.S. University of New Mexico 1987; M.S. 1988; Ed.D. University of Nevada-Las Vegas 2012; Assistant Professor of Educational Leadership 2016.
DAVID HVIDSTON, B.S.Ed. University of North Dakota 1979; M.A. University of Wyoming 1988; Ed.D. 2002; Assistant Professor of Educational Leadership 2011.
COURTNEY McKIM, B.S. Boise State University 2006; Ph.D. University of Nebraska 2011; Assistant Professor of Educational Research 2011.
LAY-NAH BLUE MORRIS-HOWE, B.S. University of Wyoming 2004; M.S. 2007; Ph.D. 2011; Assistant Professor of Counselor Education 2015.
ERIC D. TEMAN, B.S. University of Northern Colorado; M.S. 2006; Ph.D. 2012; J.D. University of Denver 2008; Assistant Professor of Educational Research 2014.

Assistant Professional Lecturer
TIFFANY DOBLER, B.S. University of Wyoming 2001; M.S. University of Northern Colorado 2006; Assistant Professional Lecturer of Special Education 2014.

Program Areas

Counseling

Counselor education curricula experiences concentrate on the integration of helping skills, theory and practice. The programs utilize a personalized, developmentally oriented focus and prepare professional counselors for entry into school and mental health settings.

The undergraduate counseling courses are designed to achieve the following objectives:

- enhance self-awareness
- facilitate effective relationship skills
- increase leadership knowledge and skills
- assist learners in maximizing their potential

Graduate Study

Counselor education offers a two-year (61-65 semester hours) master's degree program for practice in schools, colleges, universities, and community agencies, as well as private practice. The Council for Accreditation of Counseling and Related Educational Programs (CACREP), the national accrediting body recognized by the Council for Higher Education Accreditation, has conferred accreditation to the following M.S. specializations in counseling: school counseling and mental health counseling. The Ph.D. program in Counselor Education and Supervision is also CACREP accredited. Some courses are offered for undergraduates interested in school counseling, group work, leadership, and student affairs work. Undergraduates interested in preparing for entry into graduate work in counseling are invited to consult with program faculty prior to graduation. Program information is available on the Web site.

Degrees Offered

M.S. in Counseling, Option: Mental Health Counseling
M.S. in Counseling, Option: School Counseling
Ph.D. in Counselor Education and Supervision

Program Specific Admission Requirements

For master's applicants:
Summary of academic background
Professional resume
Self-statement
Three letters of recommendation

For doctoral applicants:
Professional resume
Self-statement
Program information form
Three letters of recommendation

Prior to full admission, all students are required to complete a background check.

Program Specific Graduate Assistantships

Assistantships are usually available for doctoral students. Master's students sometimes qualify for assistantships. Please contact the program at (307) 766-2366 for assistantship opportunities, and see department web site.

Program Specific Degree Requirements

Professional Master's Program
Minimum requirements: same for all options
61 hours of graduate credit to include 40 hours of core courses and 21 hours of graduate coursework specific to chosen option
Culminating internship activity guided by faculty advisor
Students complete the CAPP program in lieu of a program of study

Program Requirements

Core Courses

CNSL 5060 Counseling Ethics and Professional Issues	3
CNSL 5110 Group Procedures	3
CNSL 5140 Counseling and Addictions	3
CNSL 5170 Career Across the Lifespan	3
CNSL 5175 Human Growth and Development	3
CNSL 5180 Assessment in Counseling	3
CNSL 5200 Couples & Family Theory & Application	3
CNSL 5210 Group Experience	1
CNSL 5310 Pre-Practicum in Counseling	3
CNSL 5320 Practicum in Counseling	3
CNSL 5330 Counseling Children and Adolescents	3
CNSL 5340 Play Therapy	3
CNSL 5350 Multicultural Counseling	3
EDRE 5610 Advanced Practice in Group and Family Counseling	3
CNSL 5640 Diagnosis, Psychopathology, & Psychopharmacology	3
CNSL 5650 Counseling Theories	3
EDRE 5530 Introduction to Research	3
Core Subtotal	**49**

School Counseling

CNSL 5120 School Counseling Strategies and Techniques.....3
CNSL 5125 School Counseling II 3
CNSL 5580 Supervised Internship.....6
Subtotal 12

Mental Health Counseling

CNSL 5130 Mental Health Counseling.....3
CNSL 5150 Mental Health Counseling II.....3
CNSL 5580 Supervised Internship.....6
Subtotal 12

Minimum Total Credit Hours 61

Program Core Requirements:

Core Courses

Doctor of Philosophy in Counselor Education and Supervision

Doctoral students are required to have completed a minimum of a 48-hour Master's degree from a program of study equivalent to a CACREP accredited Masters program in Counselor Education. These requirements are based upon the 2015 CACREP Standards.

Learning Outcome Areas
Advanced Foundations

Ph.D. students with a 48-hour CACREP equivalent Master's degree are required to complete 12 semester hours of courses beyond their Master's preparation (in consultation with their adviser and committee). Ph.D. students with a 60-hour CACREP equivalent Master's program can petition up to 12 hours of their Master's coursework to fulfill this requirement.

Counseling and Supervision

CNSL 5340 Play Therapy.....3
CNSL 5860 Doctorate Practicum in Counseling 6
CNSL 5865 Supervision Theory.....3
CNSL 5875 Doctorate Practicum in Supervision 3

Teaching, Leadership and Advocacy

CNSL 5871 Doctoral Seminar I 3
CNSL 5872 Doctoral Seminar II.....3
CNSL 5873 Doctoral Seminar III.....3
CNSL 5874 Doctoral Seminar IV 3
PRST 5070 Intro to College Teaching.....3
CNSL 5990 Internship 6

Research and Scholarship

12 credits chosen from the following (or equivalent) in consultation with major adviser and graduate committee.

EDRE 5600 Descriptive Research.....3
EDRE 5610 Group Comp. Research.....3
EDRE 5620 Correlational Research.....3
EDRE 5630 Multivariate Research.....3
EDRE 5645 Phenom Case Study & Grounded Theory 3
EDRE 5655 Ethnography & Narrative.....3
EDRE 5650 Adv. Qual Research 3
EDRE 5670 Mixed Methods Research 3

Dissertation

PRST 5890 Dissertation Research 12
Total 72

Learner Outcomes

Master's Degree in Counseling

At the completion of the Master's degree in Counseling students will demonstrate the following learner outcomes:

1. Professional Competence & Academic Preparation for Licensed Professional Counselor (LPC): Students will demonstrate academic preparation by developing and completing an approved program of study that meets the standards set forth by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).
2. Democratic Perspectives: Students will demonstrate development as a culturally competent, creative, skilled & ethical counselor.
3. Professional Identity: Students will develop a professional identity as a professional counselor including the areas of advocacy, leadership, social justice, and promoting caring communities.
4. Academic & Professional Goals: Students will demonstrate a clear vision of their professional and academic goals.

Ph.D. in Counselor Education & Supervision

Doctoral students in Counselor Education & Supervision will demonstrate the following learner outcomes.

1. Academic & Professional Goals: Students will demonstrate a clear vision of their professional and academic goals and academic preparation by developing and completing an approved program of study that meets the standards set forth by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).
2. Professional Licensure: Students will obtain professional licensure as a Licensed Professional Counselor (LPC) in the state of Wyoming and/or develop a plan to obtain licensure for the state in which they intend to relocate upon graduation.
3. Democratic Perspectives: Students will demonstrate development as a culturally competent, creative, skilled & ethical counselor, supervisor and educator including the areas of advocacy, leadership, social justice, and promoting caring communities.
4. Research & Scholarship: Students will develop a professional identity as an academic researcher by demonstrating a clear and active research agenda that includes a plan of action for professional presentations and manuscripts.
5. Professional Development: Students will develop a clear and diligent plan to becoming a skilled, ethically competent counselor educator.

Counseling (CNSL)

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

1000. Relationship Skills: Counseling in Action. 3. [I,L◀▶(none)] Content-based course that focuses on the critical-thinking skills necessary to understand, analyze, and produce knowledge within the framework of educational inquiry; introducing students to the role of counseling in diverse settings. Themes discussed include classroom human relations skills, counseling in a diverse society, legal and ethical issues in human relations fields, and various specialties in the practice of counseling.

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

2200. Introduction to Student Leadership. 2. [CS,L◀▶(none)] Acquaints student leaders with skills and competencies necessary for successful service in the university community. (Normally offered each fall semester)

2300. Counseling Skills for the Helping Professions. 3. Presents instruction and practice in basic counseling and communication skills. Emphasizes listening, responding, encouraging and initiating change in interpersonal communication through mediation and conflict resolution. *Prerequisites:* sophomore standing; permission of Coordinator of Counselor Education program.

2800. Undergraduate Seminar in:__. 1-3 (Max. 9). Reserved for academic course work related to student interest in classes associated with examining the discipline of counseling from many varied perspectives. *Prerequisite:* Declared major in the social sciences, human services, or education.

3010. Student Leadership Strategies. 2. Develops skills and competencies requisite to effective leadership. Provides student leaders with skills they will profit from, both while

enrolled at the university and later in their chosen careers. (Normally offered each spring semester)

4040. Interpersonal Relationship Skills. 3. Designed to help students and administrators develop their human relation skills to improve interpersonal effectiveness and communication as related to generic life skills. Dual listed with CNSL 5040. *Prerequisites:* 12 hours in education/psychology.

4410. Elementary and Middle School Guidance. 2. Primarily for teachers, teachers-in-training, administrators, and other educators. Covers individual and group guidance and counseling strategies in the elementary and middle school. Emphasizes the role of teachers and other educators in providing guidance, counseling and experiences for children to promote their social, emotional and psychological growth. Dual listed with CNSL 5410. *Prerequisites:* junior standing; 6 hours of education and/or behavioral sciences and graduate standing to receive graduate credit.

4520. Fundamentals of Counseling (B) 3. Students learn some of the skills of counseling and develop an understanding of elementary principles of counseling theory, as well as a better understanding of themselves in relation to other people. Dual listed with CNSL 5520. *Prerequisites:* junior standing; 6 hours of education or psychology and graduate standing to receive graduate credit. (Offered on campus and online all semesters)

4620. Organization and Administration in Student Affairs. 3. An introduction to college student affairs practice, specifically exploring issues related to the organization and administration of student personnel services. Explores the history, the philosophy, and the skills utilized in student personnel services within the context of various higher education institutions and settings. Dual listed with CNSL 5620. *Prerequisite:* department consent.

5010. Introduction to Addictions. 2. Introduces students to the many faces of addictions by providing a general overview of the impact alcohol, drugs, and other addictions issues have on individuals seeking counseling. *Prerequisite:* graduate standing.

5020. Workshop. 1-4 (Max. 99). Usually offered only during summer sessions, this course provides an opportunity for special consideration on particular areas of counseling or pupil personnel services. *Prerequisite:* graduate standing, nine hours of education or behavioral science.

5030. Short Course. 1-2 (Max. 12). Provides opportunities for intensive study of some specific topic or set of topics in personnel work, to meet the special needs of a group of students with common interests. No more than six hours may be applied to any one degree program. *Prerequisite:* graduate standing and 6 hours in education and/or behavioral sciences.

5040. Relationship Skills. 3. Designed to help students and administrators develop their human relation skills to improve interpersonal effectiveness and communication as related to generic life skills. Dual listed with CNSL 4040. *Prerequisite:* 12 hours of education and/or psychology.

5060. Counseling Ethics and Professional Issues. 3. Designed to provide students with a philosophical base for making ethical decisions in the professional situations they encounter. In addition, it involves a chance to discuss many specific ethical and professional issues that are commonly encountered in the profession. *Prerequisite:* program admission or consent of instructor.

5100. Addictions and Diversity. 3. Focuses on increasing students' understanding of diversity issues in the prevention and treatment of alcohol, drug abuse, and other addictions. *Prerequisite:* six hours in administration of justice, psychology, sociology, or social work at the 4000 or 5000 level.

5110. Group Procedures. 3. Designed as an introduction to group work used in various organizational settings. Basic group techniques and procedures are covered using lecture/discussion methods, video, observation, and participation in practicing group leadership skills. Participation in a group experience during the course is required. *Prerequisites:* CNSL 4520/5520, six semester hours of education and/or psychology, consent of instructor, and graduate standing.

5120. School Counseling. 3. Provides specialized training for individuals preparing to be school counselors at levels K-12. *Prerequisite:* graduate standing.

5125. School Counseling II. 3. Explores the leadership role of the professional school counselor within the P-12 school setting and focuses on skills and experiences related to equity, advocacy, and social justice for systemic change, as well as program development, implementation and evaluation. *Prerequisites*: Graduate standing, program admission and CNSL 5120.

5130. Mental Health Counseling. 3. Encompasses specific counseling and professional development issues encountered by licensed counselors working in mental health agencies or private practice. Understanding the nature of the clientele and the issues, strategies for resolving client difficulties, collaborative practice, ethics, advocacy, knowledge and skills related to diversity and social justice are considered. *Prerequisites:* enrollment in Counselor Education program, successful completion or enrollment in CNSL 5060, 5650 and 5310.

5140. Counseling & Addictions. 3. Focuses on students acquiring specialized knowledge of assessment and multi-disciplinary treatment of chemical and other addictions. *Prerequisite:* six hours in administration of justice, psychology, sociology, or social work at the 4000 or 5000 level.

5145. Dual Diagnosis: Counseling Implications. 3. Designed to prepare counselors to assess, diagnose, and treat co-morbid substance abuse/dependence and other Axis 1 mental health problems for persons seeking counseling. Offered satisfactory/unsatisfactory only. *Prerequisite:* graduate standing or mental health practitioner.

5150. Mental Health Counseling II. 3. Explores the leadership role of the professional counselor within a variety of mental health settings. Areas of application include program development, best practices, management, evaluation, consultation, social justice and supporting client advocacy. *Prerequisites*: graduate standing, program admission and CNSL 5130.

5160. Etiology of Alcohol and Drug Dependency. 3. An introduction to issues pertaining to the etiology of alcohol and drug dependency. Emphasis is on genetic, psychological and sociocultural causes of chemical addiction. Cross listed with PSYC 5160. *Prerequisite:* PSYC 2210, CNSL 4520/5520 or equivalent.

5170. Counseling and Career Across the Lifespan. 3. Offers an overview of human lifespan functioning with a primary focus on psychosocial development and counseling and career development across the lifespan. Additionally, this course presents the opportunity to examine the role of career and its influences on personal development.

5175. Human Growth and Development. 3. Provides an understanding of the nature and needs of individuals at all developmental levels, across the entire lifespan, and in diverse multicultural contexts through addressing theories of individual and family development, transitions across the life span, theories of learning, personality development, and neurobiological behavior. *Prerequisites*: Instructor permission and bachelors degree.

5180. Assessment in CNSL. 3. Emphasis is on counselor development for facilitating client self-understanding through the application of various assessment procedures and knowledge about educational information systems and tools. *Prerequisite:* graduate standing, 15 hours in education and/or behavioral sciences.

5200. Couple and Family Theory. 3. Provides students with a foundation in conceptualizing and working with couple and family systems. Areas to be addressed include the history of couple and family counseling, ethical issues, professional orientation and an introduction to major systems theories. Participants are expected to explore their own family of origin. *Prerequisite:* admission to program.

5210. Group Experience. 1. Designed to provide a structured growth group experience through both in-class experience and reading. It is designed for students involved in human relationship fields. In-class groups are led by advanced group counseling students under the supervision of the faculty instructor. *Prerequisites:* graduate standing and consent of instructor.

5250. Theories of Student Development. 3. Philosophical views, theories and models for the design, structuring and development of comprehensive programs of college student personnel services are investigated. Roles, functions and contributions are studied as are institutions context and environment in which student personnel services function. *Prerequisite:* graduate standing or permission of instructor.

5300. Couple and Family Ethics. 1. Provides in-depth exploration of ethical issues in working with couples and family systems. Designed to complement 5060 which provides a foundation in ethics. *Prerequisite:* graduate standing.

5310. Pre-Practicum. 3. The first semester of a one-year sequence focused on learning, developing and practicing the fundamental process of counseling. Students do role-playing and have supervised experience with clients in a laboratory setting. Individual supervision is provided. Individual, live and observation of supervision is extensive. *Prerequisite:* graduate standing, program approval.

5320. Practicum. 3. Second course in a two semester sequence which includes class work, supervised counseling with clients in laboratory, extensive individual, group, live and observational supervision. *Prerequisites:* graduate standing, CNSL 5310, program approval.

5330. Counseling Children and Adolescents. 3. Students increase knowledge and skills in the processes of counseling children and adolescents. Prerequisite: six hours in education and/or behavioral sciences.

5340. Play Therapy. 3. Provides students with an overview of the field of play therapy. The historical roots of play therapy and the importance of play in child development will be explored. Various play therapy theories and techniques for assessment and intervention and professional issues will be surveyed. *Prerequisite:* graduate standing or consent of instructor.

5341. Play Therapy and Expressive Arts. 3. This course is designed to provide students with an introduction to child-centered play therapy and expressive arts. Students will leave with an understanding of child-centered play therapy and how to facilitate and process a variety of expressive arts activities with clients throughout the lifespan. *Prerequisite:* Acceptance to the Online Play Therapy Certificate Program or consent of the instructor.

5342. Theoretical Models of Play Therapy. 3. This course is designed to provide students with an overview of the field of play therapy theories and practices. Various play therapy theories and techniques for assessment and intervention will be surveyed with the intent of students developing a personal style for providing play therapy. *Prerequisite:* CNSL 5341 or consent of the instructor.

5343. Filial and Family Play Therapy. 3. Students will develop an understanding of the theoretical concepts of the filial play therapy. Students will gain the necessary skills to organize, implement, structure and facilitate filial therapy and family play therapy sessions. Conducting a filial group is essential to this course, current professional liability insurance is required. *Prerequisite:* CNSL 5341, CNSL 5342 or consent of the instructor.

5350. Multicultural Counseling. 3. Increases counselor competency and skills with diverse clients. *Prerequisite:* admission to the UW counseling program.

5400. Advanced Methods in Couple and Family Therapy. 3. Provides advanced training in couple and family counseling, with an emphasis on the linkage between prominent systemic and non-systemic theories/models and relevant, effective and innovative intervention techniques. Serves as a link between theory (CNSL 5200) and practice (CNSL 5600). *Prerequisites:* graduate standing and CNSL 5200.

5410. Elementary and Middle School Guidance. 2. An introduction primarily for teachers, teachers-in-training and counselors, covering individual and group guidance and counseling techniques in the elementary and middle school. Emphasis is placed on the role of teachers and counselors in providing guidance, counseling, and experiences for children to promote their social, emotional, and psychological growth. Dual listed with CNSL 4410. *Prerequisites:* 6 hours of education and/or behavioral sciences and graduate standing.

5490. Individual Problems. 1-6 (Max. 6). Provides flexible credit for students who wish to undertake intensive study of a special problem identified in a regular classroom or area of study not currently covered by a regular class. *Prerequisites:* consent of instructor and department, and graduate standing.

5500. Couples and Marriage Therapy. 3. Provides participants with knowledge and skills specific to working with couples and partners in the areas of relationship and marital therapy. A variety of methods are used to support participants in becoming more effective in working with both "traditional" and "non-traditional" relationships in addressing issues of intimacy. *Prerequisite:* CNSL 5200.

5510. Trends and Issues. 1-4 (Max. 4). This course is used from time to time as a systematic means for students to explore a developing trend or issue related to personnel services. Students make in-depth studies of one or more issues, trends, practices, and applications, under the supervision of one or more instructors. *Prerequisite:* graduate standing, and 15 hours in education and/or behavioral sciences.

5520. Fundamentals of Counseling. 3. Beginning course in the basis and process of counseling. Exposes students to some of the skills of counseling and enables them to develop an understanding of the elementary principles of counseling theory as well as a better understanding of themselves in relation to other people. Dual listed with CNSL 4520. *Prerequisite:* 6 hours of education or psychology and graduate standing.

5580. Supervised Internship. 1-6 (Max. 16). Provides a capstone clinical experience, preparing graduates to enter the practice of counseling PK-12 schools, mental health settings, and student affairs services in higher education. Students engage in professional counseling activities at approved placement sites. *Prerequisites:* graduate standing, CNSL 5310, 5320 and consent of the designated field setting authority.

5610. Advanced Practice in Group and Family Counseling. 3. Designed to provide a theoretical framework for understanding group dynamics and family systems, as well as offer intervention guidelines, best practices, and supervised experience in group leadership and family counseling. *Prerequisites:* program admission and consent of instructor.

5620. Organization and Administration in Student Affairs. 3. An introduction to college student affairs practice, specifically exploring issues related to the organization and administration of student personnel services. Explores the history, the philosophy, and the

skills utilized in student personnel services within the context of various higher education institutions and settings. Dual listed with CNSL 4620. *Prerequisite:* department consent.

5630. Advanced Issues in Counselor Preparation. 3. This course will serve as a capstone for all master's level counselor education students. Previous learning will be reviewed and synthesized with knowledge related to advanced professional issues and major trends in the field. Research-based best practices, counselor wellness, and an integrated counselor professional identity will be the focus. *Prerequisite:* graduate standing.

5640. Diagnosis, Psychopathology, and Psychopharmacology. 3. Introduction to the etiology, prevention, and treatment of mental and emotional disorders. Includes a focus on the skills of biopsychosocial case conceptualization and treatment planning, and multi-axial differential diagnosis using the current edition of the Diagnostic and Statistical Manual. Also addresses basic classifications, indications and contraindications of common pharmacological interventions. *Prerequisite:* department consent.

5650. Counseling Theories. 2-3 (Max. 3). Designed to increase understanding of major counseling theories, with an emphasis on the integration of theoretical and philosophical assumptions with personal viewpoints. *Prerequisites:* previous or concurrent enrollment in CNSL 4520/5520 or equivalent, admission to counseling program, consent of instructor.

5655. Advanced Counseling Theories. 2. Designed to stimulate in-depth examination and research into existing counseling theories essential to developing a personal theoretical orientation to counseling. *Prerequisite:* advanced graduate standing.

5740. Field Studies in Counselor Education. 1-12 (Max. 12). Offered only through college extension services. It is flexible and is utilized to meet local needs in the state. Credit in this course is not applicable toward advanced degrees in counseling. *Prerequisites:* graduate standing, permission of instructor and program director.

5860. Doctoral Practicum in Counselor Education. 1-8 (Max. 8). Enrollment is limited to five graduate students per instructor. In this practicum, advanced graduate students are given an intensive supervised experience in counseling students over an extended period of time. The actual counseling experience is supplemented by input and evaluation seminars for all enrollees and by supervisory conferences designed to improve sensitivity and skill in counseling. *Prerequisites:* admission to the doctorate program in counseling, mastery of basic interviewing and counseling skills, and consent of instructor.

5865. Supervision Theory. 3. Provides students with the theoretical, knowledge and research base of clinical supervision as it relates to the counseling profession. *Prerequisite:* CNSL 5860.

5870. Seminar. 1-6 (Max. 12). Advanced students work together intensively on current issues and problems and participate in systematic, critical interpersonal evaluation. Seminars are organized with various patterns of emphasis and provide for a variety of small group experiences related to curricular areas within the department. *Prerequisites:* consent of instructor and graduate standing.

5871. Doctoral Seminar I: Professional Identity and Ethics. 3. The doctoral seminar course sequence provides a structure for collegial discussion and collaboration among counselor education doctoral students and faculty. Doctoral Seminar I focuses on counselor education identity development and professional ethics for future counselor educators. *Prerequisite*: Admission as a Counselor Education & Supervision PhD Student.

5872. Doctoral Seminar II: Diversity and Social Change. 3. The doctoral seminar course sequence provides a structure for collegial discussion and collaboration among counselor education doctoral students and faculty. Doctoral Seminar II focuses on the role of diversity and social change in counselor education. *Prerequisite*: Admission as a Counselor Education & Supervision PhD Student.

5873. Doctoral Seminar III: Research, Assessment & Scholarship. 3. The doctoral seminar course sequence provides a structure for collegial discussion and collaboration among counselor education doctoral students and faculty. Doctoral Seminar III focuses on the role of research, assessment and scholarship in counselor education. *Prerequisite*: Admission as a Counselor Education & Supervision PhD student.

5874. Doctoral Seminar IV: Leadership, Consulatation and Advocacy. 3. The doctoral seminar course sequence provides a structure for collegial discussion and collaboration among counselor education doctoral students and faculty. Doctoral Seminar IV focuses on the role of leadership, consultation and advocay in counselor education. *Prerequisite*: Admission as a Counselor Education & Supervision PhD Student.

5875. Doctoral Practicum in Supervision. 1-6 (Max. 6). Designed to provide the prospective counseling educator or supervisor with an understanding of the learning process in counseling and the supervisory behaviors requisite for improving the competencies and professional growth of counselors. Specialized knowledge, skills, and attitudes related to the act of supervising are supplemented by various methods and techniques such as videotape, films, film-tape synchronization, simulation material, role-playing, group dynamics, communication games, interpersonal recall, interaction and content analysis, and micro-counseling. *Prerequisites:* CNSL 5860, graduate standing, and consent of instructor.

5880. Special Problems. 1-9 (Max. 9). Provides a broad perspective through selected reading material. Wherever possible the student collects and uses original information from a practical work situation. All work is done independently under the direction of a faculty member. A minimum of three conferences are held as necessary to assure successful completion of the project. *Prerequisites:* consent of instructor and department head, and graduate standing.

5890. Directed Professional Study. 1-9 (Max. 9). Similar to CNSL 5880. Provides additional opportunity for students to pursue advanced graduate work through independent research. Projects are done under the direction of a graduate faculty member. *Prerequisites:* consent of instructor and department head, and 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.

Higher Education Administration

The Program

The Higher Education Administration program serves the formal academic leadership development needs of persons aspiring to become managers and leaders in higher education institutions. These managers and leaders include coordinators, directors, deans and executive leaders at community colleges and universities.

This concentration offers the following graduate degrees in education: master of arts (M.A.), doctor of education (Ed.D.), and Philosophy of Education (Ph.D). The master's program requires 33 credit hours beyond the bachelor's degree and is available online. The Ed.D. is the terminal professional degree in education designed for students who desire

to improve their professional practice as educators. The Ed.D. requires a minimum of 77 semester hours beyond the bachelor's degree. A bachelor's and master's degree is required of all students to be admitted to an Ed.D. program. Candidates may, with the approval of the faculty, transfer up to 30 semester hours from previous course work.

Graduate study addresses the challenges faced by institutions and agencies in the design and delivery of post secondary education and the preparation of educators to meet these challenges.

Career Options

Graduates are employed specifically as faculty and administrators in community colleges and universities, adult learning consultants, and continuing professional educators.

Program Specific Degree Requirements Master's Program

Master of Arts in Education, Option: Higher Education Administration, Plan A (thesis)

Minimum of 33 hours of graduate credit
30 hours of program area core graduate hours
Approval of adviser
3 hours of EDRE 5530 Introduction to Educational Research
4 hours of thesis research

Plan B (non-thesis)

Minimum of 33 hours of graduate credit
30 hours of program area graduate hours
3 hours of EDRE 5530 Introduction to Educational Research

Program Specific Degree Requirements
Doctor of Education (Ed.D.) in Education, Option: Higher Education Administration

The Ed.D. is the terminal professional degree in education designed for students who desire to improve their professional practice as educators. The Ed.D. is delivered through distance delivery system and requires a minimum of 77 semester hours beyond the bachelor's degree, of which 41 hours must be taken in the student's chosen field, and 6 hours of dissertation. Candidates may, with the approval of the faculty, transfer up to 30 semester hours from previous graduate level coursework. A bachelor's degree and a master's degree are required of all students to be admitted to the Ed.D. program.

Program Specific Degree Requirements
Doctor of Philosopy (Ph.D.) in Education, Option: Higher Education Administration

The Ph.D. is a terminal professional degree in education designed for students who want to work as a faculty member in higher education. The Ph.D. requires 81 semester hours beyond the bachelor's degree, of which 39 hours must be taken in the student's chosen field including research courses, and 12 dissertation hours. Candidates may, with the approval of the faculty, transfer up to 30 semester hours from previous graduate level coursework. A bachelor's degree and a master's degree are required of all students to be admitted to the Ph.D. program.

Program Specific Admission Requirements

Application deadlines and materials can be found on the department web page (http://www.uwyo.edu/clad/).

Program Specific Graduate Assistantships

Applicants interested in a Graduate Assistantship must submit a graduate assistantship application to the Professional Studies department office no later than February 1 for fall term admission (see above).

Learner Outcomes

1. Academic Knowledge: Students will demonstrate a deep understanding of knowledge related to the nature, function and scope of adult and continuing education; historical, philosophical and sociological foundations; adult learning and development; program processes including planning, delivery, and assessment/evaluation.
2. Practical Competence: Students will demonstrate the ability to translate academic knowledge into expert practice related to their professional roles and specialized areas of interest.
3. Reflective Inquiry: Students will demonstrate a reflective stance toward their professional practice and competence with diverse, critical and global perspectives and key tools of inquiry related to this field of study.
4. Democratic Commitment: Students will demonstrate an understanding of the relationship between adult and continuing education and the complex process of democracy and a commitment to pursue this process with a focus on equal learning opportunities.
5. Professional Engagement: Students will demonstrate intellectual engagement with adult and continuing education practices through creative and scholarly pursuits, participation in professional associations, and related activities.

Adult Education (ADED)

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

1000. Adult Education Inquiry. 2. [I◀▶(none)] Basic underpinnings of the field of adult education. Themes discussed include learning theories, learning styles, multiple ways of knowing, and issues surrounding access, opportunity, diversity, and schooling. While serving as an introduction to careers and theory in adult education, also addresses some practical higher education survival skills.

1008. Eastern Thought Western Practice. 2. [I◀▶(none)] Major concepts of Eastern thought from Confucius and Osho are explored, examined, to understand eastern ways of perceiving reality, knowledge, and values. Hands-on activities are employed to experience and practice the applications of the concepts. Students are challenged to critically think, analyze, and compare with their own, increase their consciousness of diversity.

4750 [EDUC 4750]. Perspective on Teaching. 1-3 (Max. 6). For undergraduate students selected to collaborate with UW faculty or professional staff in the delivery and sometimes the design of a university course, this course augments in-class experiences with an examination of basic learning and teaching principles. *Prerequisite:* 3.000 GPA.

5050. Learning Theories for Education. 3. Learning and development theories are essential for educators who are designing and implementing educational applications and opportunities. Topics covered include orientations toward learning, motivation, life transitions, cognition, learning how to learn, self-directed learning, and strategies for improving learning in educational contexts. *Prerequisite:* graduate standing.

5450. Short Course In Adult Education. 1-2 (Max. 6). Used for special topics in adult education on the basis of need. *Prerequisite:* graduate standing.

5490. Directed Professional Study. 1-6 (Max. 6). It provides additional opportunity for a student to pursue advanced graduate work

through independent research. Projects are done under the direction of a graduate faculty member. *Prerequisite:* graduate standing.

5650. Law of Higher Education. 3. Examine specific legal issues encountered by instructional leaders in higher education settings. Critically examines the basic rights and duties of institutional employees and students. It also explains when and how instructional leaders should refer matters to legal counsel. *Prerequisite*: Admission to the program.

5880. Special Problems in Adult Education. 1-6 (Max. 9). Provides a broad perspective through selected reading material. Wherever possible, the student collects and uses original information from an adult education/instructional technology setting. All work is done independently under the direction of a faculty member. *Prerequisite:* graduate standing.

5890. Seminar in Adult Education. 1-6. (Max. 8). Advanced students in education work together intensively on current issues and problems relevant to adult education and participate in systematic, critical interpersonal evaluation. Eight hours are permitted on a doctoral program. *Prerequisite:* graduate standing.

5959. Enrichment Studies. 1-3. 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.

Higher Education (HIED)

5000. Community College Leadership. 3. This course will introduce students to the challenges associated with instructional leadership at the community college. The course will identify and distinguish the macro (organizational) level of change but also the micro (individual) level of change in community college settings. *Prerequisite:* Admission into MA program.

5020. Higher Education Systems. 3. The purpose of this course is to provide students with an overview of higher education as an industry, as a cultural institution, and social stability while also promoting social mobility. Special focus is given to the stratification and diversity of American higher education. *Prerequisite:* Admission into MA program.

5030. Noncredit Education Systems. 3. This course will introduce graduate students to the main issues, trends, and problems that have defined the field of noncredit education systems. The course will also provide students with the foundational knowledge and skills needed to administer continuing and professional systems. *Prerequisite:* Admission into MA program.

5040. Higher Education Staffing. 3. This course provides students with a theoretical and practical overview of the research and best practices associated with the development of instructional staff at higher education institutions. Special attention is given to the use of mentoring higher education instructional staff. *Prerequisite:* Admission into MA program.

5050. Workforce Training. 3. In this course, students study the process of preparing objectives, retaining instructional staff, defining content, selecting learning activities, and evaluating student learning in workforce education programs delivered by higher education institutions. *Prerequisite:* Admission into MA program.

5060. Program Budgets and Instructions. 3. The purpose of this course is to familiarize managers with the core tasks needed for effective financial planning. Students are also introduced to the budgeting process in various publich higher education institutions. *Prerequisite:* Admission into MA program.

5090. Masters Capstone. 3. Provides exposure to situations students will likely encounter professionally. It establishes a forum where students apply and refine theories, principles, and skills learned during their programs. Students examine and critique current scholarship and document general degree specific competencies. Cross listed with ITEC 5090. *Prerequisites:* Check with advisor and complete required sequence of courses for Educational Administration (Adult and Postsecondary Education) or Instructional Technology masters degree programs prior to enrollment.

5240. Teaching Adults. 3. Developed upon the premise that individuals teach as they would expect to be taught. Focuses on methods for teaching adults in formal as well as informal settings. The learning styles literature is reviewed and implications for instructional settings are analyzed. Participants also critique their teaching performance through videotaped sessions. *Prerequisite:* graduate standing.

5260. Educational Issues Race, Class, and Gender. 3. Designed to help participants examine the current issues and debates in the literature of race, class, and gender from theoretical and practical perspectives. Related areas of ethnicity, national origin, sexual orientation, language, physical appearance, body size, and other constructs of difference will also be addressed. *Prerequisite:* graduate standing.

5600. Higher Education Finance. 3. Provides an overview of the economics and finance of higher education in the United States with an emphasis on the analysis of financial policies and current issues at the institutional, state, and national levels. *Prerequisite*: Admission to the program.

5610. Planning and Evaluation of Instructional Systems. 3. Participants investigate the concepts, issues, methods, and attitudes involved in the planning and evaluation of instructional systems. Topics covered include planning processes, theory and technique, promotion, evaluation, setting objectives, and trend analysis. *Prerequisite:* graduate standing.

5630. Advanced Organizational Leadership. 3. Examines central issues in advanced organizational leadership to prepare practitioners for leadership roles in educational settings. Working individually and as a member of a group, students will conduct conceptual analyses and complete a literature review paper and an organizational case study. *Prerequisite*: Admission to the program.

5640. Leadership Development. 3. Examines central issues in the internal dimension of leadership to prepare leaders in postsecondary educational settings. Working individually and as a member of a group, students will conduct conceptual analyses and complete a literature review paper and a biographical case study of a postsecondary educational leader. *Prerequisite*: Admission to the program.

5660. Community College. 3. Concerns the philosophy, organization, program, and administration of the community college. *Prerequisite:* graduate standing and consent of instructor.

5670. Community College Issues and Leadership. 3. Examine, analyze, the primary responsibility of instructional leaders at the community college, management of the curriculum. In particular, focus on the remedial/developmental education programs, general education, the liberal arts transfer curriculum, technical education, and noncredit and contract training programs. *Prerequisite*: Admission to the program.

5680. Issues in Higher Education. 3. Through examination of historical foundations and current trends, ADED 5680 delves into pressing issues in the academy, including but not limited to topics of tenure, governance, professional colleges, access and equity, curriculum and international needs. *Prerequisite:* graduate standing.

Educational Leadership

The curriculum in educational leadership is designed to prepare superintendents, principals, supervisors for public schools and leaders for organizations to perform duties of a specialized nature and to function effectively in a leadership capacity. The program provides sufficient breadth to give candidates for advanced degrees ample opportunity to develop essential competencies.

Degrees and Certificates Offered

Students who major in education with an option in educational leadership may choose one of the following certificate or degree programs: Principal Certificate program for eligibility of a K-12 Principal Certificate endorsement, Master of Arts in Education, Doctor of Education and Doctor of Philosophy. Additional information may be found on the department webpage, (www.uwyo.edu/clad/).

Program Specific Admission Requirements

Candidates for a master's degree in education in the educational leadership track, in addition to the admission requirements of the university, must complete a selection process which may include assessment in the following areas: teaching experience, a writing sample, and faculty interview.

Candidates for the doctor of education and the doctor of philosophy degree, in addition to the admission requirements of the university, must complete a selection process which may include the following prerequisites and assessment in the following areas: hold a master's degree, writing sample, and faculty interview.

Candidates for the University Graduate Certificate in School Principalship must file a university application with the Admissions Office, if not concurrently enrolled in a graduate program at the University of Wyoming. In addition, candidates must complete a selection process which may include assessment in the following areas: master's degree in an education related area from an accredited institution, writing sample, and faculty interview.

Program Specific Degree Requirements

Principal Certificate program

The endorsement/certificate is 24 credits which includes the four core classes, 3 credits each: EDAD 5010, Leadership for Curriculum Development; EDAD 5020, Leadership for School Organization; EDAD 5030, Leadership for School and Community Relations; EDAD 5040, Leadership for Instruction; EDAD 5580, Supervised Internship, 6 credits; EDRE 5530 Intro to Research, 3 credits; and EDAD 5080, Intro to School Law, 3.

Program Specific Degree Requirements

Master's program

The master's is a 33 credit program which includes the four core classes, 3 credits each: EDAD 5010, Leadership for Curriculum Development; EDAD 5020, Leadership for School Organization; EDAD 5030, Leadership for School and Community Relations; EDAD 5040, Leadership for Instruction; EDAD 5580, Supervised Internship, 6 credits, EDEX 5720, Special Education Law, 3 credits, EDAD 5050, Leadership for Democratic Schools, 3 credits; EDAD 5150, Assessment, Accountability, and Student Learning, EDRE 5530 Intro to Research, 3 credits; and EDAD 5080 Introduction to School Law, 3 credits.

Program Specific Degree Requirements

Educational Leadership Doctoral Program (Ed.D.) (Including Superintendent Certificate)

Core Educational Leadership Courses

ADED 5630 Advanced Organizational Leadership 3
EDAD 5600 Educational Leader as Manager of Human Resources.....3
EDAD 5650 Educational Leader as Communicator 3
EDAD 5700 Educational Leader for Instruction 3
EDCI 5720 Educational Leader as Change Agent 3
EDAD 5750 Educational Leader for the Board and Community.....3
EDAD 5800 Educational Leader as Resource Manager.....3
EDAD 5815 Advanced School Law 3
EDAD 5850 Educational Leader as Direction Setter 3

Internship

EDAD 5580 Internship 2

Educational Research Courses (at least 1 quantitative and 1 qualitative)

EDRE 5600 Educational Research 1: Descriptive Research 3
EDRE 5610 Educational Research 2: Group Comparision 3
EDRE 5620 Educational Research 3: Correlation 3
EDRE 5640 Intro to Qual. Research.....3
EDRE 5650 Advanced Qual. Research 3
EDRE 5660 Dissertation/Thesis Prospectus Writing 3
EDAD 5980 Dissertation Research.....6

Program Specific Degree Requirements

Doctor of Philosophy (Ph.D.) program

Minimum of 79 total credits required in the following areas:

Core courses (minimum of 9 credits)

All PhD option areas require PRST 5610, Intro to Doctoral Studies. In addition, doctoral students, with direction from their committees, will choose a minimum of two additional courses from the remaining five core courses:

PRST 5900 (Practicum in College Teaching)
EDCI 5600 (Diversity)
EDCI 5810 (Writing for Publication)
EDCI 5730 (Learning and Cognition)
EDAD 5720 (Leader as Change Agent)
EDRE 5660 (Dissertation/ Thesis Prospectus Writing)

We also understand that students may meet the requirements for the core content in other ways, such as a master's degree in an area that emphasizes coursework in diversity or multi-cultural education. Committees may determine that the requirements for additional course(s) have been met. However, Introduction to Doctoral Studies may not be waived.

Cognate courses and advanced courses (minimum 18 credit hours)

EDAD 5650 Educational Leader as Communicator 3
EDAD 5720 Educational Leader as Change Agent 3
EDAD 5850 Educational Leader as Director Setter 3
ADED 5630 Advanced Organizational Leadership 3
ADED 5680 Issues in Higher Education 3
ADED 5600 Higher Education Finance 3

Advanced research courses (minimum 12 credit hours).

All students are required to take at least one quantitative and one qualitative course from the following list:

EDRE 5600 Educational Research 1: Descriptive Research 3
EDRE 5610 Educational Research 2: Group Comparison Research.....3
EDRE 5620 Educational Research 3: Correlational Research 3
EDRE 5630 Educational Research 4: Multivariate Research 3
EDRE 5640 Introduction to Qualitative Research 3
EDRE 5645 Phenomenology, Case Study, and Grounded Theory in Qualitative Research 3
EDRE 5655 Ethnography and Narrative Inquiry in Qualitative Research.....3

EDRE 5870 Qualitative Research III 3
EDRE 5670 Mixed Methods Research 3

Dissertation Hours

The required number of dissertation credits be a minimum of 12.

Preliminary exam (after coursework is completed): Guidelines determined by program, department, or committee

Program Outcomes: Written demonstration is required to show PhD outcomes are met (determined by program, department, or committee)

Dissertation (after preliminary exam): Guidelines determined by program, department, or committee

Notes:

These requirements for a PhD in Education are minimum requirements only. Students should check specific program options for additional requirements, including admissions criteria. Options approved prior to May 2013 may have different requirements.

Learner Outcomes
2011 ELCC District Level Standards

Standard 1.0: A district-level education leader applies knowledge that promotes the success of every student by facilitating the development, articulation, implementation, and stewardship of a shared district vision of learning through the collection and use of data to identify district goals, assess organizational effectiveness, and implement district plans to achieve district goals; promotion of continual and sustainable district improvement; and evaluation of district progress and revision of district plans supported by district stakeholders.

1.1 Candidates understand and can collaboratively develop, articulate, implement, and steward a shared district vision of learning for a school district.

1.2 Candidates understand and can collect and use data to identify district goals, assess organizational effectiveness, and implement district plans to achieve district goals.

1.3 Candidates understand and can promote continual and sustainable district improvement.

1.4 Candidates understand and can evaluate district progress and revise district plans supported by district stakeholders.

Standard 2.0: A district-level education leader applies knowledge that promotes the success of every student by sustaining a district culture conducive to collaboration, trust, and a personalized learning environment with high expectations for students; creating and evaluating a comprehensive, rigorous, and coherent curricular and instructional district program; developing and supervising the instructional and leadership capacity across the district; and promoting the most effective and appropriate technologies to support teaching and learning within the district.

2.1 Candidates understand and can advocate, nurture, and sustain a district culture and instructional program conducive to student learning through collaboration, trust, and a personalized learning environment with high expectations for students.

2.2 Candidates understand and can create and evaluate a comprehensive, rigorous, and coherent curricular and instructional district program.

2.3 Candidates understand and can develop and supervise the instructional and leadership capacity across the district.

2.4 Candidates understand and can promote the most effective and appropriate district technologies to support teaching and learning within the district.

Standard 3.0: A district-level education leader applies knowledge that promotes the success of every student by ensuring the management of the district's organization, operation, and resources through monitoring and evaluating district management and operational systems; efficiently using human, fiscal, and technological resources within the district; promoting district-level policies and procedures that protect the welfare and safety of students and staff across the district; developing district capacity for distributed leadership; and ensuring that district time focuses on high-quality instruction and student learning.

3.1 Candidates understand and can monitor and evaluate district management and operational systems.

3.2 Candidates understand and can efficiently use human, fiscal, and technological resources within the district.

3.3 Candidates understand and can promote district-level policies and procedures that protect the welfare and safety of students and staff across the district.

3.4 Candidates understand and can develop district capacity for distributed leadership.

3.5 Candidates understand and can ensure that district time focuses on supporting high-quality school instruction and student learning.

Standard 4.0: A district-level education leader applies knowledge that promotes the success of every student by collaborating with faculty and community members, responding to diverse community interests and needs, and mobilizing community resources for the district by collecting and analyzing information pertinent to improvement of the district's educational environment; promoting an understanding, appreciation, and use of the community's diverse cultural, social, and intellectual resources throughout the district; building and sustaining positive district relationships with families and caregivers; and cultivating productive district relationships with community partners.

4.1 Candidates understand and can collaborate with faculty and community members by collecting and analyzing information pertinent to the improvement of the district's educational environment.

4.2 Candidates understand and can mobilize community resources by promoting understanding, appreciation, and use of the community's diverse cultural, social, and intellectual resources throughout the district.

4.3 Candidates understand and can respond to community interests and needs by building and sustaining positive district relationships with families and caregivers.

4.4 Candidates understand and can respond to community interests and needs by building and sustaining productive district relationships with community partners.

Standard 5.0: A district-level education leader applies knowledge that promotes the success of every student by acting with integrity, fairness, and in an ethical manner to ensure a district system of accountability for every student's academic and social success by modeling district principles of self-awareness, reflective practice, transparency, and ethical behavior as related to their roles within the district; safeguarding the values of democracy, equity, and diversity within the district; evaluating the potential moral and legal consequences of decision making in the district; and promoting social justice within the district to ensure individual student needs inform all aspects of schooling.

5.1 Candidates understand and can act with integrity and fairness to ensure a district system of accountability for every student's academic and social success.

5.2 Candidates understand and can model principles of self-awareness, reflective practice, transparency, and ethical behavior as related to their roles within the district.

2011 ELCC Building Level Standards

Standard 1.0: A building-level education leader applies knowledge that promotes the success of every student by collaboratively facilitating the development, articulation, implementation, and stewardship of a shared school vision of learning through the collection and use of data to identify school goals, assess organizational effectiveness, and implement school plans to achieve school goals; promotion of continual and sustainable school improvement; and evaluation of school progress and revision of school plans supported by school-based stakeholders.

1.1 Candidates understand and can collaboratively develop, articulate, implement, and steward a shared vision of learning for a school.

1.2 Candidates understand and can collect and use data to identify school goals, assess organizational effectiveness, and implement plans to achieve school goals.

1.3 Candidates understand and can promote continual and sustainable school improvement.

1.4 Candidates understand and can evaluate school progress and revise school plans supported by school stakeholders.

Standard 2.0: A building-level education leader applies knowledge that promotes the success of every student by sustaining a school culture and instructional program conducive to student learning through collaboration, trust, and a personalized learning environment with high expectations for students; creating and evaluating a comprehensive, rigorous and coherent curricular and instructional school program; developing and supervising the instructional and leadership capacity of school staff; and promoting the most effective and appropriate technologies to support teaching and learning within a school environment.

2.1 Candidates understand and can sustain a school culture and instructional program conducive to student learning through collaboration, trust, and a personalized learning environment with high expectations for students.

2.2 Candidates understand and can create and evaluate a comprehensive, rigorous, and coherent curricular and instructional school program.

2.3 Candidates understand and can develop and supervise the instructional and leadership capacity of school staff.

2.4 Candidates understand and can promote the most effective and appropriate technologies to support teaching and learning in a school environment.

Standard 3.0: A building-level education leader applies knowledge that promotes the success of every student by ensuring the management of the school organization, operation, and resources through monitoring and evaluating the school management and operational systems; efficiently using human, fiscal, and technological resources in a school environment; promoting and protecting the welfare and safety of school students and staff; developing school capacity for distributed leadership; and ensuring that teacher and organizational time is focused to support high-quality instruction and student learning.

3.1 Candidates understand and can monitor and evaluate school management and operational systems.

3.2 Candidates understand and can efficiently use human, fiscal, and technological resources to manage school operations.

3.3 Candidates understand and can promote school-based policies and procedures that protect the welfare and safety of students and staff within the school.

3.4 Candidates understand and can develop school capacity for distributed leadership.

3.5 Candidates understand and can ensure teacher and organizational time focuses on supporting high-quality school instruction and student learning.

Standard 4.0: A building-level education leader applies knowledge that promotes the success of every student by collaborating with faculty and community members, responding to diverse community interests and needs, and mobilizing community resources on behalf of the school by collecting and analyzing information pertinent to improvement of the school's educational environment; promoting an understanding, appreciation, and use of the diverse cultural, social, and intellectual resources within the school community; building and sustaining positive school relationships with families and caregivers; and cultivating productive school relationships with community partners.

4.1 Candidates understand and can collaborate with faculty and community members by collecting and analyzing information pertinent to the improvement of the school's educational environment.

4.2 Candidates understand and can mobilize community resources by promoting an understanding, appreciation, and use of diverse cultural, social, and intellectual resources within the school community.

4.3 Candidates understand and can respond to community interests and needs by building and sustaining positive school relationships with families and caregivers.

4.4 Candidates understand and can respond to community interests and needs by building and sustaining productive school relationships with community partners.

Standard 5.0: A building-level education leader applies knowledge that promotes the success of every student by acting with integrity, fairness, and in an ethical manner to ensure a school system of accountability for every student's academic and social success by modeling school principles of self-awareness, reflective practice, transparency, and ethical behavior as related to their roles within the school; safeguarding the values of democracy, equity, and diversity within the school; evaluating the potential moral and legal consequences of decision making in the school; and promoting social justice within the school to ensure that individual student needs inform all aspects of schooling.

5.1 Candidates understand and can act with integrity and fairness to ensure a school system of accountability for every student's academic and social success.

5.2 Candidates understand and can model principles of self-awareness, reflective practice, transparency, and ethical behavior as related to their roles within the school.

5.3 Candidates understand and can safeguard the values of democracy, equity, and diversity within the school.

5.4 Candidates understand and can evaluate the potential moral and legal consequences of decision making in the school.

5.5 Candidates understand and can promote social justice within the school to ensure that individual student needs inform all aspects of schooling.

Standard 6.0: A building-level education leader applies knowledge that promotes the success of every student by understanding, responding to, and influencing the larger political, social, economic, legal, and cultural context through advocating for school students, families, and caregivers; acting to influence local, district, state, and national decisions affecting student learning in a school environment; and anticipating and assessing emerging trends and initiatives in order to adapt school-based leadership strategies.

6.1 Candidates understand and can advocate for school students, families, and caregivers.

6.2 Candidates understand and can act to influence local, district, state, and national decisions affecting student learning in a school environment.

6.3 Candidates understand and can anticipate and assess emerging trends and initiatives in order to adapt school-based leadership strategies.

Standard 7.0: A building-level education leader applies knowledge that promotes the success of every student through a substantial and sustained educational leadership internship experience that has school-based field experiences and clinical internship practice within a school setting and is monitored by a qualified, on-site mentor.

7.1 Substantial Field and Clinical Internship Experience: The program provides significant field experiences and clinical internship practice for candidates within a school environment to synthesize and apply the content knowledge and develop professional skills identified in the other Educational Leadership Building-Level Program Standards through authentic, school-based leadership experiences.

7.2 Sustained Internship Experience: Candidates are provided a six-month, concentrated (9–12 hours per week) internship that includes field experiences within a school-based environment.

7.3 Qualified On-Site Mentor: An on-site school mentor who has demonstrated experience as an educational leader within a school and is selected collaboratively by the intern and program faculty with training by the supervising institution.

Educational Leadership (EDAD)

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

1000. Schools and Democracy. 1. [I◀▶(none)] Content-based course focuses on critical-thinking skills necessary to understand, analyze, and produce knowledge within the framework of educational inquiry; introducing students to the themes of the agenda of the National Network for Educational Renewal which focuses on the purpose of schools in America.

5010. Leadership for Curriculum Development. 3. Focuses on leadership skills that support curriculum and curriculum development in student learning and achievement. Key topics include: K-12 curriculum alignment; incorporating standards and community values; curriculum development, implementation, and evaluation; equity and access for diverse learning needs; and effective communication about curriculum. *Prerequisite*: Admission to program or consent of instructor.

5020. Leadership for School Organization. 3. Focuses on organizational leadership. Topics include: history of organizational leadership, leadership styles, change process, strategic planning, federal, state, and local governance as well as politics, power and policy, and school operations, to include budget, facilities, scheduling, recruitment, selection and induction. *Prerequisite:* Admission to program or consent of instructor.

5030. Leadership for School and Community Relations. 3. Focuses on the leadership role of the principal in building relations with students, staff, family, and community. Topics include school culture and climate, community and family involvement, public relations and communications, student discipline, and crisis management. *Prerequisite:* admission to program or consent of instructor.

5040. Leadership for Instruction. 3. Focuses on the principal as instructional leader. Topics include: developing a school vision of learning; employing effective instructional strategies, supervision and evaluation of teacher performance; integration of supervision, evaluation, and student achievement with professional development and professional learning communities, and instructional trends and issues within diverse learning communities. *Prerequisite*: Admission to program or consent of instructor.

5050. Leadership for Democratic Schools. 3. Designed to increase awareness of future school leaders of the principles of equity and excellence in education focused on democratic practices. Topics include democratic educational practices, ethical leadership, renewal of public schools, and educational leadership in urban, suburban, and rural communities, and in ethnically and socio-economically diverse settings. *Prerequisite:* graduate standing.

5060. Capstone in Educational Leadership. 3. Designed to assist the student in the creation of their master's program final project, which will be used as the written demonstration of mastery of the course outcomes as well as meeting the educational leadership (ELCC) standards. *Prerequisite:* complete Core (EDAD) courses.

5070. Educational Trends. 1-6 (Max. 8). Provides reading, discussion, research, appraisal of new methods, materials, equipment procedures, and experimental programs concerned with the improvement of professional education as it pertains to educational administration. The maximum allowable credit applies to the total offerings under this number. *Prerequisites:* graduate standing, teaching experience, 12 semester hours in education.

5080. Introduction to School Law. 3. This course provides legal foundations of U.S. public schools and examines general principles of statutory and case law and applies judicial decisions to educational environments. Additionally, the course focuses on legal responsibilities, constraints, and opportunities for school leaders. *Prerequisite:* admission into UW Educational Administration, K-12.

5100. Human Relationships in Educational Leadership. 6. Designed to encourage students to gain a deeper understanding of their own beliefs and an understanding of leadership issues through concentrated study as members of a cohort group with a team of faculty. *Prerequisites:* admission to Principal Preparation Program and graduate study.

5150. Assessment, Accountability, and Student Learning. 3. Focuses on the knowledge and skills necessary to lead schools in the alignment of standards, assessment, and instruction. Topics include analysis and interpretation of assessment results and educational data, recent history and current context of educational accountability in Wyoming, role of assessment and accountability in improving student learning. *Prerequisite:* graduate standing.

5200. Educational Leadership and Organizational Management. 3. Designed to encourage students to gain a deeper understanding of the principal as an organizational manager. Topics include school law, budgeting, facilities planning, climate and policy development. *Prerequisites:* admission to Principal Preparation Program and graduate standing.

5300. Educational Leadership and Personnel Development. 3. Designed to encourage students to gain a deeper understanding of the principal as a personnel developer. Topics include empowerment, staff development, supervision of instruction, evaluation and team building skills. *Prerequisites:* admission to Principal Preparation Program and graduate standing.

5400. Instructional Leadership. 6. Designed to develop instructional leadership in aspiring principals. Topics include situational leadership, quality schools, outcome-based education, curriculum development, assessment of learning and instruction, technology, change and effective schools. *Prerequisites:* admission to the Principal Preparation Program and graduate standing.

5410. Short Course in Educational Administration. 1-6 (Max. 6). Used for special topics in educational administration on the basis of need. *Prerequisites:* six hours of education and/or consent of instructor.

5420. School Administration Workshop. 1-5 (Max. 5). Workshop designed mainly for the experienced school administrator who desires to acquire the latest information about developments in various areas of education. It is devoted to the intensive study of major problems and issues confronting school administrators. *Prerequisites:* 12 hours of educational administration and graduate standing and/or consent of instructor.

5490. Directed Professional Study. 1-6 (Max. 9). Similar to EDAD 5880 and provides additional opportunity for a student to pursue advanced graduate work through independent research. Projects are done under the direction of a graduate faculty member. *Prerequisite:* consent of instructor and department, and graduate standing.

5500. Communication in Educational Leadership. 3. Designed for students to attain the knowledge and skills and to develop the attitudes congruent with the principal as an effective communicator. Topics include inter- and intra-personal communication skills, school and community relations, analysis of school and community power bases and group process skills. *Prerequisites:* admission to Principal Preparation Program and graduate standing.

5580. Supervised Internship in Educational Administration. 1-8 (Max. 12). Expand student knowledge by providing an intensive clinical experience in educational administration along with other activities that involve practical experiences with peers and with practising K-12 administrators. *Prerequisite*: Admission into the UW Educational Leadership Principal Certificate, Master's or EdD Doctoral program.

5600. Educational Leader as Manager of Human Resources. 3. Focuses on linking theory related to organizations (including Bureaucracy Theory), decision-making and organizational effectiveness with effective practices in management of organizational personnel. *Prerequisite:* graduate standing.

5650. Educational Leader as Communicator. 3. Focuses on inter- and intra-personal communication skills; group facilitation; organization and community public relations; parent and community involvement; negotiation; and conflict management. *Prerequisite:* graduate standing.

5700. Educational Leader For Instruction. 3. Focuses on the study of curriculum development and implementation, instructional practice, assessment and staff development. *Prerequisite:* graduate standing.

5720. Educational Leader as Change Agent. 3. Focuses on the study of change theory, change processes, change dynamics, decision-making models, and implementation of change in the organization setting. *Prerequisite:* graduate standing.

5750. Educational Leader for the Board and Community. 3. Concentrates on the administrator as the leader of an organization's board and community. *Prerequisite:* graduate standing.

5800. Educational Leader as Resource Manager. 3. Focuses upon the successful management and operation of the organizations fiscal resources, facilities, and support services. Includes work in the areas of transportation, food service, funding and budget, compensation, facilities, legal issues, calendar, special education, and policy influence. *Prerequisite:* graduate standing.

5815. Advanced School Law. 3. Designed to provide advanced information concerning K-12 school law as it relates to public education. Students will acquire a deeper understanding of legal issues that routinely arise in the K-12 school setting. *Prerequisite*: Admission into the UW Educational Leadership EdD/PhD Doctoral Program.

5820. Educational Leader as Developer of Human Resources. 3. Focuses on linking the literature and theory of motivation, decision-making, team building, and organizational effectiveness to the implementation of effective practices in the areas of personnel empowerment. *Prerequisite:* graduate standing.

5850. Educational Leader as Direction Setter. 3. Investigates how the educational leader can effectively create a futuristic vision and mission for the organization after assessing the existing culture and climate, and organizational readiness for change. *Prerequisite:* graduate standing.

5870. Seminar in Legal Issues. 1-6 (Max. 8). Advanced students in education work together intensively on current issues and problems relevant to educational administration and participate in systematic, critical interpersonal evaluation. Eight hours are permitted on a doctoral program. *Prerequisite:* consent of instructor and graduate standing.

5880. Special Problems. 1-6 (Max. 9). Provides a broad perspective through selected reading material and wherever possible the student collects and uses original information from a practical school situation. All work is done independently under the direction of a faculty member. As many conferences are held as necessary to assure successful completion of the project. *Prerequisite:* consent of instructor and department, and 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. Prerequisite: advanced degree candidacy.

Educational Research

The educational research faculty offer ten courses on a regular basis in educational research. These courses are open to graduate students throughout the college and the university. In addition, we offer two minors in educational research, one is qualitative research methods and one in quantitative research methods. Students currently enrolled in any UW master's or doctoral program are eligible for these minors. Both minors require students to complete 16 credit hours, a trial research project, and a co-teaching experience in educational research.

Learner Outcomes

The goals of the educational research courses in the College of Education include developing the necessary skills, concepts, and understanding of research methodology to evaluate, use, and conduct research in a student's specific discipline. This goal requires the ability to do the following:

1. In a research study, critique the following the research problem and hypothesis; general design to insure that correct conclusions are possible from the statistical analysis; statistical analysis procedures to establish their valid use in the study; reliability and validity of instruments used to collect data; and conclusions and interpretations to insure appropriateness of each.
2. Develop a problem appropriate for research. Examine a cross section of the current literature on the topic, placing the research problem within the context of the field.
3. Demonstrate knowledge of the reference sources available in a research library; know how and when to use available resources.
4. Compare and contrast research designs and methods and be able to identify examples, advantages, and disadvantages of each.

5. Be able to use statistics to describe a sample and make inferences.
6. Understand, design, and analyze results of various types of quantitative, qualitative, and mixed method research studies.
7. Understand the principles of measurement as they apply to specific studies.

Educational Research (EDRE)

5000. Educational Research. 3.

5530. Introduction To Research. 3. Basic concepts of educational research design, statistics, and measurement. The focus of the course is on reading and critiquing research articles, both quantitative and qualitative, and includes an introduction to statistics. Students learn to conduct a review of the literature relevant to a specific research problem. *Prerequisite:* graduate standing.

5580. Supervised Internship. 1-8 (Max. 12).

5600. Educational Research I: Descriptive Research. 3. Basic concepts of educational survey research design, statistics, and measurement. The focus is on descriptive statistics (measures of central tendency, variability, percent and frequency distribution, bivariate correlation, graphical displays, testing hypotheses about proportions). Students develop questionnaires and plan, conduct, and report on a survey study. *Prerequisite:* EDRE 5530.

5610. Educational Research: Group Comparison Research. 3. Concepts of experimental and ex post facto research designs, statistics, and measurement. The focus is on inferential statistics. Students construct attitude scales and other instruments used in research and they plan, conduct, and report on a group comparison study. *Prerequisite:* EDRE 5600.

5620. Educational Research: Correlational Research. 3. Concepts of correlational research, statistics, and measurement. Focus is on the design and analysis of results from correlational studies. Statistical topics include MANOVA, multiple regression, factor analysis, and discriminant analysis. Includes measurement topics in classical measurement theory and additional topics in validity and reliability. Plan, conduct, and report on a correlational study. *Prerequisites:* EDRE 5530 and 5600.

5630. Educational Research IV: Multivariate Research. 3. An advanced educational research, statistics, and measurement course. Design and analysis of results from studies with several dependent and independent variables. Includes multivariate statistics such as MANOVA, discriminant analysis, canonical correlation, multidimensional scaling, structural equation modeling, logit regression. Measurement topics include generalizability theory, item response theory, equating, and standard setting. *Prerequisites:* EDRE 5530, 5600, 5610, and 5620.

5640. Introduction to Qualitative Research. 3. This course introduces qualitative research. Students will explore the foundations, social science theories, methods, and processes of qualitative research and will learn to critically evaluate published research. Emphases will include basic design principles, trustworthiness, and analysis. Students will engage in original data collection and will produce a mini report. *Prerequisite:* EDRE 5530.

5645. Phenomenology, Case Study, and Grounded Theory in Qualitative Research. 3. In-depth examination of phenomenology (with great emphases on its philosophical roots), qualitative case study, and grounded theory. Characteristics of each qualitative tradition will be explored by way of critiquing published peer reviewed journal articles. Students will conduct and report on a mini study. *Prerequisites:* EDRE 5530 and EDRE 5640.

5655. Ethnography and Narrative Inquiry in Qualitative Research. 3. In-depth exploration of narrative inquiry (including autoethnography) and educational ethnography. Issues of ethics, politics, diversity, and the researcher's role will be integral to the course. Students will conduct and report on a mini study. *Prerequisites:* EDRE 5530 and EDRE 5640.

5660. Dissertation/Thesis Prospectus Writing. 3. Prepare graduate students to plan, develop, and write research proposals suitable for a dissertation/thesis. In consultation with the committee chair, students will focus on their own problem for research, conduct a literature review, choose appropriate methods for investigating the problem, and write a research proposal. *Prerequisites:* at least two of the following: EDRE 5600, EDRE 5610, EDRE 5620, EDRE 5640, EDRE 5645, EDRE 5650 or EDRE 5655.

5670. Mixed Methods Research. 3. Provide an overview of mixed methods research to graduate students who are already familiar with quantitative and qualitative research. Specifically, they will learn the definition, history and foundations, and specific types of mixed methods designs. Also plan a mixed methods research study. *Prerequisites*: EDRE 5600 and EDRE 5640.

5870. Seminar. 1-8 (Max. 8).

5880. Special Problems. 1-6 (Max. 9).

5890. Directed Professional Study. 1-6 (Max. 9).

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.

Learning, Design, and Technology

The curriculum in learning, design, and technology is designed to assist professionals in effectively developing, implementing, and evaluating systems, tools, strategies, and environments that enhance learning. Graduates from the program secure employment in PK-12 classrooms; school media and technology centers, and school district administrative offices; public, corporate, and government centers and training agencies; college and university faculty and administrative positions; design and development labs; product support teams; and consulting firms.

Degrees and Certificates Offered

Students who major in education with an option in learning, design, and technology may choose one of the following certificate or degree programs: Master of Science in Education (M.S.), Doctor of Education (Ed.D.) or Doctor of Philosophy (Ph.D.), Online instruction Certificate program (does not lead to a master's degree). The program Web site (http://www.uwyo.edu/clad/) provides additional information.

Program Specific Admission Requirements

Candidates for graduate degrees in education with an option in instructional technology must complete university admission requirements and submit additional application materials listed on the program Web site. A bachelor's degree is required for admittance to the online instrutction certificate and M.S. programs. A master's degree is required for Ed.D. and Ph.D. programs. Candidates for Ed.D. and Ph.D. programs may also participate in an interview during the selection process.

Candidates for the University Graduate Certificate in Online Instruction must file a university application with the Admissions Office, if not concurrently enrolled in a graduate program at the University of Wyoming. In addition, candidates must submit official transcripts for proof of a bachelor's degree from an accredited institution.

Program Specific Degree Requirement
Online Instruction Certificate Program

The Online Instruction Certificate Program is a post-baccalaurete, credit bearing program that helps learners from all fields acquire necessary knowledge and skills to effectively develop and teach online courses in K-12, higher education, and business and industry settings. Courses familiarize learners with distance education and design theory to develop online materials that facilitate student access, engagement, communication, and information exchange. Emphasis is placed on tool use and the application of skills towards instructional development and implementation. The certificate program consists of 12 hours of coursework in four online courses: ITEC 5020 Technology and Distance Education; ITEC 5030 Introduction to Online Teaching; ITEC 5160 Introduction to Instructional Design (with an emphasis on online learning environments); ITEC 5510 Communication in Distance Education. Students who have been formally admitted to the Master of Science in Education with an emphasis in Instructional Technology may use certification courses to fulfill graduate degree requirements.

Program Specific Degree Requirement
Master of Science (M.S.) Program

The M.S. program gives students the foundations to design, develop, implement, and evaluate instructional resources and systems in professional learning environments. Students examine the history of technology-based training, instructional design, and distance education to understand current trends and procedures in the field. They apply this knowledge through the design and development of novel training solutions targeted to diverse professional settings (e.g., K-12 education, corporate and government centers, design and development labs, higher education).

Through these experiences, students learn how to identify gaps in desired and current practice, design training solutions to eliminate or bridge those gaps, develop tools and methods to implement solutions, and evaluate and revise methods for continued success. Emphasis is placed on instructional systems that use both face-to-face and distance delivery methods. Students can complete all of their coursework online with the exception of a campus visit for their final defense in the Capstone course.

The M.S. is a 33 credit hour program and includes the following requirements:

Required

EDRE 5530, Introduction to Research (3 credits)
ITEC 5870, Seminar in Instructional Technology (3 credits)
ITEC 5010, Instructional Technology (3 credits)
ITEC 5160, Introduction to Instructional Design (3 credits)
ITEC 5350, Multimedia Development (3 credits)
ITEC 5320, Message Design (3 credits)
ITEC 5550, Theory of Change (3 credits)
ITEC 5560, Design/Development of Instructional Systems (3 credits)
ITEC 5090, Masters Capstone course (3 credits)

Electives

Complete 6 credits of ITEC elective courses

Program Specific Degree Requirement
Doctor of Education (Ed.D.) Program

Residency requirement: Two spring residencies that last between 1-3 days on campus

The Ed.D. is the terminal professional degree in education designed for students who desire to improve their professional practice as educators. The program moves beyond the foundations of distance education, instructional design, and technology integration to focus on advanced application and research. Students apply design, development, and evaluation principles to explore authentic challenges and develop real solutions in diverse settings (e.g., K-12 education, corporate and government centers, and higher education institutions). Through these experiences, students learn how to use advanced research methods to explore workplace problems, design and deliver solutions, and implement and evaluate change. Emphasis is placed on in-depth mentoring and collaboration, advanced research, development of real-world applications, and training solutions offered through distance delivery platforms.

The Ed.D. program requires a minimum of 81 credit hours beyond the bachelor's degree. Candidates may, with the approval of the committee, transfer up to 30 credit hours from previous graduate-level coursework in a closely related field. The program is delivered online with the exception of some the spring residencies.

Program knowledge base: 48 credits
Research: 9 credits
Professional Writing: 6 credits
Electives: 12 credits
Dissertation: 6 credits

Program Specific Degree Requirement
Doctor of Philosophy (Ph.D.) Program

Residency requirement: Four consecutive full-time semesters on campus

The Ph.D. program prepares students for careers in academia. The program consists of: (1) systematic inquiry and research; (2) focused courses and professional experiences in education and related fields; and (3) teaching and other related activities tailored to individual career goals. Students work closely with an advisor and faculty committee to select courses, conduct research, and develop professional experiences.

Effective preparation for the Ph.D. stems from collaborative research and inquiry into topics of mutual interest by students and faculty. The program is structured around a cognitive apprenticeship model. Students spend a major portion of their program working with faculty members on shared research and scholarship.

The Ph.D. program requires a minimum of 81 credit hours beyond the bachelor's degree and includes the following requirements:

Professional courses: 15 credits
Program knowledge base: 30 credits
Research: 15 credits
Electives: 9 credits
Dissertation: 12 credits

Candidates may, with the approval of the committee, transfer up to 30 credit hours from previous graduate-level coursework in a closely related field.

For additional information about specific required courses for graduate degrees in education with an option in instructional technology, please visit the program Web site.

Learner Outcomes

1. Academic Knowledge: Students will demonstrate a deep understanding of knowledge related to the nature, function and scope of instructional technology; historical, philosophical and sociological foundations; research; and program processes including planning, development, delivery, and assessment/evaluation.
2. Design: Students will demonstrate how to determine organization and learner needs, specify conditions for learning,

and conduct task analyses, instructional sequencing, delivery, and project and resource management. Students will also demonstrate how visual elements, information literacy, and delivery media affect message design in traditional and online environments.

3. Development: Students will demonstrate how to convert design plans into physical and computer-based resources aligned to professional learning goals, standards, and objectives. They will also demonstrate how to deliver these resources via physical and electronic media.
4. Evaluation: Students will demonstrate skills required to conduct both formative and summative assessments of instructional episodes and resources. These include problem analysis, expert review, usability testing, and instrument development and validation.
5. Practical Competence: Students will demonstrate the ability to translate academic knowledge into expert practice related to their professional roles and specialized areas of interest.
6. Professional Engagement: Students will demonstrate intellectual engagement and a reflective stance with instructional technology practices through creative and scholarly pursuits, advisor research, participation and presentations in professional associations, and related activities.

Learning, Design, and Technology (formerly Instructional Technology) (ITEC)

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

1000. Visual Literacy for Life and Learning. 4. [I,L◀▶(none)] Engages students in the discussion and practice of communicating with visual resources. Students do not need to be artistic to succeed. Emphasis is placed on 1) using visuals for communication in formal and informal educational environments, and 2) the responsible use of visuals as discerning global citizens.

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

2360. Teaching with Technology. 1-3 (Max. 3). [L◀▶(none)] Introduction to effective utilization of computers and other instructional technologies for instruction; software/hardware selection; integrated, professional and instructional applications as applied to all areas and levels of P-12 education. Prerequisites: minimum 2.500 cumulative UW GPA.

4010 [4120]. Instructional Technology. 3. An introductory survey course in instructional technology. Covers psychological principles in communication theory, message design and instructional theory with emphasis on the application of technology toward achieving communications objectives. Includes hands-on experience with current presentation tools and techniques for a variety of instructional deliveries. Dual listed with ITEC 5010. *Prerequisite:* junior standing.

4030. Introduction to Online Teaching. 3. Includes basic theory, techniques, strategies of teaching and managing the online environment. Covers foundations and domains of online teaching. Emphasizes online learning issues, topics, and practices. Builds a knowledge base in topics such as the selection and integration of distance learning technologies in teaching and providing learner support. Dual listed with ITEC 5030. *Prerequisite:* senior standing or 12 hours of education.

4220. Materials Production I. 2. The first in a series of laboratory experiences aimed at providing teachers, administrators and production specialists with skills in the design and production of instructional materials. Focuses on the basic processes (i.e. mounting, lettering, coloring, illustration, converting and duplicating). A materials fee will be assessed. May be used toward the practical and applied arts requirement. *Prerequisite:* ITEC 4120. (Offered based on sufficient demand and resources)

4340 [4400]. Technology Integration in Teaching. 3. This course is an intermediate practice in theory and application of itegrating instructional technology into all types of classroom settings. Issues and topics include teaching and learning with technology, designing materials and activities for use with various technologies, and the role that technology plays in the delivery of instruction. *Prerequisite:* ITEC 2360 or equivalent.

4360. Advanced Instructional Computing. 3. For graduate students and teachers interested in learning how to appropriately use microcomputers (CBE, CAI, CBI and CMI) in the classroom and as a tool in their disciplines. Methods of using microcomputers to improve learning, retention, motivation and higher order thinking skills are examined. Systems for classroom management and criteria for selection of hardware and software are covered. A variety of software will be evaluated and used in content specific areas. *Prerequisite:* graduate standing.

4740. Field Studies In _____. 1-5 (Max. 12). This course is offered only through extension services. It is broad and flexible and can be utilized in numerous situations to meet local needs. Credit in this course is not applicable toward advanced degrees. *Prerequisite:* junior standing. (Please note that any course offered by the College of Education with the number 4740 is not applicable toward advanced degrees)

4880. Individual Problems. 1-3 (Max. 9). A course providing flexible credit for seniors who are interested in investigating problems in instructional technology. *Prerequisites:* 12 hours of education and consent of instructor.

5000. Intro to the Field of Instructional Technology. 3. This course details faculty expectations and students' responsibilities in instructional technology graduate degree programs. It builds a knowledge base about program milestones, library research, APA writing guidelines, academic journals, and professional opportunities. ePortfolios are introduced and initiated to assess student progress over time. *Prerequisite:* graduate standing in Intructional Technology.

5010. Instructional Technology. 3. An introductory survey course in instructional technology. Covers psychological principles in communication theory, message design and instructional theory with emphasis on the application of technology toward achieving communications objectives. Includes hands-on experience with current presentation tools and techniques for a variety of instructional deliveries. Dual listed with ITEC 4010. *Prerequisite:* junior standing.

5020. Technology and Distance Education. 3. A survey of the uses of telecommunication systems and other technologies in distance education. Covers instructional strategies, management concerns, and special issues associated with distance learning programs. *Prerequisite:* graduate standing and consent of instructor.

5030. Introduction to Online Teaching. 3. Includes basic theory, techniques, strategies of teaching and managing the online environment. Covers foundations and domains of online teaching. Emphasizes online learning issues, topics, and practices. Builds a knowledge base in topics such as the selection and integration of distance learning technologies in teaching and providing learner support. Dual listed with ITEC 4030. *Prerequisite:* senior standing or 12 hours of education.

5070. Trends In Instructional Technology. 1-3 (Max. 6). Provides reading, discussion, research and the opportunity to critically appraise potential methods, software, and hard-

ware in the field of educational communications and technology. *Prerequisite:* 12 hours of education, graduate standing, and consent of instructor.

5090. Masters Capstone. 3. Provides exposure to situations students will likely encounter professionally. It establishes a forum where students apply and refine theories, principles, and skills learned during their programs. Students examine and critique current scholarship and document general degree specific competencies. Cross listed with ADED 5090. *Prerequisites:* Check with advisor and complete required sequence of courses for Educational Administration (Adult and Postsecondary Education) or Instructional Technology masters degree programs prior to enrollment.

5120. Media Workshop. 1-6 (Max. 6). Specialized experience in selected areas such as computer technology, multi-image, slide/tape, audio and instructional design. Emphasizes experimental use of materials and development of learning software. The workshop is provided on demand and is flexibly organized and scheduled to meet prevailing needs. *Prerequisite:* ITEC 4220.

5160. Introduction to Instructional Design. 3. An introduction to theory and practice of instructional design. Intensive study of the instructional design process and application of the process to solve an instructional problem. *Prerequisite:* graduate standing.

5320. Message Design. 3. Introduces theoretical framework and skills necessary to evaluate and create visual representations of information. Topics of application include visual literacy, learning theories, instructional design, instructional technology, and information presentation. *Prerequisite:* graduate standing.

5350. Multimedia Development. 3. An introduction to techniques, software, and applications used in the design, manipulation, and development of multimedia artifacts for instructional purposes. This course includes accelerated, hands-on activities to practice and apply message design principles in multimedia settings. *Prerequisite:* graduate standing.

5470. Instructional Video. 3. An introductory course for teachers, media specialists, administrators, and others interested in planning, producing, and using instructional video. *Prerequisites:* graduate standing and consent of instructor.

5480. Short Course. 3. Used to provide offerings in special topics in instructional technology on the basis of need. *Prerequisites:* graduate standing and consent of instructor.

5510. Communication in Distance Education. 3. An introduction to the theory and practice of using communication tools for distance education purposes. Instructional issues related to the design, development, use, and evaluation of communication tools in public school, business, and other distance delivery settings are emphasized. *Prerequisite:* graduate standing.

5550. Theory of Change. 3. Explores the literature and research base within the theories, models, and processes of change, the diffusion of innovations, and the human side of educational reform. Learners explore practical applications of theoretical and research findings to behavioral change, diffusion of innovations, and principles and practices of planned change. *Prerequisite:* graduate standing.

5560. Design and Development of Instructional Systems. 3. Advanced study in instructional systems theory and design. Study and application of instructional design models used in education and training. *Prerequisite:* ITEC 5160, graduate standing, and consent of instructor. Previous course work in educational psychology/learning theory is desirable.

5580. Supervised Internship. 1-8 (Max. 12). An internship experience may be required as part of the planned program in instructional technology. A maximum of eight hours may be counted in meeting the minimum requirements of a graduate degree, but additional credit may be taken beyond this limit for the recording of appropriate supervised experience. This course may not be substituted for practice public school teaching or vice versa. *Prerequisites:* 12 hours of ITEC, consent of instructor and graduate standing.

5660. Interactive Learning Systems. 1-3 (Max. 6). Covers all of the necessary elements to design and evaluate effective and efficient interactive learning systems. *Prerequisites:* ITEC 5160 or equivalent, graduate standing, and consent of instructor. Previous course work in educational psychology/learning theory is desirable.

5760. Instructional Design Applications. 3. Students engage in the application of principles of instructional design in a real-world setting. Students will be involved in classroom and field experience. *Prerequisite:* ITEC 5160 or 5560.

5850. Issues, Practices, and Research in Instructional Technology. 3. A survey course covering issues, practices, and associated research in instructional technology. *Prerequisite:* graduate standing.

5870. Seminar. 1-3 (Max. 6). Advanced students in education work together, intensively, on current issues and problems relevant to instructional technology, and participate in systematic, critical interpersonal evaluations. *Prerequisites:* graduate standing and consent of instructor.

5880. Special Problems. 1-6 (Max. 9). Provides a broad perspective through selected reading material and, wherever possible, the student collects and uses original information from a practical school situation. All work is done independently under the direction of a faculty member. As many conferences are held as necessary to assure successful completion of the project. *Prerequisites:* graduate standing and consent of instructor and consent of department.

5890. Directed Professional Study. 1-6 (Max. 9). Similar to ITEC 5880 and provides additional opportunity for students to pursue advanced degree work through independent research. Projects are done under the direction of a graduate faculty member. *Prerequisites:* graduate standing and consent of instructor and consent of 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. *Prerequisites:* 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 student whose coursework is complete and are writing their dissertation. *Prerequisite:* enrollment in a graduate degree program.

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

Library Science (LIBS)

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

2000. Libraries and Librarianship. 2. A study of the historical development of the library and its role as a social institution. Types of libraries and services, standards, current trends, professional training, and status and responsibility of the librarian are covered. It is beneficial to all who plan to do library work or who are working toward certification in library-media. (Offered based on sufficient demand and resources)

3010. Research from a Distance. 1. [L◀▶(none)] Students locate, evaluate, and synthesize free and fee-based information resources used in academic and work environments, with a special focus on assessing information remotely. Course assignments are customized to student's academic major and career goals. Students discuss ethical and legal issues surrounding information use. *Prerequisites:* ENGL 1010 or equivalent; junior standing.

4320. Selection of Instructional Materials. 3. A study of basic principles and practices in the selection of print and non-print materials for utilization in school and public libraries. Emphasis is given to the evaluation of materials in light of community needs and principles of intellectual freedom. Dual listed with LIBS 5320. *Prerequisite:* 20 hours of general education (liberal arts). (Offered based on sufficient demand and resources)

4340. Administration of the School Library-Media Center. 3. Deals with finance, housing, personnel, the collection, records and services of the school library media center. Instruction in the use of the library and publicity or educational interpretation concerning the library are also discussed. Dual listed with LIBS 5340. *Prerequisites:* LIBS 4320, 4380, major in educational administration. (Offered based on sufficient demand and resources)

4360. Reference and Bibliography. 3. An introduction to the basic materials used in reference and information services. The philosophy of reference services is presented with particular attention to the needs of schools, community colleges and public libraries. Dual listed with LIBS 5360. *Prerequisite:* 20 hours of general education (liberal arts). (Offered based on sufficient demand and resources)

4380. Cataloging and Classification. 3. Introduction to the theories and practices of cataloging and classification. Emphasis is on the Dewey Decimal system; subject cataloging from the Sears headings; descriptive cataloging of monographs, serials, and non-print materials; filing rules. Practice in cataloging and classification of materials. Dual listed with LIBS 5380. *Prerequisite:* 20 hours of general education (liberal arts). (Offered based on sufficient demand and resources)

4520. Library Practice. 2-8 (Max. 8). Provides an overview of library organization, administration and service by capitalizing upon the utilization of practical experiences in dealing with everyday problems of the library. Application of principles learned in the various library courses will be stressed. Students must contact department the semester prior to enrollment for authorization to enroll in the course. This course serves as student teaching experience for students wishing to be endorsed in library science. *Prerequisite:* LIBS 4340.

5320. Selection of Instructional Materials. 3. A study of basic principles and practices in the selection of print and non-print materials for utilization in school and public libraries. Emphasis is given to the evaluation of materials in light of community needs and principles of intellectual freedom. Dual listed with LIBS 4320. P*rerequisite:* 20 hours of general education (liberal arts).

5340. Administration of the School Library/Media Center. 3. Deals with finance, housing, personnel, the collection, records, and services of the school library/media center. Instruction in the use of the library and publicity or educational interpretation concerning the library are also discussed. Dual listed with LIBS 4340. *Prerequisite:* LIBS 4320/5320, 4380/5380, or major in educational administration.

5360. Reference and Bibliography. 3. An introduction to the basic materials used in reference and information services. The philosophy of reference services is presented with particular attention to the needs of schools, community colleges and public libraries. Dual listed with LIBS 4360. *Prerequisite:* 20 hours of general education (liberal arts).

5380. Cataloging and Classification. 3. Introduction to the theories and practices of cataloging and classification. Emphasis is on the Dewey Decimal system; subject cataloging from the Sears headings; descriptive cataloging of monographs, serials, and nonprint materials; filing rules. Practice in cataloging and classification of materials. Dual listed with LIBS 4380. *Prerequisite:* 20 hours of general education (liberal arts).

5440. Information Technology. 3. Provides information to help learners efficiently access information electronically. Philosophical, ethical, and management issues as well as technical information on the various mechanisms for electronic access now and in the near future are presented. The analysis of needs combined with knowledge of electronic tools for the purpose of efficiently meeting the information needs of clientele is stressed, as well as knowledge of the appropriate use of electronic products for more specific problems/projects. Cross listed with ADED 5440. *Prerequisite:* graduate standing and/or consent of instructor.

5520. Teaching the Use of the Library. 2. Methods for teaching students basic techniques for effective use of library media center resources. Integration of library media center instruction with the total instructional program is emphasized. Relationship between stages of cognitive and other development and appropriate learning activities. *Prerequisite:* LIBS 4320/5320 and LIBS 4380/5380.

5870. Seminar. 1-3 (Max. 6). Advanced students in Library Science work on current issues and problems in library service, management, literature, or uses of technology in library settings in a critical context. Prerequisite: Course work in library science at the 4000/5000 level; graduate status and/or 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. *Prerequisite:* graduate standing.

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:* 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 degree program.

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

Special Education

The special education programs are designed to prepare teachers to work with students with varied learning and behavior needs. Students may choose from one of two programs: a master of arts in education with an option in special education or a special education endorsement program leading to eligibility for K-12 special education generalist endorsement through the Wyoming Professional Teaching Standards Board. Additionally a Special Education Director Endorsement Program is available as well. Students who complete the coursework will receive a certificate in Special Education.

Program Specific Admission Requirements

In addition to meeting the admission requirements of the university, candidates must also provide a current resume, a copy of current Wyoming Teaching Certificate, a signed Special Education Program Prospectus, a writing sample, three letters of recommendation, and undergraduate and graduate transcripts. A bachelor's degree, with a minimum cumulative GPA of 3.250, from an accredited institution is also required. Please see the Special Education website for more details on these requirements.

Program Specific Degree Requirements

Students may choose to complete the program on a part-time or full-time basis. All Special Education courses are offered either online or through video-conferencing sites within Wyoming only. See descriptions under Special Education (EDEX).

Program Courses

EDEX	5100	3
EDEX	5071	3
EDEX	5080	3
EDEX	5355	3
EDEX	5720	3
EDEX	5200	3
EDEX	5110	3
EDEX	5120	3
EDEX	5150	3
EDEX	5870	2
EDEX	5870	2
EDEX	5000	3

K-12 Endorsement/Certificate Program

The special education endorsement program requires a total of 34 credit hours and does not require a culminating activity. Endorsement-only students are required to take a research class (see Master's Program).

Master's Program

The Master's degree program requires a culminating activity. This activity may take a variety of forms but is either a Plan A (thesis) or a Plan B (project).

Students completing a Plan A activity will write a thesis that involves conducting a qualitative or quantitative study. This culminating activity should add new information and content to the field and is primarily for students who wish to learn more about the research process or who wish to continue their education toward a doctoral degree. The student's committee must approve the culminating activity as well as the topic. If a student chooses to write a Plan A paper, they must take either EDEX 5150 or EDRE 5550 and then also EDRE 5530 plus 4 additional thesis credit hours. The program requires 41 total credit hours.

Students completing a Plan B activity have several options from which to choose their culminating activity. These include: a topical paper, an action research or case study investigation, the development of a complete grant application, or the development of a professional product or a portfolio entry based on the National Board Standards. The student's committee must approve the culminating activity as well as the topic. If a student chooses to write a Plan B paper, the student can choose between EDEX 5150 (Classroom Research), EDRE 5530 (Introduction to Research), or EDRE 5550 (Action Research). The program requires 34 total credit hours.

Applicants who hold a BA/BS degree and have a Wyoming teaching certificate, or have submitted an application for a Wyoming teaching certificate, are eligible to apply for admission to this graduate program. Applicants who do not have a Special Education background will need to take a Special Education foundation course prior to beginning the program coursework. On campus attendance is not required.

Special Education Director Endorsement Program

Students who successfully complete a Wyoming Principal's Certificate in Education Leadership and a Master's Degree or endorsement in Education (Special Education) can apply for endorsement as a Director of Special Education through Wyoming Professional Teaching Standards Board. The program is restricted to Wyoming students or students who have a contractual agreement with the University of Wyoming.

Students expecting to obtain this endorsement must complete both the Special Education Master's courses and also the Educational Leadership Certification courses.

Program Details for Director Endorsement

The endorsement program requirements are available by completing both the Special Education Master's program and the Educational Leadership Principal Certificate program. The program is offered through the UW Outreach School using distance education technology such as video conferencing, online, intensive weekends, or combinations of delivery methods. Upon completion of this program students are eligible to apply to the Wyoming Professional Teaching Standards Board for endorsement as a Director of Special Education.

Learner Outcomes

Upon completion of the Master of Arts or the K-12 Certificate program in Special Education, the candidates will demonstrate their knowledge and skills in:

1. **Learner Development/Individual Learning Differences.** Special education professionals understand how disabilities may interact with development and learning and use this knowledge to provide meaningful and challenging learning experiences for students with disabilities.
2. **Learning Environments.** Special education professionals create safe, inclusive, and culturally responsive learning environments so that students with disabilities become active and effective learners and develop emotional well-being, positive social interactions, and self-determination.

3. **Curricular Content Knowledge.** Special education professionals use knowledge of general and specialized curricula to individualize learning for students with disabilities.
4. **Assessment.** Special education professionals use multiple methods of assessment and data sources in making educational decisions.
5. **Instructional Planning and Strategies.** Special education professionals select, adapt, and use a repertoire of evidence-based instructional strategies to advance learning of students with disabilities.
6. **Professional Learning and Ethical Practice.** Special education professionals use foundational knowledge of the field and their professional ethical principles and practice standards to inform special education practice, to engage in lifelong learning, and to advance the profession.
7. **Collaboration.** Special education professionals collaborate with families, other educators, related service providers, students with disabilities, and personnel from community agencies in culturally responsive ways to address the needs of students with disabilities across a range of learning experiences.

Special Education (EDEX)

1000. Hot Topics in Special Education. 1. Academic, content-based course designed for first-year students, focuses on the critical thinking skills necessary to understand, analyze, and produce knowledge within the framework of educational inquiry. Serves as an introduction to the intellectual community of the university. Themes discussed focus on special education issues as they relate to ourselves, our schools, and our place in the community. *Prerequisites:* none.

1010. Overview of Special Education. 3. Provides prospective special education teachers an overview and a broad knowledge base of the special education field. *Prerequisite:* consent of instructor.

2120. Special Education Intervention Process. 3. Introduces special education and education intervention and management model. Discusses models designed to prepare generalist and multidiscipline special education practitioners to conduct systematic and successful intervention with learning and/ or behavior problems. *Prerequisites:* overall GPA 2.500 and consent of instructor.

2350. Prescriptive Teaching Practicum. 1-8 (Max. 8). Encompasses live, on-going, supervised practicum experience with regular students and students with special needs. Heavily emphasizes observation and direct instructional involvement with students with a range of special needs. *Prerequisites:* overall GPA 2.500 and consent of instructor.

2484. Introduction to Special Education. 3. Designed to meet the needs of education majors for a required course in special education. *Prerequisite:* EDST 2450 completed with a C or better and an institutional GPA of 2.500 or higher.

3230. Direct Instruction. 3. Applies specific instructional delivery skills to a variety of educational settings and disabilities. *Prerequisite:* consent of instructor.

3430. Special Education Curriculum Materials. 3. Involves assessment, adaptation and application of curriculum materials in the education of students with special needs. *Prerequisites:* 2.500 overall GPA, 2.500 GPA in major, junior standing and consent of instructor.

3440. Special Education Assistive Technology, Case Management, and Transition. 3. Addresses a variety of assistive technology applications for use with individuals with disabilities. Discusses case management techniques and transition components in special education. *Prerequisites:* overall GPA 2.500, 2.500 GPA in major and consent of instructor.

3470. Special Education Law. 3. Provides prospective special education teachers and support personnel with overview of important case and statutory law in special education. *Prerequisites:* 2.500 overall GPA, 2.500 GPA in major, junior standing and consent of instructor.

3550. Mental Disabilities. 3. Provides general information and assessment/teaching techniques used with children with mental retardation. *Prerequisites:* 2.500 overall GPA, 2.500 GPA in major, junior standing and consent of instructor.

3560. Behavior Management. 3. Provides systematic and measurable approaches for the management of behavior and motivation of hard-to-teach students and students with special needs. *Prerequisites:* 2.500 overall GPA, 2.500 GPA in major, junior standing and consent of instructor.

3660. Educational and Psychological Assessment. 3. Introduces students to specific psycho-educational and curriculum-based measures, procedures and instruments as they relate to teaching and programming for students with disabilities. Emphasis is placed on both formal and informal assessment tools. *Prerequisites:* 2.500 overall GPA, 2.500 GPA in major, junior standing, consent of instructor and unit coordinator.

4190. Identification and Education of Gifted and Talented Students. 3. Provides students with the means to identify gifted and talented students to derive maximum benefit from educational programs. *Prerequisites:* 2.500 overall GPA, 2.500 GPA in major and consent of instructor.

4380. Special Education Teaching Practicum. 4. Encompasses live, on-going, supervised practicum experience with regular students and students with special needs. Emphasizes observation and direct instructional involvement with range of students with special needs in a variety of settings. *Prerequisites:* 2.500 GPA and consent of instructor.

4500. Residency in Teaching. 1-16 (Max. 24). Comprises the final professional academic semester of the teacher education program. A full-time residency, including a period of being intensively mentored and coached, a period of independent teaching and a period of team teaching. Available for S/U only. Cross listed with EDEL 4500 and EDSE 4500. *Prerequisites:* 2.750 cumulative GPA, 2.500 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.

4570. Learning Disabilities. 3. Relates theoretical and practical aspects of learning disabilities to the classroom, teaching, various treatment techniques, as well as curriculum match and materials. *Prerequisites:* 2.500 overall GPA, 2.500 GPA in major, junior standing and consent of instructor.

4590. Emotional Disabilities. 3. Relates theoretical and practical aspects of emotional disturbance to classroom teaching, curriculum match and materials. *Prerequisites:* 2.500 overall GPA, 2.500 GPA in major, junior standing and consent of instructor.

4740. Field Studies in _____. 1-12 (Max. 12). Offered only through the office of Graduate and Continuing Professional Education. Broad and flexible; can be utilized in numerous situations to meet local needs. Credit in this course is not applicable toward advanced degrees. *Prerequisite:* consent of instructor.

4770. Consultant Teacher Strategies. 3. Represents an opportunity for students to examine and explore consultation concepts in the field of special education. *Prerequisites:* 2.500 overall GPA, 2.500 GPA in major, junior standing and consent of instructor.

4880. Parent and Paraprofessional Training. 3. Provides special education teachers specific techniques for training parents and paraprofessionals in the area of special education. *Prerequisites:* 2.500 overall GPA, 2.500 GPA in major, junior standing and consent of instructor.

4970. Seminar in Field Experiences. 1-5 (Max. 5). Encompasses teaching strategies and problems for special education majors. *Prerequisite:* consent of instructor.

5000. Collaboration and Professional Interdisciplinary Relationships. 3. Represents an opportunity for students to examine and explore a range of consultant concepts in the field of Special Education. *Prerequisite:* Admission to the program or consent of instructor.

5070. Trends In Special Education. 1-8 (Max. 8). Designed to provide experience with timely special education issues. *Prerequisite:* consent of instructor and graduate standing.

5071. Teaching Students with Mild and Moderate Disabilities. 3. Relates the theoretical, research, and practical aspects of mild-moderate disabilities to the student, teacher, classroom, parents, paraprofessionals, and other school personnel and community agencies, all in an effort to help understand and remediate student instructional and behavioral presenting problems. *Prerequisite*: Admission to program or consent of instructor.

5080. Teaching Students with Severe and Low Incidence Disabilities. 3. Designed to provide teachers with the repertoire of instructional, curricular, and behavior analytic skills needed to effectively serve students with severe and low-incidence disabilities. An emphasis on inclusive education and promoting access to the general curriculum will be stressed. *Prerequisites:* Admission to program or consent of instructor.

5100. Special Education Practicum I. 3. Designed to allow the student to practice skills and competencies reflected in the Council for Exceptional Children standards. The activities are designed to follow the Wyoming Teaching Standards for Special Education Certification. *Prerequisite:* Admission to program or consent of the Instructor.

5110. Positive Behavior Support and Management. 3. Relates the theoretical, research, and practical strategies of behavior change models to students, teachers, parents, and paraprofessionals, in order to understand and remediate student behavior presenting problems, to include the application of systematic Behavior Management plans, BIPs, FBAs, BSPs, and school wide PBIS. *Prerequisites*: Admission to program or consent of instructor; EDEX 5071.

5120. Academic Instruction in General Education for Students with Disabilities. 3. Offers teachers appropriate practices and procedures for accommodating children with disabilities in their general education classroom. The focus is on moving from academic and nonacademic assessments to appropriate teaching and learning in the general education classroom environment. *Prerequisite:* Admission to program or consent of instructor.

5150. Research Applications in the Classroom. 3. Methodology for conducting applied research projects in classroom settings will be discussed. A variety of "classroom-friendly" experimental designs will be examined. In particular, the value of single-subject research in evaluating educational programs and serving as a rigorous, experimentally sound methodology are discussed. *Prerequisite:* Admission to program or consent of instructor.

5200. Special Education Practicum II. 3. Designed to allow the student to practice skills and competencies reflected in the Council for Exceptional Children standards. The activities are designed to follow the Wyoming Teaching Standards for Special Education Certification. *Prerequisite:* Admission to program or consent of instructor; EDEX 5100.

5250. Assistive Technology and Transition. 2. Addresses assitive technology considerations for students with disabilities. Assessment, planning, selection, use, and evaluation of options will be emphasized. *Prerequisites*: Admission to program or consent of instructor.

5260. Transition Planning. 2. Examines the transition and post-high school options available for students with disabilities and in accordance with the requirements of the Individuals with Disabilities Education Act. Emphasis will be placed on assessment, planning, and evaluation of the transition components. *Prerequisite*: Admission to program or consent of instructor.

5300. Foundations Of Special Education. 3. Part of the graduate Diagnostic-Prescriptive Teaching training program. Course content involves the application of prescriptive teaching and programming strategies which permit formal and informal assessment of, and the systematic intervention with, learning or behavior problems. *Prerequisite:* graduate standing.

5355. Assessment. 3. Involves the history, ethics, data collection procedures, psychometric understanding, and interpretation of selected formal and informal psycho-educational tests; the relationship to a comprehensive evaluation and IDEA eligibility requirements; and the application of assessment results to the practical remediation of student instructional and behavioral presenting problems. *Prerequisite*: Admission to program or consent of instructor.

5370. Improvement of Instruction in Special Education. 1-8 (Max. 8). Designed to enhance problem solving ability regarding special education practices. *Prerequisite:* consent of instructor.

5410. Short Course. 1-12 (Max. 12). Provides the opportunity for intensive study of specific topics in special education. *Prerequisite:* consent of instructor and graduate standing.

5490. Individual Problems. 1-6 (Max. 6). Provides flexible credit for students who wish to study a special problem related to prescriptive intervention. *Prerequisite:* 12 hours of education and consent of instructor.

5550. Supervised Internship. 1-8 (Max. 12). An internship experience may be required as part of the planned program in special education for the master's, education specialist, or doctoral degrees. *Prerequisite:* 8 hours of graduate level special education courses in the College of Education, consent of department head, and graduate standing.

5680. Prescriptive Teaching Practicum. 1-8 (Max. 8). Graduate practicum/internship, the content of which involves supervised education experience in a special education classroom. *Prerequisites:* graduate status and consent of instructor.

5720. Special Education Law. 3. Provides prospective special education teachers and support personnel with overview of important case and statutory law in special education. *Prerequisites:* Admission to program or consent of instructor.

5730. Severe and Profound Handicaps. 3. Relates current research and practice to the systematic assessment, education and management of individuals who are severely and/or profoundly disabled. *Prerequisites:* 3 semester hours of graduate course work in special education, 3.000 graduate GPA, and consent of instructor and department head.

5790. Administration of Special Education. 3. Relates current research and practice to the administration of special education programs. *Prerequisites:* 3 semester hours of graduate course work in special education, 3.000 graduate GPA, and consent of instructor and department head.

5870. Seminar. 1-6 (Max. 6). Represents an opportunity for students to examine and explore advanced concepts of prescriptive teaching. *Prerequisites*: consent of instructor and graduate standing.

5880. Special Problems. 1-6 (Max. 9). P*rerequisite:* consent of instructor and graduate standing.

5890. Directed Professional Study. 1-9 (Max. 9). Represents an opportunity to explore a wide range of special problem topics within the scope of diagnostic-prescriptive teaching. *Prerequisites:* consent of instructor and 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.

Professional Studies (PRST)

5070. Introduction to College Teaching. 3. This course is designed to provide students with an understanding of instructional theory and experiences in applying teaching and assessment methods relevant to the role of an educator in higher education. Linking theories, perspectives, and principles of effective teaching and learning to practice in higher education is a priority of the course. Practicing and experiencing "hands-on" activities will be prime formats of the class. *Prerequisite:* graduate standing.

5610. Introduction to Doctoral Studies. 3. Introduce incoming doctoral students to the fundamentals of doctoral study for the Ph.D. degree. Includes developing an understanding of higher education, the organization and purposes of doctoral programs, and the exploration of the roles of teaching, research, and service at the university. *Prerequisite*: Admission to the program.

5880. Special Problems. 1-9. Provides a broad perspective through selected reading material. Wherever possible the student collects and used original information from a practical work situation. All work is done independently under the direction of a faculty member. A minimum of three conferences are held as necessary to assure successful completion of the project. *Prerequisites:* consent of instructor and department head, and graduate standing.

5890. Directed Professional Study. 1-9. Similar to PRST 5880. Provides additional opportunity for students to pursue advanced graduate work through independent research. Projects are done under the direction of a graduate faculty member. *Prerequisite:* graduate standing.

5900. Practicum in College Teaching. 1-3 (Max. 9). 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. 99). *Prerequisite:* advanced degree candidacy.

5940. Continuing Registration: Off Campus. 1-2 (Max. 99). *Prerequisite:* advanced degree candidacy

5960. Thesis Research. 1-12 (Max. 99). 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. 99). 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.

5990. Internship. 1-12 (Max. 99). *Prerequisite:* graduate standing.

Department of Secondary Education

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Department Head: Kate Muir Welsh

Professors:

LESLIE S. RUSH, B.S. Texas A&M—Commerce 1984; M.Ed. 1996; Ph.D. University of Georgia, 2002; Professor of Secondary Education 2014, 2002. Associate Dean of Undergraduate Programs 2013.

TIMOTHY F. SLATER, B.S. Kansas State University 1989; B.S. Ed. 1989; M.S. Clemson University 1991; Ph.D. University of South Carolina 1993; Professor of Secondary Education 2008.

Associate Professors:

LYDIA DAMBEKALNS, B.A. College of William and Mary 1981; M.Ed. Pennsylvania State University 1994; Ph.D. 1996; Associate Professor of Secondary Education 2002, 1996.

LINDA HUTCHISON, B.A. Humboldt State University 1978; M.A. Stanford University 1986; Ph.D. University of Washington 1992; Associate Professor of Secondary Education 2000, 1993.

Assistant Professors:

ANDREA C. BURROWS, B.S. University of Central Florida 1992; M.S. Florida State University 1994; Ed.D. University of Cincinnati 2011; Assistant Professor of Secondary Education 2011.

J. CHRIS HAYNES, B.S. Tarleton State University 1986, 1991; M.S. Tarleton State University 2007; Ph.D. Oklahoma State University 2010; Assistant Professor of Secondary Education 2011.

Assistant Lecturer:

ROD THOMPSON, B.A. University of Nebraska at Kearney 1991; M.A. University of Northern Iowa 1998; Assistant Lecturer 2012, 2009.

The undergraduate degree program in secondary education includes course work in the University Studies Program and additional content areas along with a sequence of professional education courses and field experiences with classroom teachers. Students select a concentration from agriculture, art, English, technical education, mathematics, modern languages, science, or social studies.

Masters and Doctoral degrees in education are available. The Secondary Education Department joins with the departments of Educational Studies and Elementary and Early Childhood Education to offer graduate programs in Curriculum and Instruction. Additional information can be found on the Curriculum and Instruction Department's web page (www.uwyo.edu/c_i).

Secondary Education (EDSE)

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

1000. Exploring Hot Topics in Secondary Education. 2. [I,L◀▶(none)] Academic, content-based course designed for first year students. Focuses on critical-thinking skills necessary to understand, analyze, and produce knowledge within the framework of educational inquiry. Themes include diversity and other issues found in Secondary Education (e.g. High Stakes testing, inclusion, or school violence). Faculty member's expertise areas within secondary education will determine appropriate themes.

1010 [EDCI 1010]. Field Experience for Prospective Elementary and Secondary Teachers. 1-4 (Max. 4). Introductory course in teacher education. Provides an overview of the theory and practice of what is required to become and be a teacher. An initial practicum is included. Cross listed with EDEL 1010. *Prerequisite:* sophomore standing.

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

2000 [EDCI 2000]. Undergraduate Seminar in ____. 1-2 (Max. 8). Designed to discuss strategies and instructional activities used in content courses the students take and to be a linkage between what the prospective teachers study and what they will teach. It provides the opportunity to discuss appropriate activities, strategies and programs in a teaching area re-

lated to the content area being studied. Cross listed with EDEL 2000. *Prerequisite:* consent of instructor.

3010 [EDIE 3010]. Contemporary Philosophies in Technical Education. 1-3 (Max. 3). Provides industrial education students with a sound contemporary philosophy for curriculum development and instructional planning. Emphasis is placed on current programs, philosophies, history, youth group development and advisery committee activities. *Prerequisites:* 8 credit hours of education course work. (Offered through UW/CC)

3020. Facilities and Advisery Management. 2-4 (Max. 4). Students engage in identifying RFP applications and applies for grants that are geared toward the Technical classroom as well as the process of assembling and managing an advisery committee, a required component of all CTE programs. Prepares Technical Teachers for the non-teaching requirements associated with the CTE programs. *Prerequisites:* junior standing in Technical Education.

3030. Construction Technology. 3. Introduces students to the principles and practices of the construction industry, through a combination of classroom and laboratory experiences. In addition, this course outlines the construction content area as taught in the technical education classroom and emphasizes development of curricula materials. *Prerequisites:* 12 hours of technical content courses from an approved list. (Offered through UW/CC)

3040 [EDIE 3040]. Energy and Power Technology. 3. A conceptual analysis and synthesis of energy requirements and sources, with emphasis on alternate energy systems. Analysis of energy conversion and the application of mechanical, fluid, thermal and electrical power systems. *Prerequisite:* PHYS 1050 or 1110. (Offered through UW/CC)

3050 [EDIE 3050]. Communications Technology. 3. Designed to give students knowledge and experience in the major concepts of graphic communications, including: communication, design, image generation and production practices of modern industry. Also covers curricular and pedagogical concerns related to teaching communications technology at the secondary school level. *Prerequisite:* 12 credit hours of technical content courses from an approved list. (Offered through UW/CC)

3270. Subject Matter Specific Methods I: Secondary English Education. 3-6 (Max. 6). Introduction of content and pedagogy in English Education. *Prerequisite:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; concurrent enrollment in EDSE 4270.

3271. Subject Matter Specific Methods I: Secondary Mathematics Education. 3-6 (Max. 6). Introduction of content and pedagogy in Mathematics Education. *Prerequisite:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; concurrent enrollment in EDSE 4271.

3272. Subject Matter Specific Methods I: Art Education K-12. 3-6 (Max. 6). Introduction of content and pedagogy in Art Education K-12. *Prerequisite:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; concurrent enrollment in EDSE 4272.

3273. Subject Matter Specific Methods I: Secondary Social Studies Education. 3-6 (Max. 6). Introduction of content and pedagogy in Secondary Social Studies Education. *Prerequisite:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; concurrent enrollment in EDSE 4273.

3275. Subject Matter Specific Methods I: Secondary Science Education. 3-6 (Max. 6). Introduction of content and pedagogy in Science Education. *Prerequisite:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; concurrent enrollment in EDSE 4275.

3276. Subject Matter Specific Methods I: Secondary Modern Language Education. 3-6 (Max. 6). Introduction of content and pedagogy in Modern Language Education. *Prerequisite:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; concurrent enrollment in EDSE 4276.

3277. Subject Matter Specific Methods I: Secondary Technology Education. 3-6 (Max. 6). Introduction of content and pedagogy in Industrial Technology Education. *Prerequisite:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; concurrent enrollment in EDSE 4277.

3278. Subject Matter Specific Methods I: Secondary Agriculture Education. 3-6 (Max. 6). [WC◀▶(none)] Introduction of content and pedagogy in Agriculture Education. *Prerequisite:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; concurrent enrollment in EDSE 4278.

3540 [EDCI 3540]. Teaching Reading and Study Strategies in the Content Areas. 2-4 (Max. 4). Provides students majoring in secondary education programs with a knowledge of reading factors as they relate to various disciplines. Content includes estimating students' reading ability, techniques for vocabulary development, questioning strategies, and developing reading related study skills. *Prerequisites:* junior standing and minimum 12 hours in discipline area.

3550 [EDCI 3550]. Methods of Teaching: _____. 2-5 (Max. 10). Develops an understanding of methods common to all disciplines. Through reflective inquiry and problem solving students will become involved in teaching practices and techniques. Cross listed with EDEL 3550. *Prerequisites:* EDST 3000, junior class standing, 2.500 minimum cumulative GPA, must maintain grade of C or better in major.

4000 [EDUC 4000]. Becoming a Reflective Practitioner: Practicum. 2. Part of Phase IIIa of the teacher education program. Practicum experience is integral to EDSE 4250 and must be taken concurrently. Cross listed with EDEL 4000. *Prerequisites:* 2.500 cumulative GPA, successful completion of EDST 3000 (grade, interview and portfolio).

4010. Middle Level Practicum. 2. Incorporates classroom instruction and field experiences dealing with middle level classroom management, lesson planning/delivery in the context of early adolescent intellectual, physical and psychological domains. Emphasizes grades 5-8. S/U only. *Prerequisites:* EDST 3000, EDCI 4400 (or concurrent enrollment) 2.500 GPA.

4070 [EDAS 4070, EDVE 4070]. Educational Trends in _____. 1-3 (Max. 6). Provides reading, discussion, research and appraisal of new methods, materials, equipment and experimental programs concerned with improvement of education as it pertains to areas of secondary education: agricultural, art, English, mathematics, middle school, modern language, science, and social studies education. The maximum allowable credit applies to the total offerings under this number. *Prerequisite:* 6 hours of education.

4250 [EDUC 4250]. Becoming a Reflective Practitioner: Specific Pedagogy in English. 5-8 (Max. 8). Comprised of content and pedagogy in the student's major teaching field, English education. Must be taken in conjunction with EDSE 4000. *Prerequisites:* 2.500 minimum cumulative GPA, 2.500 minimum GPA in major, successful completion of outcomes in EDST 2000 and 3000, successful completion

of specific content courses required in the major and concurrent enrollment in EDSE 4000 is expected.

4251 [EDUC 4251]. Becoming a Reflective Practitioner: Specific Pedagogy in Mathematics. 5-8 (Max 8). Comprised of content and pedagogy in mathematics. Must be taken in the same semester as the 2 semester hour course, EDSE 4000. *Prerequisites:* 2.500 minimum cumulative GPA, successful completion of EDST 3000, and concurrent enrollment in EDSE 4000 is expected. (Offered fall semester)

4252 [EDUC 4252]. Becoming a Reflective Practitioner: Specific Pedagogy in Art Education K-12. 5-8 (Max. 8). Comprised of content and pedagogy in the student's major teaching field, art education. Must be taken in the same semester as the 2 semester hour course, EDSE 4000. *Prerequisites:* 2.500 minimum cumulative GPA, 2.500 GPA in major, successful completion outcomes in EDST 2000 and 3000, successful completion of specific content courses required in the major and concurrent enrollment in EDSE 4000. (Offered fall semester)

4253 [EDUC 4253]. Becoming a Reflective Practitioner: Specific Pedagogy in Social Studies Education. 5-8 (Max. 8). Comprised of content and pedagogy in the student's major teaching field, social studies education. Must be taken in the same semester as the 2 semester hour course, EDSE 4000. *Prerequisites:* 2.500 minimum cumulative GPA, 2.500 GPA in major, successful completion outcomes in EDST 2000 and 3000, successful completion of specific content courses required in the major and concurrent enrollment in EDSE 4000. (Offered fall semester)

4255 [EDUC 4255]. Becoming a Reflective Practitioner: Specific Pedagogy in Science. 5-8 (Max. 8). Provides an integrated approach to the methodology of teaching secondary science. Covers basic concepts of physical sciences with processes as a vehicle to learn about the natural discussion, lesson planning, use of appropriate technology, appraisal of new trends in science education and considerable time implementing ideas in the secondary classroom. *Prerequisites:* 2.500 minimum cumulative GPA, 2.500 GPA in major, successful completion outcomes in EDST 2000 and 3000, successful completion of specific content courses required in the major and concurrent enrollment in EDSE 4000. (Offered fall semester)

4256 [EDUC 4256]. Becoming a Reflective Practitioner: Specific Pedagogy in Modern and Classical Languages. 5-8 (Max. 8). Designed to provide an introduction to curriculum and instructional processes in multiple secondary school subjects. General and discipline-specific issue and methods will be addressed. *Prerequisites:* 2.500 minimum cumulative GPA, 2.500 GPA in major, successful completion outcomes in EDST 2000 and 3000, successful completion of specific content courses required in the major and concurrent enrollment in EDSE 4000 is expected. (Offered fall semester)

4260 [EDUC 4260]. Becoming a Reflective Practitioner: Specific Teaching Methods for Applied Science and Technology. 5-8 (Max. 8). Comprised of content and pedagogy in the student's major teaching field. Concurrent enrollment in EDSE 4000 practicum as stated in college guidelines is expected. *Prerequisites:* acceptance into the Wyoming Teacher Education Program, satisfactory score on the CAT, 2.500 GPA, class status and completion of certain classes as noted in this bulletin. (Offered fall semester)

4261 [EDUC 4261]. Becoming a Reflective Practitioner: Specific Pedagogy in Business and Marketing . 8. Comprised of content and pedagogy in the student's major teaching field, business and marketing education. Must be taken in the same semester as the 2 semester hour course, EDSE 4000. *Prerequisites:* 2.500 minimum cumulative GPA, 2.500 GPA in major, successful completion outcomes in EDST 2000 and 3000, successful completion of specific content courses required in the major and concurrent enrollment in EDSE 4000. (Offered fall semester)

4270. Subject Matter Specific Methods II: Secondary English Education. 3-6 (Max. 6). [WC◀▶COM3] Advanced content and pedagogy in English Education. *Prerequisites:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; 2.500 in content GPA (grade of C or better in specific content courses required in major); concurrent enrollment in EDSE 3270/EDCI 5250.

4271. Subject Matter Specific Methods II: Secondary Mathematics Education. 3-6 (Max. 6). [WC◀▶COM3] Advanced content and pedagogy in Mathematics Education. *Prerequisites:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; 2.500 in content GPA (grade of C or better in specific content courses required in major); concurrent enrollment in EDSE 3271/EDCI 5250.

4272. Subject Matter Specific Methods II: Art Education K-12. 3-6 (Max. 6). [WC◀▶COM3] Advanced content and pedagogy in Art Education. *Prerequisites:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; 2.500 in content GPA (grade of C or better in specific content courses required in major); concurrent enrollment in EDSE 3272/EDCI 5250.

4273. Subject Matter Specific Methods II: Secondary Social Studies Education 3-6 (Max. 6). [WC◀▶COM3] Advanced content and pedagogy in Social Studies Education. *Prerequisites:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; 2.500 in content GPA (grade of C or better in specific content courses required in major); concurrent enrollment in EDSE 3273/EDCI 5250.

4274. Subject Matter Specific Methods II: Music Education K-12. 3-6 (Max. 6). Advanced content and pedagogy in Music Education. *Prerequisites:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; 2.500 in content GPA (grade of C or better in specific content courses required in major); concurrent enrollment in EDSE 3274/EDCI 5250.

4275. Subject Matter Specific Methods II: Secondary Science Education. 3-6 (Max. 6). [WC◀▶COM3] Advanced content and pedagogy in Science Education. *Prerequisites:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; 2.500 in content GPA (grade of C or better in specific content courses required in major); concurrent enrollment in EDSE 3275/EDCI 5250.

4276. Subject Matter Specific Methods II: Secondary Modern Language Education 3-6 (Max. 6). [WC◀▶COM3] Advanced content and pedagogy in Modern Language Education. *Prerequisites:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; 2.500 in content GPA (grade of C or better in specific content courses required in major); concurrent enrollment in EDSE 3276/EDCI 5250.

4277. Subject Matter Specific Methods II: Secondary Technology Education. 3.-6 (Max. 6). [WC◀▶COM3] Advanced content and pedagogy in Industrial Technology Education. *Prerequisites:* grade of C or better in EDST 3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; 2.500 in content GPA (grade of C or better in specific content courses required in major); concurrent enrollment in EDSE 3277/EDCI 5250.

4278. Subject Matter Specific Methods II: Secondary Agriculture Education. 3.-6 (Max. 6). [(none)◀▶COM3] Advanced content and pedagogy in Agriculture Education. *Prerequisites:* grade of C or better in EDST

3000/EDCI 5550; Background check on file; 2.750 overall UW cumulative GPA; 2.500 in content GPA (grade of C or better in specific content courses required in major); concurrent enrollment in EDSE 3278/EDCI 5250.

4279. Subject Matter Specific Methods II: Biological Science Methods for Agricultural Education Majors. 3. Provide meaningful learning in preparation for a professional career in a secondary school setting, teaching life science courses in addition to agriculture classes. Students will be engaged as active participants in discussions and hands-on science activities. The course is designed to offer experiences to enhance pedagogical content knowledge as well as skills to successfully make science education accessible for all students. Special attention will be given to creating a learning environment that fosters the development of inquiry skills and safety both in the classroom and field settings. *Prerequisites*: Grade of C or better in EDST 3000, 2.750 minimum GPA in major content courses, grade C or better in specific content courses required in the Secondary Biology Endorsement.

4280. Subject Matter Specific Methods: Computer Science. 2. Introduction of content and pedagogy in Computer Science Education. Includes pedagogy, pedagogical content knowledge, and contact curriculums for teaching computer science at secondary school levels. A variety of instructional procedures will be employed including group work, modeling, lab work, micro-teaching, and lecture/demonstration. *Prerequisites:* COSC 3100 or concurrent enrollment and COSC 3020.

4500 [EDUC 4500]. Residency in Teaching. 1-16 (Max. 24). Comprises the final professional academic semester of the teacher education program. A full-time residency, including a period of being intensively mentored and coached, a period of independent teaching and a period of team teaching. Available for S/U only. Cross listed with EDEL 4500 and EDEX 4500. *Prerequisites:* 2.750 cumulative GPA, 2.500 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.

4740 [EDCI 4740]. Field Studies in _____. 1-5 (Max. 12). Offered only through extension services. Broad and flexible and can be utilized in numerous situations to meet local needs. Credit in this course is not applicable toward advanced degrees. Cross listed with EDEL 4740. Offered S/U only. *Prerequisite:* 6 hours of education. (Offered based on sufficient demand and resources)

4975. [EDCI 4975] Independent Study. 1-3 (Max. 6). Primarily for upper-division students who can benefit from independent study with minimal supervision. Given to allow interested students to pursue specific aspects of curriculum and instruction. Cross listed with EDEL 4975. *Prerequisites:* 12 hours of education courses and consent of instructor.

Agricultural Education

This curriculum provides a diversified background of technical and professional agricultural subjects necessary to prepare teachers of agricultural education for service in the public middle, secondary and post secondary schools. Courses listed below are taken in the Secondary Education Department.

Agricultural Education (EDAG)

4070 [EDAS 4070]. Trends:___. 2 (Max. 6). Designed to provide reading, discussion, research, and the appraisal of new methods, materials, equipment, and experimental programs concerned with the improvement of education as it pertains to the areas of vocational education; vocational agriculture, home economics, and trade and industrial education. Each department in the college may make offerings under this number. The maximum allowable credits for each department is 6 semester hours. *Prerequisites:* 6 hours of education.

4170 [EDAS 4170, EDVE 4170]. Principles of Agricultural Mechanics and Technology. 3. Content will emphasize those skills commonly taught in Wyoming agricultural education in the secondary school system with an emphasis on advanced gas and plasma welding theory, small gas engines, and advanced electrical wiring and practices. Designed for students preparing to teach agricultural science in the Wyoming public school system. *Prerequisite*: EDAG 4070 or approval of instructor.

4180 [EDAS 4180, EDVE 4180]. Techniques of Agricultural Mechanics and Technology. 3. Techniques of agricultural mechanics and instruction. Content will emphasize those skills commonly taught in the Wyoming school system agricultural mechanics program with emphasis on woodworking, welding theory, agricultural plumbing, and electrical wiring and practices. Designed for students preparing to teach agricultural science in the Wyoming public school system. *Prerequisite*: Junior standing or consent of instructor.

4970 [EDAS 4970, EDVE 4970]. Individual Problems. 1-3 (Max. 6). Provides flexible credit for seniors who may need credit for graduation, or for students who wish to undertake intensive study of a special problem identified in a regular class. Offered in areas of vocational education, vocational agriculture, family and consumer sciences, and trade and industrial education. *Prerequisite:* 12 hours of education courses.

Science and Mathematics Teaching Center

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Director: Jacqueline Leonard
Program Coordinator: Sylvia Parker

The Science and Mathematics Teaching Center (SMTC) is an intercollegiate, interdisciplinary program committed to excellence in science, mathematics, and technology education. Governed jointly by the Colleges of Education and Arts & Sciences, the SMTC, in cooperation with the Wyoming Department of Education and the Professional Teaching Standards Board (PTSB), serves as a science and mathematics education resource and professional development center for the state. The affiliate faculty for SMTC is comprised of faculty members from the College of Education, the College of Arts and Sciences, the College of Agriculture and Natural Resources, and the College of Engineering and Applied Science.

The SMTC provides extensive off-campus professional development that serves Wyoming communities, administrators, teachers, students and school districts. SMTC in-service and extension courses, workshops, institutes and conferences are provided with the principal purpose of improving science and mathematics teaching in Wyoming.

NED is designed for students pursuing careers as environmental and natural science educators in non-public school settings, though there is a certification option for students in the program. A Ph.D. in Science Education or Mathematics Education is available through the College of Education.

The SMTC offers two graduate degree program options: the Master of Science of Natural Science in Middle Level Math (MMA) or Middle Level Science (MSC), designed for elementary, middle, and general science and mathematics teachers; and the Master of Science in Natural Science (NED), designed for students that are completing the first year of their graduate program at Teton Science School.

Program Specific Admission Requirements

Master of Science in Natural Science - Middle Level Math/Middle Level Science/Natural Science Education

In addition to the minimum requirements set forth by the University of Wyoming, the Science and Mathematics Teaching Center also requires:

- Acceptance to the University of Wyoming
- The student has a valid teaching certification with two years of teaching experience (this requirement is waived for Natural Science Education students);
- The student has a composite score of 300 on the verbal and quantitative sections of the GRE general test or a score of 15 out of 20 on the SMTC GRE Alternative Portfolio;
- SMTC Writing Sample;
- Resume and 3 letters of recommendation
- Natural Science Education students only - acceptance in the Teton Science School Residency Program.

Program Specific Graduate Assistantships

The SMTC has a number of graduate assistantships awarded on a competitive basis, as well as grant-funded graduate assistantships.

Program Specific Degree Requirements

Master of Science in Natural Science, Middle Level Math/Middle Level Science
Plan B (non-thesis)

The university requirement for Plan B is 30 hours of coursework. The program requires at least 24 hours in mathematical sciences, biological sciences, or physical sciences. Of these, 15 hours must be natural sciences courses and 9 credit hours must be from appropriate science and mathematics courses in other departments.

The M.S. in Natural Science is intended for individuals teaching at the elementary or middle school level in science or mathematics.

The environment and natural resources graduate major or minor is an option for this program.

Master of Science in Natural Science, Natural Science Education
Plan B (non-thesis)

The university requirement for Plan B is 30 hours of coursework. This degree is limited to students accepted into the Teton Science School Professional Residency Program. The first year of study is at the Teton Science School site and the second year is at the University of Wyoming campus. 15 designated credit hours will be completed through the Teton Science School Professional Residency Program. For the remaining 15 credit hours (minimum) on the UW campus, students will work with a three-member faculty committee to design a balanced program of study in selected science content, science pedagogy, and related coursework.

The Environment and Natural Resources graduate major and minor is an option for this program.

The M.S. in Natural Science, Natural Science Education is intended for individuals pursuing careers as environmental and natural science educators in non-public school settings.

Natural Science (NASC)

1001. Quantitative Reasoning. 1. Focuses on quantitative reasoning defined broadly as viewing the world through a mathematical perspective. Must apply to FIG.

4790. Topics in Natural Science. 1-6 (Max. 10). Presents selected science topics to acquaint teachers or prospective teachers with new concepts, materials or techniques, as introduced in various new school curricula. Topics may include earth science for the middle school, computer learning and/or elementary school environmental science. Includes laboratory. *Prerequisite:* junior standing.

4800. Field Studies in Natural Science. 1-6 (Max. 10). Explores topics best studied in the field, on location, or otherwise outside the traditional classroom. Topics may include grassland ecosystem, geology field trips for elementary children and/or schoolyard study areas. Includes laboratory. *Prerequisite:* junior standing.

5110. Physical Science in Global Context, MSC. 3. One in a series of three courses investigating earth as a system. Examines the global dynamics of energy, hydrocarbon combustion, and the physics and chemistry of water. Investigates relationships between energy transformations and pollutants. Considers environmental limitations of fresh water availability and the buffering effect of sea and fresh water. *Prerequisite:* graduate standing and teaching certification in elementary, middle school or general science; or, graduate standing and concurrent enrollment in a program leading to teacher certification in Elementary, middle school or general science education.

5120. Earth Science in Global Context, MSC. 3. One in a series of three courses investigating earth as a system. Emphasizes the lithosphere and atmosphere and their interactions with the hydrosphere and biosphere. Examines the interplay between tectonic processes, earth's radiation balance, ocean processes, ozone depletion and the green house effect. Includes evaluation of methods of measuring and monitoring these phenomena. *Prerequisite:* graduate standing and teaching certification in elementary, middle school or general science; or, graduate standing and concurrent enrollment in a program leading to teach certification in elementary, middle school or general science education.

5130. Life Science in Global Context, MSC. 3. One in a series of three courses investigating earth as a system. Investigates ecosystem composition and processes, and biological responses to changes in ecosystem parameters. Examines terrestrial and aquatic communities, photosynthesis, energy flow, biogeochemical cycles, global climate change, climate warning, deforestation, population ecology, DNA/RNA structure, function, genetic engineering and forensic applications. *Prerequisite:* graduate standing and teaching certification in elementary, middle school or general science education.

5140. Numbers, Operations, and Patterns for the Middle-Level Learner, MMA. 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 MATH 5140. *Prerequisites:* admission to a UW graduate program, either degree or non-degree seeking status, and acceptance into the Middle-level mathematics program.

5160. Social and Historical Issues in Mathematics and the Middle-Level Learner, MMA. 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 MATH 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, MMA. 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 MATH 5170. *Prerequisites:* admission to a UW graduate program, in either degree or non-degree seeking status, acceptance into the Middle-level mathematics program.

5185. Analysis of Data in the Media for the Middle-Level Learner, MMA. 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 is not a research methods course. Cross listed with MATH 5185. *Prerequisites:* admission to a UW 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, MMA. 3. Students gain a solid understanding of data and functions in the service of calculus. 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 MATH 5190. *Prerequisites:* admission to a UW graduate program, in either degree or non-degree seeking status, and acceptance into the Middle-level Mathematics program.

5205. Methods of Teaching Middle-Level Mathematics, MMA. 3. Research-based pedagogy and pedagogical content knowledge for teaching middle-level mathematics. Designed for practicing teachers of middle-grades mathematics. Cross listed with EDCI 5205. *Prerequisite:* admission to the SMTC Program.

5215. Using Instructional Technology for Middle-Level Mathematics, MMA. 3. Covers the use of technology appropriate to middle-level mathematics teaching, such as microworlds, geographic information systems, spreadsheets, and other content appropriate technologies. Cross Listed with EDCI 5215. *Prerequisite:* admission to the SMTC Program.

5225. Assessment for Middle-Level Mathematics, MMA. 3. Middle-level Mathematics Initiative teacher participants examine, analyze, and implement a variety of assessments that are aligned with standards and instruction appropriate to the middle level math learner. Cross listed with EDCI 5225. *Prerequisite:* admission to the SMTC Program.

5300. Classroom Assessment in Middle-level Science, MSC. 2. Deals with the design, construction, and testing of curriculum materials to bring the spirit of scientific inquiry to elementary school pupils. Research to be conducted in the Science and Mathematics Teaching Center.

5320. Plan B Research in Science/Mathematics Classroom, MSC. 3. A course to give graduate students in education, or in service teacher, an in-depth view of the new materials for teaching science in elementary schools. *Prerequisite:* consent of instructor.

5400. Spatial Data Instructional Technology. 1. Teaching strategies appropriate for elementary/middle school students' conceptual level of development. Positive attitudes toward teaching children about the Earth, its physical environment and human/environment relationships will be promoted. The course content will be supported by the use of geospatial technologies, such as GPS and GIS. *Prerequisite:* graduate standing.

5510. Integrated Instructional Strategies, MSC. 2. Appropriate instructional strategies are discussed and modeled for aligning standards, expectations, and experiences in an integrated science environment. Attention is given to unique characteristics of each strategy, including a review of research on the effectiveness of each strategy on student achievement and attitudes. *Prerequisite:* graduate standing and teaching certification in elementary, middle school or general science; or graduate standing and concurrent enrollment in a program leading to teacher certification in elementary, middle school or general science education.

5600. Mathematics and Statistics in Science Teaching, MSC. 2. Provides science teachers with the knowledge and experience necessary to help students use statistics in the scientific process. Activities emphasize a hands-on inductive approach closely related to the school science curriculum. Important statistical ideas and methods are studied as they arise naturally in the biological, physical, and earth sciences. *Prerequisite:* graduate standing and teaching certification in elementary, middle school or general science; or, graduate standing and concurrent enrollment in a program leading to teacher certification in elementary, middle school or general science education.

5610. Field Studies in Environmental Education, NED. 4. Expands student's knowledge of ecological and physiological animal and plant adaptations to environmental conditions, the use of teaching methods and tools of naturalists, the range of resources available for designing and evaluating curriculum, and promotes an appreciation and understanding of the diversity of environments. Contains 4 modules. *Prerequisite:* graduate standing; must be accepted into the Teton Science School Program and matriculating at the TSS site.

5620. Advanced Elements of Field Ecology Course Design, NED. 5 (Max. 6). Addresses designing field ecology courses that include research, outdoor leadership, and natural history components. Opportunities are provided to gain deeper understanding of key natural history and ecology concepts of the bioregion; practical strategies for teaching these concepts in field programs; and to formally present student work. *Prerequisite:* graduate standing; must be accepted into the Teton Science School Program and matriculating at the TSS site.

5625. Place-Based Education - Teton Science School. 3. Introduces graduate students at Teton Science Schools to the theory and practice of place-based education. The design of the course exposes students to the historical, political, and eco-social underpinnings of place-based education while supporting students in developing thoughtful place-based pedagogies. *Prerequisite:* graduate student status.

5630. Teaching Practicum-Teton Science School. 2-4 (Max. 6). To improve teaching methods and techniques and expand professional skills. Integrates the foundation of Teton Science Schools, applies coursework content understanding and develops leadership. The course is intended to challenge previously held instructional beliefs and nurture an evolving set of skills and instructional identity. Not equivalent to EDSE 4500 or EDCI 5990 or EDEL 4500. *Prerequisite:* current enrollment at Teton Science School.

5640. Introduction to Field Science Teaching. 3. Designed to introduce graduate students at Teton Science Schools' to the field of environmental education and instructional concepts for teaching environmental science in the outdoors. Learn field science content, principals of connecting to place, teaching techniques, and learning theories related to environmental education and field science teaching. *Prerequisite:* current enrollment at Teton Science School.

5650. Place-Based Learning. 3. Place-based learning is explored and related to cognitive development, assessment, and education for a democracy. The focus in on science and mathematics and how to use "place" to provide

meaningful learning experiences for students while making contributions to the community. Students develop a local place-based project.

5660. Standards, Pedagogy and Research. 2. This course is designed to provide Master of Science in Natural Science students with background in three areas: current science standards, pedagogical practices, and the understanding of various types of educational research as well as some of the practices related to conducting their own research projects. *Prerequisites:* Master of Natural Science - MMA, MSC, or NED who have completed at least one year of coursework, or permission of the instructor or SMTC director; graduate standing.

5670. Research Methodology. 4. This course provides foundational information on asking appropriate questions, researching (including IRB), writing, formatting, and defending a Plan B project. At the end of the semester students will have a committee, a preliminary draft, and present their research. Spring semester will be used to complete projects with committee members. *Prerequisites:* Master of Natural Science - MMA, MSC, or NED who have completed at least one year of coursework, or permission of the instructor or SMTC director; graduate standing.

5700. Seminar in Science for Secondary School Teachers. 1-6 (Max. 6). A course to give graduate students in education, or in-service teachers, an in-depth view of the new materials for teaching science in secondary schools. *Prerequisite:* consent of instructor.

5770. Investigation in Natural Science for Secondary Teachers. 1-5 (Max. 10). Deals with the design, construction, and testing of curricula materials to bring the spirit of scientific inquiry to secondary school students. Research to be conducted in the Science and Mathematics Teaching Center. *Prerequisite:* consent of instructor.

5890. Directed Professional Study. 1 (Max. 6). Primarily for upper-division students who can benefit from independent study with minimal supervision. Given to allow interested students to pursue specific aspects of curriculum and instruction. *Prerequisites:* consent of instructor and 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 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. S/U only. *Prerequisite:* graduate standing.

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 Project. 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:* must be enrolled in Plan B program and have departmental approval.

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