WESTERN STATE COLORADO UNIVERSITY

Learning, Elevated.

2018-2019 Undergraduate Catalog

For further information, phone or write:
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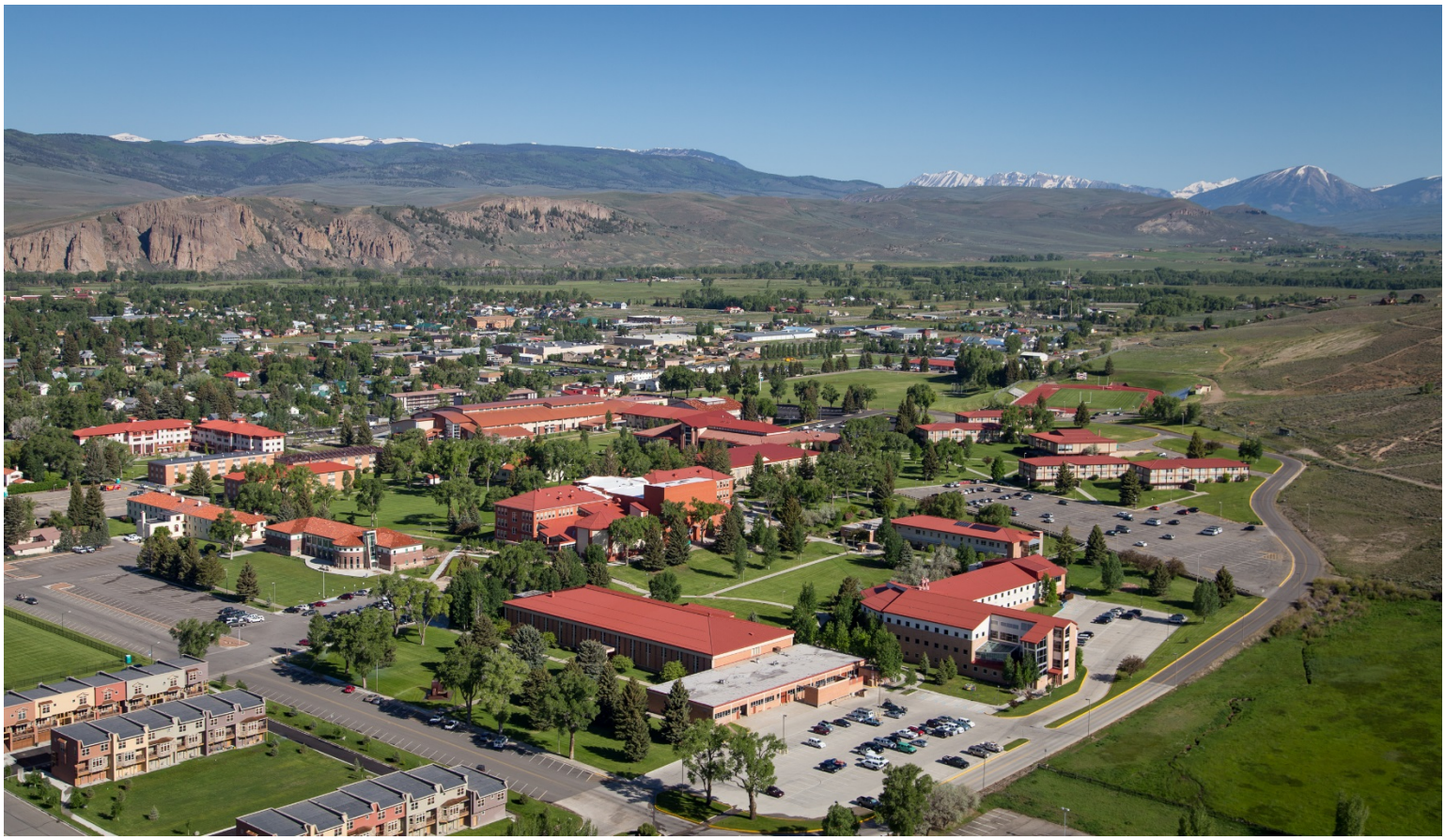

Western State Colorado University is an affirmative action, equal opportunity institution and employer. We encourage applications for admission or employment and participation in other University programs and activities by all individuals.
The University does not discriminate on the basis of race, sex, creed, color, age, religion, national origin, marital status, sexual orientation, or disability in admission or access to, or treatment or employment in, its educational programs or activities. Inquiries concerning Title VI, Title IX, ADA, and Section 504 may be referred to the Affirmative Action Officer (970 943-3140) or to the Office for Civil Rights, U.S. Department of Education, 1244 Speer Boulevard, Suite 300, Denver, Colorado 80204.
No qualified handicapped person shall, on the basis of handicap, be excluded from participation in, or be denied the benefits of, or otherwise be subjected to discrimination, under any academic research, occupational training, housing, health insurance, counseling, financial aid, physical education, athletics, recreation, transportation, other extracurricular or other post-secondary education program or activity to which this sub part applies (Section 504, Rehabilitation Act of 1973, 29 USC 706, Title 45, Section # [84.3.1]).

Accessibility for Individuals with Disabilities
Western's policies insuring equal access to its facilities and services can be reviewed in the Disability Services office. For further information, phone or write: Disability Services, Academic Resource Center, Western State Colorado University, Gunnison, CO 81231, (970) 943-7056.

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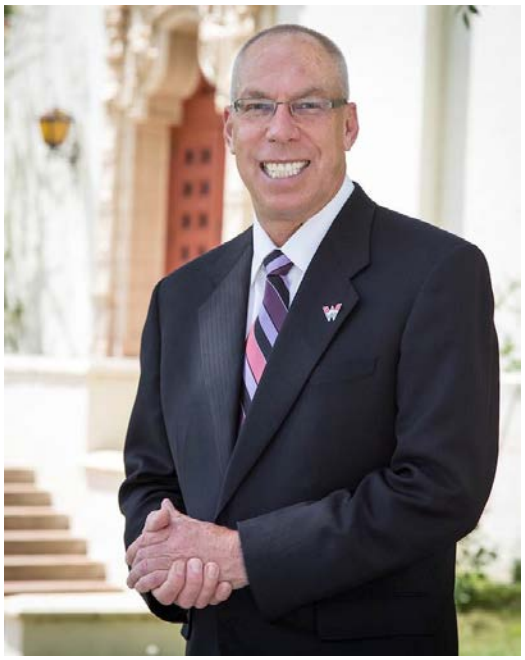

To our students:

What an honor it is for me to introduce our growing catalog of courses to both Western State Colorado University students and those considering enrolling at our university.

The Western academic experience continues to improve in both breadth and quality, as we continue to add academic programs and challenges to support your academic growth and prepare you for life after college. Our university has a century-long tradition of offering a high-quality, customized education at a value you won't find anywhere else. With an outstanding faculty and staff and average classes of just 17 students, we offer a private-college experience for a public-university price.

This publication describes Western's courses and academic-degree programs. In addition, you'll see it spells out requirements you must complete to earn your university degree. Please note these requirements as you plan your academic schedule and career.

If you need help understanding our academic offerings or planning your future, please know our dedicated faculty and staff are here to help you grow academically and personally. Western's culture of quality academics and close faculty-student mentorship reflects our commitment to your success. We want to ensure you get a phenomenal education here at Western, and we are here to help you chart a path for continued growth after graduation.

While you study here at Western, we will push you to expand your horizons, broaden your sense of community, and explore and pursue both academic and practical skills excellence that will put you a step ahead of your peers.

That's why we call the Western experience *Learning, Elevated.*

Best wishes for your academic success this year at Western.

Greg Salsbury, Ph.D.
President, Western State Colorado University

GENERAL INFORMATION

Institutional Mission

Western State Colorado University fulfills its statutory mission by promoting intellectual maturity and personal growth in its students and graduates citizens prepared to assume constructive roles in local, national, and global communities. Western helps its students to develop the skills and commitments needed to continue learning for the rest of their lives and strives to elucidate the connections unifying academic domains which have traditionally existed separately: the sciences, the liberal arts, and professional programs. The University provides students with a solid foundation of skills in written and spoken communication, problem solving, critical thinking, and creativity. Our programs encourage a breadth and depth of knowledge, which will serve as a foundation for a professional career or graduate study, and an appreciation of values appropriate to a liberally educated individual. Western's distinctive character emerges from its unity among academic and professional disciplines, its high standards of scholarship, and its unique environment in the mountains of western Colorado.

Institutional Accreditation

Western State Colorado University is accredited by The Higher Learning Commission.

The Higher Learning Commission
230 South LaSalle Street, Suite 7-500
Chicago, IL 60604-1413
(312) 263-0456 (800) 621-7440

Individual academic programs have been accredited, approved, or recognized by discipline-specific professional or governmental agencies, including the following:

Energy Management: American Association of Professional Landmen
Music: National Association of Schools of Music
Teacher Education: Colorado Department of Education;
Colorado Commission on Higher Education;

Institutional accreditation documents may be reviewed in the Office of Academic Affairs.

Governance

The Colorado Commission on Higher Education (CCHE), which acts as the policy and coordinating board for all public institutions of higher education in Colorado, is a nine-member board appointed by the Governor and confirmed by the Colorado State Senate.

Colorado Commission on Higher Education 1560 Broadway, Suite 1600
Denver, CO 80202
(303) 866-2723

Western is governed by the Western State Colorado University Board of Trustees, a nine-member lay board. Trustees are appointed by the Governor to four-year terms. One faculty trustee and one student trustee are elected by their constituents and serve one-year terms.

History of Western

Western was established in 1901. It was the first college on Colorado's Western Slope and is the fourth-oldest public institution in the state. The school actually opened for classes in 1911 as the Colorado State Normal School. Originally a preparatory college for teachers, Western's role changed when it became Western State College of Colorado in 1923. For many years Western was known for its graduates who became teachers, though it was, in fact, the first Colorado college designed to teach a primarily liberal arts curriculum, and the liberal arts have remained at the core of Western's academic mission ever since.

Western offers a broad range of courses of study in a beautiful mountain setting. Many degree programs take advantage of this environment, which has been called "one of the world's greatest natural laboratories." Western offers students opportunities to study in a wide range of fields such as business, computer science, communications, the social and behavioral sciences, outdoor leadership, the arts, the sciences, and teacher education.

The school is known for its beautiful setting and campus. Savage Library, the President's House, and Ute Hall –all constructed during the Depression—are architecturally striking and add character to the campus. After World War II, Western's enrollment soared as veterans took advantage of the GI Bill and new programs were added.

By the 1970s, enrollment was exceeding 3,000, crowding the institution so much that new freshmen often slept in the halls of their dorms for the first few days until rooms became available. Today, after an extended building campaign over the past decade, many facilities, classroom buildings and residence halls are spacious, attractive, and well-designed. Starting with the construction of the Borick Business Building, which opened in 2007, all new construction on campus adheres to energy efficiency and environmentally sustainable building practices.

During the 1980s, Western invigorated its focus on undergraduate education in two core areas: the liberal arts and professional programs. Undergraduate and graduate programs continue to grow and develop to meet the needs of our students while simultaneously honoring the past. Beyond the classroom, the academic year is full of opportunities for students to learn from outstanding scholars, performers, and others who visit from throughout the world. Just as importantly, summer in Gunnison is full of educational opportunities, such as the Summer Teacher Institute, which offers a wide range of graduate level courses to teachers throughout the region and the state. Western's excellence also extends into non-academic programs. The University is home to the only nationally certified university mountain rescue team, and the Wilderness Pursuits program offers students ample opportunities to explore the mountains, rivers, and forests that surround the University. The University's vibrant theatre and fine arts departments provide

performances and education not only for our students but also for the entire Gunnison Valley.
Western has one of the country's finest small university athletic programs. Many of our teams are consistently ranked among the leaders in the NCAA Division II. Athletic opportunities also include competitive mountain sports, club sports and intramural teams.
Now in its second century, Western continues to build on its long tradition of excellence.
Governor John Hickenlooper signed HB 1331 on Monday, June 4, 2012 officially changing the institution's name to Western State Colorado University. The name change took effect on August 1, 2012. Two graduate degree programs were approved in 2009 and offered for the first time in fall of 2010. In 2018-2019 Western offers five graduate degree programs.
Throughout its history, Western has been a source of innovation and excellence, reflected in the quality of its programs and in the success and achievements of its graduates. Entering its second century of service, Western continues its tradition of providing a high quality education of value.

Leslie J. Savage Library

The staff of the Leslie J. Savage Library provides information, resources, and services designed to advance the intellectual and personal development of members of the University community. When classes are in session, the Library's services are available seven days a week.
Students find the majority of information they seek for course assignments in the Library collection. In addition to over 250,000 volumes and 3,500 films, the collection includes access to over 70,000 electronic books and over 60 electronic journal databases. Special collections include federal and state government documents, books in the Western Colorado History Collection, and the University archives.
The Library makes extensive use of electronic databases to facilitate identifying and locating desired materials. Using the Library's catalog, the search for information can be extended to libraries and databases throughout the United States. Through the Library's resource sharing services, students can borrow materials from other libraries nationwide.
The Library staff gives students the opportunity to become skilled at using the full range of information resources and services. In addition to helping individuals identify and locate desired information, librarians offer group and individual instruction to students as they start to research topics for course assignments. Savage Library provides a welcoming environment for study and research.

The Western State Colorado University Foundation

The Western State Colorado University Foundation, Inc., is a private non-profit corporation founded in 1975 to advance the mission and goals of Western State Colorado University. The Foundation is the primary depository of private gifts from alumni, friends, corporations, and foundations. In the last 10 years, Western State Colorado University has received $50 million in gifts from donors investing in Western's people and mission. Each year, the Foundation gives more than $2 million to the University, with the greatest portion directed to scholarships.
In 1997, the Foundation established The Foundation Scholars Program. This program offers the most prestigious, renewable scholarships awarded at Western to date.
In recent years, the Foundation has increased its role in raising private support for Western. The Foundation receives annual fund contributions, one-time gifts, and major gifts made over a period of years. Many different gift options are available: bequests, cash, securities, savings bonds, real estate, trusts, life insurance, and personal property.
Since Western is a state-assisted institution, private gifts to the Foundation are critical to maintaining and enhancing excellence in faculty and student programs. An annual report of the Foundation is available for those wishing further information. Contact the Foundation at (970) 641-2237, tburggraf@western.edu, or mail inquiries to the Western Foundation, Inc., 909 Escalante Drive, P.O. Box 1264, Gunnison, CO 81230.

Undergraduate Degree Programs

Western State Colorado University offers the following degree programs:

Bachelor of Arts (BA)
- Accounting
- Anthropology
- Art
- Business Administration
- Communication Arts
- Economics
- English
- Elementary Education
- Environment and Sustainability
- History
- Music
- Politics and Government
- Psychology
- Recreation and Outdoor Education
- Sociology
- Spanish

The Bachelor of Fine Arts (BFA)
- Art

Bachelor of Science (BS)
- Biology
- Chemistry
- Computer Science
- Exercise and Sport Science
- Geology
- Mathematics

Teacher Licensure
- Elementary Education
- K-12 Education
- Secondary Education

3 + 2 Graduate Programs
- Biology - Master of Environmental Management
- Environment and Sustainability – Master of Environmental Management
- Exercise and Sport Science – Master of Science in High Altitude Exercise Physiology
- Politics and Government - Master of Environmental Management
- Recreation and Outdoor Education - Master of Environmental Management
- Sociology - Master of Environmental Management

WSCU Diversity and Inclusivity Statement

The following statement on Diversity and Inclusivity was adopted by the faculty at Western State Colorado University:

"Western State Colorado University takes a firm and unyielding stance in support of diversity, inclusivity, scientific inquiry, and creative expression. We believe these principles are necessary for the free and open inquiry that defines our role as a public institution in a democratic society. We believe that these principles are a moral imperative requiring constant vigilance and a firm stance against actions motivated by hate or intimidation. The university welcomes people of color, people with disabilities, people of all genders and orientations, people of all religious preferences, immigrants and refugees regardless of national origin or ethnicity and other underrepresented communities regardless of socioeconomic class. We actively seek to build a civil and respectful culture which affirms these principles in all that we do."

Student Bill of Rights

The Colorado General Assembly enacted the Student Bill of Rights (C.R.S. 23-1-125) to assure that students enrolled in public institutions of higher education have the following rights:

- students should be able to complete their Associate of Arts and Baccalaureate programs in no more than 120 credits unless there are additional degree requirements recognized by the Commission (Colorado Commission on Higher Education);
- a student can sign a four-year graduation agreement that formalizes a plan for that student to obtain a degree in four years, unless there are additional degree requirements recognized by the Commission;
- students have a right to clear and concise information concerning which courses must be completed successfully to complete their degrees;
- students have a right to know which courses are transferable among the state public two-year and four-year institutions of higher education;
- students, upon completion of core general education courses, regardless of the delivery method, should have those courses satisfy the core course requirements of all Colorado public institutions of higher education;
- students have a right to know if courses from one or more public higher education institutions satisfy the students' degree requirements; and
- a student's credit for the completion of the core requirements and core courses shall not expire for ten years from the date of initial enrollment and shall be transferable.

Assessment of Academic Programs and Services

Assessment is the process of collecting, synthesizing, and interpreting information to aid decision making; it includes information gathered about students, instruction, classroom climate, and/or the institution. The assessment process results in feedback to students and the institution with a goal of improving the instructional process.

At Western, assessment begins as students enter the institution and continues after graduation. Students undergo placement testing in order to enroll in courses that best suit their academic abilities. As students progress through general education and course work in the major, they are evaluated on skills and disciplinary learning and, in turn, faculty use results to improve instruction and the curriculum.

The purpose of student and program assessment at Western is to improve student learning and program delivery. Assessment is an ongoing process; therefore, campus-wide and disciplinary goals and objectives must be determined, assessed, evaluated, and reported. Academic programs are assessed by external reviewers as well as by a thorough internal program review process.

ACADEMIC CALENDAR FOR 2018-2019

Summer	Classes begin 1st 3 weeks (Mayterm) and full term	May 7, 2018
	Memorial Day -- no classes	May 28, 2018
	Classes begin 1st 5 weeks	May 29, 2018
	Classes begin 2nd 5 weeks	July 2, 2018
	Independence Day -- no classes	July 4, 2018
	End of Summer Semester	August 3, 2018
Fall	New Faculty Report	August 20, 2018
	Classes begin	August 27, 2018
	Labor Day -- no classes	September 3, 2018
	Mid-fall Break -- no classes	October 19, 2018
	Thanksgiving Break -- no classes	November 19-23, 2018
	Final Exams	December 17-20, 2018
Spring	Classes begin	January 14,2019
	Martin Luther King Day -- no classes	January 21, 2019
	Presidents Day -- no classes	February 18, 2019
	Spring Break -- no classes	March 18-22, 2019
	Final Exams	May 7 -10, 2019
	Spring Commencement	May 11, 2019

*See the University web page for additional information, updates, and future calendars. All calendars are subject to change http://www.western.edu).

ADMISSIONS POLICIES AND PROCEDURES

All applicants receive a holistic application review and the final admission decision is based on the student's potential for attaining a degree at Western. Applicants are evaluated on the basis of a variety of factors, including previous academic achievement, test scores, essay, letter of recommendation, rigor of academic history, leadership potential, diversity of experience, and the depth of participation in extracurricular activities.

Academic performance is not the sole criterion of admission to the university. Western State Colorado University recognizes that academic preparation may take several forms and that students contribute to campus in a variety of ways.

How to Apply

All students are encouraged to apply for admission online using The Common Application or at www.western.edu/future-students/applying-western.

Criteria for Admission of First-Time Freshmen

Unless otherwise indicated, all freshman applicants are required to submit the following documents in order to complete an application for admission. In some cases, additional information may be required before an admission decision can be rendered.

All correspondence about undergraduate admissions should be addressed to the Office of Admissions, Western State Colorado University, 600 North Adams Street, Gunnison, CO 81231. All credentials submitted to the Admissions Office become the property of Western State Colorado University and will not be returned.

Application for Admission- All students are encouraged to apply for admission online using The Common Application or at www.western.edu/future-students/applying-western. There is a non-refundable application processing fee.

1. **Official High School Transcripts**- All Freshmen applicants must have their high school submit official transcripts directly to the Admissions Office. Applicants from non-accredited high schools and homeschooled students are considered on a case-by-case basis. Applicants who are not U.S. citizens and have completed their schooling in countries other than the United States (excluding U.S. overseas schools) should see the section on admission of international students.
2. **ACT or SAT Scores**- All Freshmen applicants should request that the Student Profile Reports be sent to Western State Colorado University (profile codes: ACT-0536, SAT-4946). Western does not require the writing portion of either the ACT or SAT.
3. **Personal Essay-** Applicants are asked to write at least a 250 word essay. A student's essay will help the review committee better understand the applicant as a person through leadership potential, diversity of experience, the depth of participation in extracurricular activities and overall interest in attending Western.
4. **A Letter of Recommendation**- A letter from a teacher, school counselor, or other person who can attest to the applicant's personal and professional character and potential to succeed academically at Western.
5. **Completion of High School Classes-** The Admissions Office encourages freshman applicants to complete the following secondary school units by high school graduation:(a) four years of English, (b) four years of math, including Algebra I & II and Geometry (c) three years of natural science (two years lab-based), (d) three years of social science, and (e) two years of academic electives, including one year of foreign language.

Fall 2016 Freshman Class Profile

Middle 50% of Enrolled First-Time Freshmen	
High School GPA:	2.8 - 3.6
ACT Composite:	20 - 25

GED Applicants. Applicants who have not graduated from high school are considered for admission if they have successfully completed a high school equivalency exam. Western accepts General Education Development (GED) versions 1988, 2002, 2014 and any other state approved exam. Students without a high school diploma who receive a score of 145 or above in each content area on the 2014 GED (550 or greater on the 2002 version, or 55 or greater on the 1988 version) are considered to have met the Commission standards for the high and selective institutions. Applicants under the age of 23 are also required to submit ACT or SAT scores.

Criteria for Admission of Transfer Students and Students Seeking an Additional Bachelor's Degree

Transfer applicants must submit official transcripts from all prior colleges and universities. Transfer applicants must have a combined grade-point average of at least 2.3 from all prior colleges or universities to be considered for admission. Transfer applicants must have completed at least the same level of high school course work required of freshmen applicants.

Test scores, recommendations, high school records, interviews, and other relevant information may be used in assessing the application for admission. Transfer applicants who have earned fewer than 24 semester credits are required to submit scores from either the ACT or the SAT, along with final high school transcripts.

Grades earned at other institutions are not included in the calculation of grade-point averages at Western.

Admission of International Students

International students seeking admission must submit an application to the Office of Admission by October 1st for the Spring Semester, and May 1st for the Fall Semester of the term for which they apply. Students must also submit official high school and/or college transcripts in conjunction with their application. All documents in a language other than English must be accompanied by certified English translations of these documents. All official copies of academic transcripts and diplomas of secondary and post-secondary education must be submitted directly to the Western Office of Admissions by the institutions attended. These documents must be original copies with an official signature and bear the school's official seal, or a certified copy.

All academic credit documentation for work completed outside of the United States must submit transcripts to a NACES member credential evaluation service for a course by course evaluation. For a complete list of members, go to: http://www.naces.org/, or http://www.aacrao.org.

Applicants must be graduates of high school or secondary programs equivalent to similar programs in the United States. Applicants from countries where English is not a national language must have a minimum score of 550 on the paper version Test of English as a Foreign Language (TOEFL), an Internet-based Test (iBT) of 80, or a minimum score of 6.5 on the IELTS test.

For international students transferring to Western from another US College or University who have completed 24 semester credit hours or more, and have completed a college level English composition course with a 3.0 GPA or higher, a TOEFL of IELTS score is not required.

To be considered for merit based scholarships, applicants must submit either an ACT or SAT standardized test score directly from the administering organization. http://www.actstudent.org , or http://sat.collegeboard.org/.

Applicants must demonstrate that an adequate sum of money in U.S. currency is available to cover the costs of each year of anticipated study by completing and submitting Western's Affidavit of Support form. Refer to Western's web site for the form and current required amount. Bank statements showing financial solvency must also be provided directly from the Financial Institution where funds are held in conjunction with the Affidavit of Support form. Additionally, a photocopy of the applicant's passport, or, if the applicant is in the U.S., a photocopy of the visa and I-94 in which the applicant entered the country must be provided.

Documents will not be accepted if received via email or fax or in a language other than English. Western will not generate an F-1 visa until all required documents have been received and a student has been officially accepted to the University.

Students Seeking an Additional Undergraduate Degree

Students seeking an additional undergraduate degree must meet all residency and major and/or minor requirements. This includes a minimum of 30 credits in residence at Western. Students are considered to have satisfied freshman and sophomore-level General Education requirements by virtue of the work completed for their first undergraduate degree.

Non-Degree Admission

An applicant not wishing to pursue a degree at Western may be admitted as a non- degree student by completing the "Non-Degree Application Form" and submitting a written statement of his/her educational intentions. Western sets policies regarding the non-degree admissions process, criteria for acceptance, limitation of credit, and the courses available to non-degree students.

Should the student wish to pursue a degree in the future, a regular application form must be completed, and the admissions requirements in effect at that time must be met. A maximum of 12 credits taken as a non-degree student will apply toward a degree at Western. Exceptions may be considered on a case-by-case basis. For further information, contact the Admissions Office.

Concurrent High School Student Enrollment

Qualified high school students, 9th-12th grade, may take courses at Western through the Concurrent Enrollment program, earning both high school and university credit. Western sets policies regarding the admissions process and criteria, limitation of credit, and courses available to Concurrent Enrolled students. Contact Extended Studies for more information.

Deferral Policy for Offers of Admission

Any new student who is offered admission to Western State Colorado University who would like to defer their enrollment must contact the Admissions Office. All deferring students will be required to complete a new admission application. Once the new application has been received, the Admissions Office will correspond with the student if additional information is required. The original admission decision will stand unless other negating circumstances occur, such as the student fails to graduate from high school or has unsatisfactory performance at a transfer institution.

Readmission of Former Students

Students who leave Western and wish to return are required to apply for readmission. Upon readmission, a student will receive the same academic standing under which she/ he left. For example, a student who left the University in good standing will be readmitted in good standing; a student who left while on academic probation will be readmitted on academic probation.

Students who have attended other institutions during their absence from Western must also request that official transcripts be sent to Western State Colorado University by all colleges or universities attended. Courses that have a letter grade of "C-" or better may be considered for transfer credit. Grades earned at other institutions are not included in the calculation of grade-point averages at Western. Contact the Office of the Registrar or navigate to www.western.edu/reg/forms to obtain a readmission application.

Transfer Credit, AP Credit, CLEP, Other Credit

Undergraduate Transfer Credit Policies and Procedures

College-level academic courses with grades of C- or better, completed at an institution accredited by a regional accrediting agency, are generally accepted. Western accepts up to 90 credits, combined total, from accredited institutions, military credit, AP, IB, and CLEP exam.

- Western only applies grades earned through Western toward the calculation of GPA.
- Western will only grant upper division credit if the transfer course is taken at an upper division level, regardless of Western equivalency.
- No credit will be granted for remedial or vocational-technical courses; except for some military training or as part of an articulation agreement.
- Courses recommended by the American Council on Education may be considered for credit.
- Total combined credit permitted under CLEP, AP and other programs leading to credit by examination is limited to 40 semester credits, with a maximum of 18 semester credits allowed for CLEP.
- Continuing students must receive approval in advance for transfer credit.

Exceptions to evaluations of transfer credit by the Office of the Registrar may be requested by the appropriate academic department.

Credits accepted in transfer that are comparable to those offered at Western, or are State guaranteed transfer General Education courses (gtPathways), may apply toward satisfying requirements of the major and minor programs. Non-equivalent courses, or those excluded from acceptance toward any of Western's program requirements, may be accepted as electives.

Transfer credit accepted on a provisional basis from a college, which is a candidate for accreditation (as recommended in the American Association of Collegiate Registrars and Admissions Officers Transfer Credit Practices), can only be validated by the student completing 30 credits at Western with a 2.000 cumulative grade-point or better.

Foreign Institutions

Credit will be considered for courses taken at foreign institutions that are formally recognized as an institution of higher education by a given country's Ministry of Education. The same general parameters apply for course content and grades as they do for U.S. credit consideration.

Study Abroad

Credit earned from non-Western Study Abroad programs are treated as transfer credit.

Credit for Advanced Placement

Western awards credit for Advanced Placement in all subject areas. A minimum score of 3 is required for credit to be granted for most AP tests (for some tests, a score of 4 is required). Scores must be submitted by the College Board directly to the Admissions Office.

Credit for International Baccalaureate Program

Western recognizes the International Baccalaureate (IB) Program. Western grants credit based on performance on individual IB exams for students who have completed the IB diploma program as long as all scores are 4 or greater. Students who have not completed the diploma program may be awarded credits for individual IB certificate courses as long as the scores are 4 or greater. For further information on how IB certificates will be awarded credit, contact the Office of the Registrar. Official IB scores must be sent to the Admissions Office from the International Baccalaureate Organization.

Credit for Military Service

Military service credit is evaluated when official copies of transcripts for military schools are received. Army, Navy, and Marine personnel submit a Joint Service Transcript (JST). Air Force personnel submit a Community College of the Air Force (CCAF) Transcript. Courses are evaluated according to the American Council on Education (ACE) Guidelines. A maximum of 25 semester hours of credit is counted toward a baccalaureate degree.

Credit for Transfer from Two-Year Colorado Public Colleges

Articulation agreements and transfer guides have been developed with all of the Colorado two-year institutions. Transfer students from Colorado two-year programs who graduate with an Associate of Arts or Associate of Science degree will be considered to have satisfied Western's General Education Program.

Credit for Transfer from Non-Traditional Programs

Western may accept credits for both military service training and non-traditional training as recommended by the American Council of Education. The maximum number accepted by Western toward a Bachelor's degree is 30 semester credits. Western will not grant credit for "life experience," that is, credit for experience gained from "work-related" activities, unless demonstrated through CLEP.

Credit for College Level Examination Program (CLEP)

Western will award credit for both the general and subject CLEP exams for a maximum award of 18 semester credits for any combination of CLEP and challenge examinations. In awarding credit, Western generally follows the recommendations of the American Council on Education, who award on the basis of a scaled score of 50, with the exception of some foreign language exams. For a list of subjects and courses awarded CLEP credit, contact the Office of the Registrar. Scores must be submitted by the College Board directly to the Office of the Registrar.

Credit for Challenge Examinations

Western will award course credit for prior learning to students who successfully test out of GT Pathways courses by receiving a score equivalent to a grade of "C-"on a course challenge exam. Challenge exams are created by discipline faculty for GT Pathways courses for which a CLEP exam is not available. A list of GT Pathways courses with challenge exams, as well as challenge exam policies, is available on the Office of the Registrar web page. Western allows a maximum of 18 credits for any combination of CLEP and challenge exams. Credits received through challenge exams will not count toward satisfying Western's residency requirement.

Resolution of Transfer Disputes among Colorado Institutions

Students transferring from Colorado institutions may file an appeal of Western's evaluation of their transfer credits by adhering to the following procedure. The Office of the Registrar is responsible for the appeals process. The appeal must be filed in writing to the Office of the Registrar of Western State Colorado University within 15 calendar days of notification of the evaluation. Failure to file in this timely manner means that the original evaluation will be binding. Western will respond to any timely appeal in writing within 15 calendar days of the receipt of the appeal.

If the initial appeal does not resolve the dispute, the student may appeal in writing to the student's previous institution(s) within 15 calendar days. The presidents of the two institutions (or their representatives) may then resolve the dispute. If the issue is still not resolved, the student may file an appeal with the Colorado Commission on Higher Education (CCHE) within 15 calendar days of receipt of written notification by Western of the presidents' decision. The CCHE may then resolve the dispute. The decision of CCHE will be final and binding

TUITION AND FEES

Listed below are the estimated basic costs of attending Western State Colorado University during 2018-2019. These costs are subject to change. Costs are presented here for information only.

Full-time Students

Tuition for:	16-Week Semester	Academic Year
Resident Tuition		
Total Tuition	$4,467	$8,934
College Opportunity Fund	($1,155)	($2,310)
Cost to Student	$3,312	$6,624
Non-Resident Tuition	$9,048	$18,096

Part-Time Students

Tuition for part-time students is based on a per-credit charge. The estimated rates for 2018-2019 are $276 per credit for resident students (after application of the College Opportunity Fund Stipend) and $754 per credit for non-residents. For tuition purposes, "part-time" is defined as fewer than 12 credits in a 16-week semester.

Tuition Surcharge

Students enrolled for more than 18 credits in a 16-week semester will pay a tuition surcharge. The tuition surcharge is a per-credit charge at the basic resident or non- resident rate.

Mandatory Fees (estimated)

Mandatory fees have been approved by the Board of Trustees to pay for special services, including the programs operated by the Student Government Association. The estimated cost of all mandatory fees for a full academic year for 2018-2019 is $3490.15. Mandatory fees are prorated for part-time students.

School of Business Fee: Students taking courses in the School of Business (Accounting, Business Administration, and Economics) pay a $45 per credit fee for all non-GE courses.

Students taking lab courses in the natural and social sciences, field-based courses, and student teaching courses in education will have an additional fee assessed. Catalog course descriptions identify the courses with fees.

Optional Fees (estimated)

The following 2018-2019 optional fees will be assessed to each student's account: Renewable Energy Fee - $30, Student Recreation Fee - $200 and Scholarly Activity Fee - $20. Any or all of these fees may be waived by contacting the Cashier's Office at cashier@western.edu. Student's wishing to waive optional fees must do so by the full term drop deadline. The date of the drop deadline for any given semester can be found by visiting www.western.edu/registrar.

Room and Board Costs

(Subject to change)

Western provides students several housing options in a variety of residence halls. Apartments are available to returning students. Below are examples of estimated living expenses for 2018-2019. For a comprehensive list of housing and meal plan fees, please visit http://www.western.edu/current-students/residence-life/room-and-board-rates

Residence Halls & Apartments

Residence Halls	Fall Semester	Spring Semester	Total Academic Year
Escalante, Mears, Ute - Double	$2,515.00	$2,515.00	$5,030.00
Escalante, Mears, Ute – Single	$2,930.00	$2,930.00	$5,860.00

Apartments	Fall Semester	Spring Semester	Total Academic Year
Chipeta – Single, One Bedroom Apt.	$3,500.00	$3,500.00	$7,000.00
Chipeta – Single, Two Bedroom Apt.	$3,300.00	$3,300.00	$6,600.00
Pinnacles –Double as Single Room	$3,400.00	$3,400.00	$6,800.00
Pinnacles-Single Room	$3,300.00	$3,300.00	$6,600.00
Pinnacles-Double Room	$3,200.00	$3,200.00	$6,400.00

All students residing in University residence halls (non-apartments) are required to purchase a meal plan. It is suggested that students living in apartments carry a meal plan, but it is not required.

Meal Plan Choices

Premier Plans: The Blue Mesa Plan or Mountaineer Plan is required of all freshmen and is available to all students.	**Fall Semester**	**Spring Semester**	**Total Year**
Blue Mesa Plan 19 Meals a week plus $175 Flex Dollars (to be used exclusively in the Rare Air Café and Mad Jacks).	$2,522.50	$2,522.50	$5,045.00
Mountaineer Plan 15 Meals a week plus $175 Flex Dollars (to be used exclusively in the Rare Air Café and Mad Jacks)	$2,302.50	$2,302.50	$4,605.00
Crimson Plan 10 Meals a week plus $250 Flex Dollars (to be used exclusively in the Rare Air Café and Mad Jacks) **Available only to second-year students and above.*	$2,034.00	$2,034.00	$4,068.00

Optional meal plans

The optional meal plans below will only be available to second-year students and above who live in the on-campus apartments or off campus. You may purchase additional plans if you run out during a semester. These plans carry over between fall and spring semester. Plans are non-refundable.	**Per Plan**
Mountaineer 80 Any 80 individual meals in the Rare Air Café plus $100 flex dollars to be used in the Rare Air Cafe or at Mad Jacks.	$860.00
Mountaineer 40 Any 40 individual meals in the Rare Air Café plus $50 flex dollars to be used in the Rare Air Cafe or at Mad Jacks.	$429.00
Mountaineer 20 Any 20 individual meals in the Rare Air Café plus $25 flex dollars to be used in the Rare Air Cafe or at Mad Jacks.	$215.00

The Mears complex will offer a community kitchen that will be available exclusively to sophomores living in the Mears complex. The use of this kitchen can supplement your meal plan, as all students living in the Mears complex are required to have at least the Crimson Plan.

Residence Life Requirement

Information about the online housing selection process will be e-mailed to the student's western.edu official e-mail account beginning in the spring. All first and second-year students are required to live in on-campus housing and purchase a meal plan unless excused by the Housing Appeal Committee for one of the following reasons: (1) the student is married; (2) the student is living with parent(s) or a legal guardian; (3) the student has previously lived on campus for two terms at another institution; (4) the student is at least 21 years of age by the first day of classes.; or (5) the student is an honorably discharged veteran.

Deposit

A $100 housing deposit is required with the housing application. This deposit reserves a space on campus for the academic year. Cancellations must be submitted in writing to the Residence Life office before July 1st for the fall semester and November 17th for the spring semester to receive a full refund of the $100 housing deposit. After these dates, housing deposits are non-refundable.

Payment of Charges

Tuition and fees are due on the first day of classes. Students will be mailed a billing statement before the beginning of each semester with an estimate of charges. Western State Colorado University will not register a student, release a diploma, provide a transcript, or supply other University services to any current student or former student who has an outstanding financial obligation to the University. Per state statute, failure to pay a financial obligation to the University when it is due may result in an account being placed with a collection agency with such action reported to a credit bureau. In addition, an account may be charged legally allowable collection charges and attorney fees to help secure payment of the debt owed the University.

Late Charges

In each of the 16-week semesters and the summer session, a date is established after which payment is considered late. This date is available from the Cashier's Office.

The late charge begins at $50 for students who do not pay by the due date. Accounts not in good standing by the last day of each semester will be assessed an additional $50 late charge. Failure to pay the bill on time will result in removal from courses and restricted access to school services.

Refund of Charges

The following refund policies are in place at Western State Colorado University:

When a student officially withdraws from Western (see Academic Policies section on Withdrawal from the University), tuition and fees are refunded according to the following schedule for a full term 16-week semester:

100% refund	Through the end of the official drop period
50% refund	For the period between 15% and 25% of the term
25% refund	For the period between 25% and 50% of the term

*Students taking a course(s) in a part of term that ends prior to the end of the full term semester will not receive a refund, in whole or part, once the final meeting time for that course(s) has concluded.

If a student officially withdraws from Western, the housing and meal plan charges will be refunded according to the following schedule:

Prorated by week through the end of the official drop period

50%	For the period between 15% and 25% of the semester
25%	For the period between 25% and 50% of the semester
0%	For the period after 50% of the semester

*Please refer to the Office of the Registrar website for specific dates of the official drop period.

Students who officially withdraw from Western, or who simply stop attending classes, are subject to repaying all or part of any financial aid received, depending on their length of actual attendance.

Changes in Tuition and Fees

Tuition rates are established each year by the Board of Trustees, and student fees are recommended by the Student Government Association and approved by the Trustees. The University reserves the right to change any of these costs at the beginning of any academic semester.

Colorado Residency

New students are classified as in-state or out-of-state students for tuition purposes on the basis of information provided on the application for admission and on other relevant forms. Applicants may be required to submit evidence substantiating their claim of in-state eligibility.

To be eligible for a change to in-state status, students must submit petitions with appropriate documentation. The forms, deadline information, and explanation of the Colorado tuition classification statutes are available online.

Tuition classification is governed by Colorado statutes and by judicial decisions that apply to all state-funded institutions in Colorado and is subject to change without notice.

Financial Aid

Western offers financial aid to help deserving students bridge the gap between the expected family financial contribution and the cost of attending the university. All students admitted are encouraged to apply for financial aid. Student financial aid is awarded after a student has been accepted for enrollment and the financial aid application is complete. It is strongly recommended that financial aid applications and supporting documents be submitted by April 1.

Applying for Aid

Western State Colorado University utilizes the Free Application for Federal Student Aid (FAFSA) to determine eligibility for all financial aid. This form is available online at: http://www.fafsa.ed.gov. The FAFSA should be filed as soon as possible after January 1 each year.

Grants

Grants need not be repaid. By completing the FAFSA, a student is automatically applying for consideration of the following grants: Federal need-based and/or Colorado Resident need-based grant.

Scholarships

Scholarships need not be repaid. Western State Colorado University offers numerous scholarship opportunities for both incoming and continuing students.

Employment Programs

Western's student employment program is funded through federal, state, and institutional sources. Students may work as many as 20 hours per week, and wages vary according to the job. It may be possible to work on campus even if you are not otherwise eligible for financial aid.

Loan Programs

Loans must be repaid. The FAFSA must be completed to receive consideration for the Federal Direct Stafford Loan Program and the Federal Direct PLUS Program.

STUDENT PROGRAMS AND SERVICES

Programs and services in support of the academic education at Western are offered in the spirit of American educator John Dewey, who believed that the learning experience should not just be a "preparation for future living" but also the guided and intelligent practice of life in the present.

Thus, the goal of those involved in these programs and services at Western is to provide opportunities for students to "apply the curriculum;" to question thoughtfully; to reason clearly; to either compete vigorously or to cooperate sensitively, depending on the challenge; and otherwise to fully embrace the human condition and the responsibilities and opportunities it affords.

Student programs offer students the opportunity for direct participation in activities involving their mental, physical, spiritual, or career-related development.

Services assist students both in making their way through Western and in making the transition to their post-graduate lives. These programs and services include cultural, academic, and diversity-related programs and services, educational and career- related programs and services, and recreational and athletic programs.

The programs and services offered in each of these categories are described briefly in the pages that follow and they are described in more detail in the Student Handbook (http://www.western.edu/current-students/student-affairs).

Co-Curricular Programs

Art Exhibitions. Western's art faculty, advanced art students, and visiting artists provide a steady rotation of shows and exhibits in the Quigley Hall Gallery and community galleries.

Enrichment Convocations and Lectures. Each semester, Western arranges for special on-campus presentations by distinguished professionals, government officials, visiting faculty, and other guests from the world beyond the campus.

Headwaters Conference. Each fall, Western invites an interdisciplinary gathering of scholars, writers, poets, storytellers, public officials, and others involved in the cultural development of the Southwest to discuss issues and problems of common concern to Southwesterners.

Honorary Organizations and Departmental Clubs. Western has student chapters of several national honorary organizations and departmental clubs which allow students to pursue their disciplinary studies outside the classroom. These groups include: Alpha Kappa Delta (Sociology), Alpha Zeta (Spanish), Gamma Chapter of Tri Beta (Biology), Omicron Delta Kappa (leadership and service), Phi Alpha Theta (History), Psi Chi (Psychology), Sigma Tau Delta (English), Art League, Association for Students of Exercise and Sport Science (ASESS), Chemistry Club, English Club (Wordhorde), NAfME, Pre-Health Club, Politics Club, Psychology Club, Sociology Club and Sustainability Coalition (Environmental Sustainability).

LEAD Office. The Leadership, Engagement, and Development (LEAD) Office creates and provides leadership development opportunities and actively engages students into the Western and local community. This office also maintains support for annual programs such as Orientation, Senior Reception, Family Weekend, and Community Clean-up as well as promoting service opportunities. The LEAD Office is located in University Center 118.

Mountain Rescue Team. The team is a fully certified university-based search and rescue team. They are a highly trained and dedicated group which has gained national attention a number of times for search and rescue work in the surrounding mountains.

Multicultural Center. This Center exists to offer educational, social, psychological, and emotional support for students from culturally or racially diverse backgrounds, however, the office is open to anyone. Activities help students from diverse backgrounds develop their special talents, aid in the retention of these students, and broaden the cross-cultural understanding of all students, staff, faculty, and the administration. The Multicultural Center is located in the University Center. Housed in the Multicultural Center are four clubs: Amigos, the Asian/ Pacific Islander Club (APIC), Black Student Alliance (BSA), Native American Student Council (NASC), and the Polynesian Dance and Chant club.

Music Programs. Each semester, programs by the orchestra, chorus, jazz band, and other groups are featured, as well as individual recitals by music faculty members, advanced music students, and guests.

Peace Corp Prep. Western's Peace Corp Prep program empowers undergraduates to successfully compete for Peace Corps placements anywhere in the world. Participants who complete the program receive certification that they have completed volunteer hours, leadership, and academic preparation in five core competencies required for Peace Corps intercultural fieldwork. Contact the Peace Corps Prep Coordinator in the LEAD office (University Center 118) for more information.

Peak Productions. Each year students work in conjunction with communication arts faculty to present five or six full-length theatre productions, including some which are written and directed by students.

Program Council. Each year the Program Council, a student-run organization, sponsors bands, speakers, performers, and other entertainers for concerts and presentations.

Religious Organizations. Western has several student religious organizations: Christian Challenge, Fellowship of Christian Athletes (FCA), Ignite, and Young Life. In addition, churches of all denominations in the community welcome participation from students.

Residential Curriculum. The Department of Residence Life at Western State Colorado University promotes the well-being of on-campus residents by fostering academic growth and personal success in a safe and inclusive living environment. The Residential Curriculum is the framework upon which we base our work. The Curriculum answers the question, "What do we want students to learn as a result of living in our residential communities?"

The term "residential curriculum" is used to describe an intentional way of promoting learning in college and university residence life and education programs. A residential curriculum, however, is a very specific approach to structuring these learning opportunities.

As a result of living on campus, our goal is to help students become more responsible, empowered, and actively engaged members of Western's inclusive community as well as adhering to the core values of learning, respect, community, integrity and leadership.

Student Government Association (SGA). The SGA is Western's student government comprised of representatives from the academic disciplines and from all other student organizations. SGA meets weekly to make decisions on most aspects of student participation in the life and operation of the University, including expenditures of student fees. All students are welcome to attend.
University Media. Students manage and operate the University newspaper (*Top O' the World*), radio station (KWSB-FM), and an annual magazine (*Western Pathfinder Magazine*), and film/video production unit (*Mountaineer Media*).

Educational and Career-related Services

Academic Advising. Western State Colorado University places great value on the relationship built between a student and his/her academic advisor. Each freshman is assigned an advisor to assist with course selection, registration, and understanding academic policies and procedures. Any student who needs registration information or advising services may contact the Academic Resource Center (Taylor Hall 300) for assistance or referrals.
Academic Resource Center. The Academic Resource Center provides the following services:

- **Disability Services.** As the key office for providing resources and academic accommodations for students with disabilities, the Academic Resource Center offers students a variety of services to assist them as they pursue their academic and career goals. Some of these services may include extended time for tests, an alternative testing site, notetakers, accessible technology including screen readers and voice-to- text software, written material in alternate format, and other academic adjustments as appropriate, depending on students' needs. In order to receive services, students must submit appropriate documentation of disability to verify eligibility under Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act.
- **Exploratory Program.** The Exploratory Program is an advising program for students who have not yet declared a major. All Exploratory students will be advised through the Academic Resource Center and will receive tailored assistance regarding declaring a major.
- **International Student Services.** A variety of services are available to international students, such as visa assistance, orientation, advising on personal and academic matters, employment information, and opportunities to participate in numerous cultural and social activities.
- **Learning Skills Assistance.** The Academic Resource Center staff provides academic counseling to help students develop effective study habits. This assistance, which is offered both individually and through workshops, provides students with skill-building techniques in areas such as textbook reading, memorization, test taking, note taking, organization, and time management. Students wishing to enhance their motivation, develop an understanding of their own individual learning styles, and improve their overall study skills are encouraged to use the Academic Resource Center's resources.
- **National Student Exchange.** The National Student Exchange (NSE) program gives eligible students the opportunity to study at one of over 200 colleges and universities across the United States and its territories for up to one academic year.
- **Study Abroad.** Students are encouraged to take advantage of the many opportunities to study abroad, including programs sponsored by Western and programs offered through other colleges, universities, and agencies.
- **Testing Services.** The Academic Resource Center administers Accuplacer, CLEP, challenge, and correspondence exams by appointment.
- **Turning Point.** Turning Point is a program for students on academic probation. The program is designed to assist students in identifying the cause of their academic difficulty and how to achieve academic success.

Career Services. Career Services supports students' career development and outcomes through a variety of services and events, including: employer development; résumé and cover letter editing; mock interviews; career, job, and internship fairs; and group and one-on-one career advising.
Extended Studies. The mission of Extended Studies is to extend Western's educational opportunities for life-long learning. Extended Studies is an integral part of the University. Both credit and non-credit courses are offered, and some classes are offered for graduate credit.
Information Technology Services. Information Technology Services provides technical resources and support to all constituents of the campus community. This includes computing resources, printing, internet access, telephone services, and electronic support of classrooms. Students will find a learning environment at Western that is enhanced by a variety of computer resources designed to improve the quality of education and to promote active learning. All students are given a Western e-mail and system account which grants them access to the numerous online resources available from the University. These resources include applications, class registration, fee payment, financial aid inquiries, network storage, campus software, and course grades. Access to local and national resources is accomplished via a variety of modern computer laboratories or through a campus-wide wireless network and a high- speed internet connection. The highlight of the services offered to students is the IT Helpdesk, which assists students with all their computing needs, including personal computers, smartphones and game consoles.
Student Services. The Office of Student Affairs and the LEAD Office provide a strong support system designed to help students make the most of their Western experiences. Staff members are readily available to assist students with the wide array of integrated services and programs offered through both offices. The staff also provides helpful connections to other campus resources, such as academic advising and tutoring. Programs connected with the Office of Student Affairs (TAY 301) and the LEAD Office (University Center 118) include the following:

- **Student Employment.** The LEAD Office provides information about jobs available to Western students. The LEAD Office receives job listings, including work-study positions, from on-campus departments and off-campus employers.
- **Testing Services.** The Office of Student Affairs administers many nationally coordinated exams, including the ACT, LSAT, MPRE, PLACE, and SAT.

- **Student Health & Wellness.** Western State Colorado University realizes that student health and wellness is essential to academic, personal and professional success. Our institutional prevention education program takes a holistic approach to wellness and utilizes both primary prevention and risk reduction strategies to address the following areas of concern: Alcohol/Drug use and abuse, Sexual Misconduct, Healthy Relationships, Mental Health, Suicide Prevention, Stress and Anxiety. Western's Health & Wellness offers resources, education, assessment, formalized trainings, engagement opportunities and peer support to those in need. "The SWEET Life" is part of Student Health & Wellness and exists to help students have a safe and healthy experience while attending Western. To accomplish this goal, "The SWEET Life" organizes alternative activities and awareness campaigns, provides outreach and education, and plans programming to address the varied number of health and wellness issues that exist on university campuses. One unique aspect of the approach is that "The SWEET Life" encourages positive decision making and responsible use. "The SWEET Life" wants to ensure that students are provided the necessary skills, information, and support to make the better, healthier, and ultimately more productive decision with respect to drug and alcohol use, sexual behavior and relationships, stress and mental wellness, and overall health. "The SWEET Life" collaborates with campus groups to provide education to the entire campus community and partners with GCSAPP and the BACCHUS Initiatives of NASPA to provide a comprehensive approach to prevention and wellness education for Western students.

Recreational and Athletic Programs

Club Sports. Club sports provide the opportunity for student-athletes to participate in sporting competitions against other college, university, or club teams. Club sports teams compete against teams across Colorado, the Rocky Mountains, and the United States. Club sports teams include: baseball; men's lacrosse; men's and women's hockey; men's and women's rugby; and men and women's soccer.
Intercollegiate Athletics. Western State Colorado University is a member of the Rocky Mountain Athletic Conference, participating under the rules and guidelines of the National Collegiate Athletic Association (NCAA) Division II. The University fields men's teams in football, basketball, cross-country running, track and field (indoor and outdoor), and wrestling. Western's women's teams represent the University in basketball, volleyball, cross-country running, soccer, swimming, and track and field (indoor and outdoor).
Intramural Program. Western's intramural program is under the auspices of Campus Recreation with funding support from student fees. Organized activities include men's and women's leagues in basketball, flag football, and soccer. There are also coeducational competitions in softball, volleyball, dodgeball, kickball, floor hockey, disc golf, and ultimate frisbee.
Western Mountain Sports. Western Mountain Sports is a unique program that takes advantage of and leverages the world class opportunities for authentic mountain sports competition that the Gunnison Valley provides. The brainchild of professional mountain biker and Western Alumni, Dave Wiens, Western Mountain Sports is embarking on its seventh year of existence. Western Mountain Sports is competitive mountain biking, skiing, snowboarding, road biking, and trail running. Western students have consistently placed in the top three in national championship competitions and recently won the DII Mountain Bike Championship and the USCSA Men's Nordic Team Championship. Western mountain bikers compete primarily on the US Collegiate Mountain Biking circuit sanctioned by USA Cycling. Western skiers and snowboarders compete on a variety of circuits including the United States Collegiate Ski and Snowboarding Association (USCSA) events.
Wilderness Pursuits. Wilderness Pursuits (WP) is a co-curricular, professionally managed outdoor program that provides rafting, kayaking, mountaineering, hiking, skiing, ice climbing, sea kayaking, and cycling adventures throughout Colorado and the Intermountain West at deep discounts. WP also rents state-of-the-art camping, kayaking, backpacking, skiing, snowshoeing, and mountaineering equipment for nominal fees. WP provides resources and information for planning private expeditions such as maps, books, and videos. WP maintains ski and bike shop repair areas with free access to tools and supplies. Students and staff of all abilities are welcome to participate in WP programs. WP also implements contract programs, such as the Wilderness Based Orientation, the Peter Terbush Memorial Outdoor Leadership Summit, and other programs by special arrangements.

Special Services

Campus Health Center. The Health Center is organized and staffed to assist students in various ways, including:

- Counseling Services: Licensed counselors provide individual, group, marital, and family counseling.
- Medical Services: A physician's assistant provides routine and referral medical care.
- Public Health: A staff of registered nurses provides family planning services, as well as AIDS testing and counseling.

Ombudsperson. This service offers assistance or referrals regarding University policies, procedures, and regulations and assists in resolving student-based problems and conflicts. The Ombudsperson is also readily accessible to students as a neutral and informal mediator whose role is to promote fair and equitable treatment at Western.
Tenderfoot Child and Family Development Center. A fully licensed day- care center for up to 140 children, six weeks to 12 years old.
Westerners in Transition (WIT). This program assists women and men of all ages who do not fit into the usual profile of a single student attending the University directly from high school. WIT guides the incoming student in navigating the processes of admissions, financial aid, registration, and other important steps involved in matriculating at Western. Western's staff is committed to assisting WIT students through all of the important steps in their university careers. WIT students will network with other individuals who share their experiences as adult learners and who can provide essential mentoring. The program provides personal advising, mentoring, workshops, a newsletter, networking, leadership opportunities, grants, and scholarships. The WIT Program is located in University Center 118.

Student Handbook

Additional student services, policies, and standards of conduct are described in the *Student Handbook,* available online and published annually by the Office of Student Affairs (http://www.western.edu/current-students/student-affairs).

ACADEMIC POLICIES

Academic success, a goal that we want all students to achieve, can be measured in many ways. This section identifies and explains the standards that Western has established as measures of academic success and indicates the policies and procedures that apply to the students who fail to meet the standards. The Provost/Vice President for Academic Affairs, in consultation with the Faculty Academic Policies Committee and the Faculty Senate, is responsible for the development and implementation of these academic standards and policies.

Unit of Credit

Western uses the semester hour as the basic unit of credit. The semester credits assigned to a course are based on the specific learning objectives and the expected outcomes. The University's assigned semester hours are consistent with the Federal definition of a credit hour and the Colorado Commission on Higher Education's minimum class times for credit courses. The minimum expectation for one semester credit is one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for at least fifteen weeks in seminar and lecture-based classes. An equivalent amount of work is required in laboratories, internships, practica, online, studio work, and other academic work which results in the awarding of credit hours.

Course Numbering System

Following is an explanation of the numbers used in identifying courses offered at Western:
001-099 Preparatory skills courses not counted toward the required 120 credits for a bachelor's degree. Students enrolled in preparatory skills courses will be assessed tuition separately for those courses.
100-199 Courses primarily for freshmen.
200-299 Courses primarily for sophomores. Freshmen may take them after consultation with an advisor. Many 200-level courses have specific prerequisites which must be completed prior to enrolling.
300-399 Courses primarily for juniors and generally not open to freshmen. Sophomores may enroll after consultation with their academic advisor.
400-499 Courses primarily for seniors and generally not for freshmen and sophomores.
500-599 Graduate level courses that may lead to certificates, or serve in some professions as evidence of continuing education or professional development. Course formats include workshops and seminars and are primarily practice-based. May not be used to satisfy degree requirements.
600-699 Graduate level courses intended for degree-seeking students. They are more than an extension of the baccalaureate education and at a minimum, students should be required to undertake original scholarly/creative activity, assume greater responsibility for mastering the subject matter, and develop close working relationships with professors. It is assumed that students taking 600-level graduate courses have acquired the ability to use language and information sources effectively, and engage in analytical thought and creative processes.

Student Classification by Class Level

Students are classified according to the number of semester credits they have earned.

Classification	Semester Credits Earned
Freshmen	0-29
Sophomores	30-59
Juniors	60-89
Seniors	90+

Academic Load

A standard course load over a 16-week semester is 15 credits. This is the most common load leading to graduation in four years. Students are discouraged from carrying an overload. An overload is defined as more than 18 credits in a 16-week semester and must be approved via petition. *Under no circumstances is a student to enroll in more than 21 credits in a 16-week semester.

Summer semester is 13-weeks. A student may enroll in no more than 15 credits without special approval. The maximum credits for each session are as follows:

Parts of Term	Full Load	*Overload by Petition
Maymester	3 credits	4 credits
1st 5 week session	6 credits	7 credits
2nd 5 week session	6 credits	7 credits
10 week session (occurs during both 5 week sessions)	12 credits	13-14 credits

Under no circumstances is a student to enroll for more than 18 credits in the 13-week summer semester.

*Petitions for overload may be obtained on the Office of the Registrar website in the forms link. Petitions must be signed by the student's advisor and chair of the student's major department. If the student's cumulative grade point average is below 3.000, the petition also requires approval of the Vice President for Academic Affairs. Students taking an overload are assessed a surcharge for each overload credit.
The completed petition must be submitted to the Office of the Registrar.

Registration

Advising. All Western State Colorado University students are assigned an academic advisor who can assist them in developing their educational plans and accomplishing career and life goals. Academic advisors are an important resource as students develop course schedules. Consultation with an academic advisor is required prior to registration each semester.

Course Descriptions. Course descriptions provide a summary of the course content. If there is a prerequisite that must be met before a student can register for the course, this information is stated in the course description. Prerequisites may include specific courses, class standing, declared major, and other requirements. If there is a corequisite course in which a student must be registered, this information is also stated in the course description. The Course Schedule, available prior to registration, includes information about courses offered in the given semester, such as the names of instructors, class meeting times and locations, and additional requirements.

Registration Procedures. New students are required to participate in new student orientation. Information about registration and orientation is provided to all new students admitted to the University. Currently enrolled students may register during the present semester for the next semester or summer session. Registration timelines and procedures are detailed on the Office of the Registrar website.

Late Registration. Students should register for classes prior to the beginning of the semester. While they may register during the first week of the semester, students must understand that the limited availability of classes may prevent them from obtaining complete schedules. Late registrants may be assessed additional fees.

Add/Drop. After classes have begun in a 16-week semester, students may add an open class without petition until 5 p.m. on the fourth day of the semester. After the fourth day and until the end of the official drop period, students may add a course only with approval by the instructor. The add deadline for any course that meets for less than 16 weeks is two days. The student is responsible for understanding and communicating with the instructor, understanding course policies, and understanding any consequence of adding a course after the first class meeting.

Students may drop a course during the first 15% of the class meetings. This rule applies for both classes that meet for a full semester and classes that meet in sessions shorter than a full semester. (Note the difference between this rule and "withdrawal" explained on the next page.)

Western State Colorado University faculty reserve the right to drop students from class rolls if they miss the first class meeting. Not all instructors require attendance at the first class meeting, but many do. Students are strongly encouraged to attend all of their first class meetings. If circumstances such as weather or travel arrangements prevent students from attending the first class session, it is the student's responsibility to contact the instructor of each course to request that their seat in the class be held.

Class Attendance and Participation. Faculty and students have shared responsibility in the education process. Class attendance and participation is the student's responsibility. The interactions a student has with the instructor and fellow students represent a significant portion of the learning process in coursework. Therefore, class attendance and participation is essential for a successful education. Instructors may set attendance and participation policies for each of their courses, which are specified in the course syllabus. If a student violates an attendance or participation policy, instructors may withdraw a student from class, lower the earned grade, and deploy other actions as specified by the course policy.

An important responsibility for students is to be prepared for class. Such preparation for the average student expecting an average grade ("C") typically requires 2-3 hours of studying or other types of preparation for every hour of coursework.

Variable Credit Courses. Variable Credit courses are courses which may be offered for a range of credits. The range of credits is set by the discipline, and is published in the catalog and class schedule. The types of courses generally encompassed by the term "variable credit" include Field Experience, Internship (described below), Independent Study, Directed Study, Practicum, Senior Thesis, and Research Problems. The learning objectives and academic requirements for these courses are established between individual faculty and individual students, and have specific academic outcomes defined before the course work begins.

Students must register for variable credit courses prior to beginning the studies associated with the course. Internship hours or study completed before the course registration is complete will not be counted towards the hours required for the course credit.

The student must be enrolled for the credits during the term in which the studies begin. This coursework is part of a student's academic load for the semester and course contact hours must be able to be completed by the end of the semester for registration to be approved.

A request for changes to variable credit registration after the work begins may be considered through a petition process in extenuating circumstances. The petition must be signed by the instructor for the variable credit course, the department chair, and the Registrar.

To register for a variable credit course, the student must submit a completed and signed Variable Credit Course form to the Office of the Registrar. Some disciplines may have additional requirements for registration in Variable Credit Courses. Substituting variable credit courses for required courses in the major or minor is at the discretion of the discipline; no variable credit course may be used to meet General Education requirements.

Internships. Internships offer students the opportunity to combine academic credit with work in their career field. The learning objectives and academic requirement for these experiences are established in collaboration with the student's faculty advisor, based on the employer's job description. The faculty advisor, employer, and student sign off on the learning objectives, agreeing in advance to the parameters of the internship. Students earn credit based on the number of hours to be worked, which is determined in advance. Each academic department establishes a requirement for the number of hours to be worked for each credit earned in line with established minimal contact hour requirements for credit hours. Employers complete an evaluation of the intern at the end of the experience which faculty use in assessing the student's performance and grade.

Minimum eligibility requirements for internships are a 2.000 GPA and completion of at least 12 credits in the academic area of the internship. The internship policy of individual disciplines may be more stringent. Assignment of internship credit toward requirements of a degree program is to be decided by the academic area of the internship, and in no case can it count towards General Education

requirements.

In order for internships to maintain academic integrity, Western State Colorado University and a faculty member must be involved from the initial development of the learning objectives through the completion of the internship.

Students must register for internship credit prior to beginning the work associated with the internship. The student must be enrolled for the credits during the term in which the work is initiated. This course work is part of a student's academic load for the semester and course contact hours must be able to be completed in order for registration to be approved.

Auditing Courses. Regularly enrolled students may register to audit a course for no credit, but only at the time of registration. Students may not change from audit to credit or from credit to audit after the class has begun. Students auditing a course pay appropriate tuition and fees and are expected to attend classes regularly. Audited courses are treated as a part of a student's course load for purposes of determining semester course-load limits, are not graded, and do not fulfill degree requirements.

Western invites citizens 60 years of age or older to participate in classes at the University on a space-available, no-credit, no-cost basis. (This does not apply to Extended Studies courses.) Students qualified to audit courses in this manner should make arrangements with the Office of the Registrar.

Withdrawal from Individual Courses

After the official add/drop period, a student may only withdraw from a course with approval by the course instructor and the student's academic advisor. Students who obtain these authorizations will receive a grade of "W" (which has no effect on the student's grade-point average; refer to sections on Grades and Grade-Point Average that follow). If two-thirds of the scheduled class time in any given course has been completed, the student is not allowed to withdraw, and a grade for the course (which does affect the student's grade-point average) is recorded. Specific withdrawal deadlines are published on the Office of the Registrar website at http://www.western.edu/registrar.

Course instructors may also withdraw a student from a class for reasons such as inadequate academic progress or attendance, academic dishonesty, or disruptive behavior.

Withdrawal from the University

Students who wish to withdraw from the University may do so in the first two-thirds of any term. Contact the Vice President for Student Affairs to initiate an official withdrawal from the University. Students should also consult with course instructors and their academic advisor.

If two-thirds of the scheduled term has been completed, the student will be allowed to withdraw from the university only under documented, mitigating circumstances such as prolonged illness, a death in the immediate family, etc., pending approval by the Office of Student Affairs.

After the official Add/Drop period, but before the withdrawal deadline, a student wishing to withdraw entirely from the University will be given a grade of "W" for all courses except variable credit and short term courses. Once two-thirds of the scheduled class time in any course has been completed, a student wishing to withdraw from the University will be given a "W" grade for each course.

Withdrawal from Variable Credit and Short Term Courses. After 15% of the course has been completed, a student wishing to withdraw from the University during a term when he or she is enrolled in a variable credit or short term course (e.g., internship, practicum, field experience, independent study, HWTR 100) must receive the approval of the supervising instructor. If a student obtains this authorization, a grade of "W" or a "WF" may be assigned. The academic advisor can explain the guidelines and consequences resulting from dropping or withdrawing from selected courses. If a course has already concluded, the student will receive the grade earned for the course. **Withdrawal in Absentia.** If illness, injury, or other circumstances prevent a student from being on campus to request withdrawal from the University in person, the student may notify the Office of Student Affairs (970) 943-2011 and request that the Vice President for Student Affairs act as the student's agent in notifying course instructors and the student's advisor.

Leaving the University

Students leaving the university for a semester or longer who plan to return can complete an application for readmission. Students returning to Western are given the same priority registration as continuing students when applications for readmission are received by mid-October for spring course registration and mid-March for fall registration. Students should discuss departure plans with their advisor, as well. Contact the Office of the Registrar for more information about this process.

Prior to departure from Western all students should check out by contacting applicable departments. Students who have on-campus housing must contact Residence Life. Students with financial aid should contact the Student Financial Services/Financial Aid Office for exit counseling and should not be registered for courses in a future term. Additionally, contact the Office of Student Affairs to complete an exit interview.

Transfer Courses

College-level academic courses with grades of C- or better, completed at an institution accredited by a regional accrediting agency, are generally accepted. Western accepts up to 90 credits, combined total, from accredited institutions, military credit, AP, IB, and CLEP exam.

- Western only applies grades earned through Western toward the calculation of GPA.
- Western will only grant upper division credit if the transfer course is taken at an upper division level, regardless of Western equivalency.
- No credit will be granted for remedial or vocational-technical courses; except for some military training or as part of an articulation agreement.
- Courses recommended by the American Council on Education may be considered for credit.

- Total credit permitted under CLEP, AP and other programs leading to credit by examination is limited to 40 semester credits.
- Continuing students are advised to receive approval in advance for transfer credit.
- Credit earned from non-Western Study Abroad programs are treated as transfer credit.
- To graduate from Western, students must complete a minimum of 30 credits at Western. At least 15 credits in the major and at least 8 credits in the minor. Of the 40 upper division credits, numbered 300, 400, or 600, required for graduation from Western, at least fifteen credits must be courses in the major. Exceptions to evaluations of transfer credit by the Office of the Registrar may be requested by the appropriate academic department.

Additional information regarding transfer policies may be found in the Admission Policies section of the catalog.

Military and Emergency Personnel Deployment

In times of emergency, certain students (including reserve military units, individuals with specialized skills, or firefighters) are called to provide services to the state or country.

When the call for service or emergency deployment is issued, it is often necessary for students to interrupt their coursework in mid-semester without advance notice. The university recognizes that normal refund and withdrawal policies may not be appropriate and therefore will make the following provisions for individuals who leave the institution mid-semester.

Instructors will accommodate student absences of up to twenty percent of the class time for mandatory military training or an emergency or short-term deployment. Students must be given the opportunity to make up missed assignments and tests later, and they cannot be penalized for their absence during their deployment. Students must notify the Office of Student Affairs, which will contact all instructors on their behalf; in order to receive permission to return to the classroom after short-term training or deployment, activation letters or orders must be submitted to the Office of Student Affairs.

- Any student ordered to active duty must:
  - Contact the Office of Student Affairs immediately; they must complete and submit a withdrawal form if they wish to withdraw.
  - Provide a copy of activation letter or orders.
  - Notify their instructors of deployment and make arrangements for withdrawal or delayed completion.
- The Office of the Registrar will withdraw the student with the following conditions:
  - **On or Before the Drop Deadline** - Students will be dropped from all of their courses if ordered to active duty or to respond to a state or national emergency. There will be no notation of that semester enrollment in their transcripts.
  - **After the Drop Deadline** - Students will have a choice to:
    1. Be dropped with W grades. A notation of "Military or Emergency Services Withdrawal" will be made under the semester of deployment in the student's transcript.
    2. In consultation with the instructors, receive a grade of incomplete if:
       a. At least 50% of the work has been completed.
       b. The student has obtained a C or better in the class thus far.
       c. Student and instructor share a plan for the completion of the course work with the department chair. Class work must be completed within one calendar year. If the student remains deployed or has recently completed deployment he/she may request an extension through the Registrar's Office.

Rebates and Financial Aid:

Students who choose to be withdrawn will receive a full refund of all tuition and fees, including room and board. Veterans' Aid payments may have to be repaid to the funding agency under certain circumstances, and the Veteran's Certifying Official will assist with the paperwork.

If the student is receiving financial aid, the Veteran's Certifying Official will work with the Financial Aid Office to determine the best refund for the student (based on the Department of Education's rules governing financial aid).

Western realizes that active duty and emergency personnel students may encounter extreme and unforeseeable circumstances during their educational career. We are committed to helping these students succeed no matter what challenges come their way. Therefore, the offices of Academic Affairs, Student Affairs, and the Registrar are willing to review and potentially make additional accommodations for cases in which students encounter exceptional situations or circumstances.

Grades and Grade-Point Average

For the purpose of calculating a student's grade-point average (which determines academic standing), numerical values are assigned to letter grades on the following scale:

A	= 4.000 grade points	C	= 2.000 grade points
A-	= 3.670 grade points	C-	= 1.670 grade points
B+	= 3.330 grade points	D+	= 1.330 grade points
B	= 3.000 grade points	D	= 1.000 grade points
B-	= 2.670 grade points	D-	= 0.670 grade points
C+	= 2.330 grade points	F	= 0.000 grade points

Computation of Grade-Point Average (GPA)

Only grades earned through Western are used to calculate GPA. To obtain grade points earned in a course, multiply the number of credits per course by the numerical points for the grade earned in the course. Following is an example of a GPA calculation for 12 credits earned by a student taking four courses with each course worth three credits.

Course #1 – Grade Earned = B	(3 cr) X (3.000 pts)	=9.000 grade points
Course #2 – Grade Earned = C+	(3 cr) X (2.330 pts)	=6.999 grade points
Course #3 – Grade Earned = C	(3 cr) X (2.000 pts)	=6.000 grade points
Total GPA credits = 12	Total grade points	=30.000

A student's semester GPA is calculated by dividing total grade points by total GPA credits (in the above example 30.000/12 = 2.500 GPA). A student's cumulative GPA is calculated by dividing all grade points earned by all GPA credits.

All grade-point averages at Western are calculated to three decimal places and all requirements specifying grade-point averages (e.g., scholarships) are stated in terms of three decimal places.

Repetition of Courses. A student who has received a low grade in a course can improve his/her cumulative grade-point average by repeating that course and earning a higher grade. If the student repeats a course under the same title and/or number, only the credits and grade points of the most recent enrollment in that course (even if the repeated course grade is lower) are used to determine whether a requirement has been met and in calculating that student's cumulative GPA. In addition, the following conditions apply to repeating a course:

Variable-credit courses are handled as exceptions to the policy on course repetition. A student who wishes to enroll in a variable-credit course to repeat credit previously taken under that course number, but not for additional available credit under that same course number, must contact the Office of the Registrar.

Students wishing to repeat and replace the grade from a course taken on National Student Exchange or a Study Abroad program must send a letter of petition to the Registrar.

Course work repeated after the undergraduate degree has been recorded on the student academic record will not be included in the undergraduate GPA.

Grades Assigned Other than A, B, C, D, F. At the discretion of the faculty member teaching the course, a student who is unable to complete a course for reasons beyond the student's control (e.g., illness) may be assigned an "Incomplete" (IN). The student must have completed more than one-half of the course work at an acceptable level at the time of the request for an "Incomplete." The student and the faculty member must agree upon a plan for the completion of the work within a time period not to exceed one calendar year. When faculty give an "Incomplete", they must designate the student's existing grade in the course, the work to be completed for the "Incomplete" to be removed, and also indicate the grade that will be automatically given after one year if the work is not satisfactorily completed.

A grade of "Technical Failure" (TF) indicates that the student discontinued participation in the course without official approval. A "TF" is assigned 0.000 grade points.

Selected courses have been approved to be graded as "Satisfactory/Unsatisfactory" only and are so noted in their course descriptions. Only grades of "S" or "U" may be recorded for courses so designated. The grade of "S" is equivalent to letter grades of C- or above. The grade of "U" is equivalent to the letter grades of D+ or below, and no credits are earned. In no case may the grade of "S" or "U" be converted to a traditional letter grade. The S/U grade cannot be used in classes which allow the letter grades A-F.

Some courses or projects are intended to last longer than one semester. Such courses may be designated by the department or department chair at the time of registration and will be given an "In Progress" designation at the end of the semester. The "In Progress" (IP) designation can be used for a maximum of one year, the end of which a grade must be assigned. Grades of "IN," "IP," "NC," "W," "S," and "U" are not counted in the computation of a student's grade-point average (GPA). Since "S" is not counted in calculation of grade point, it does not assist the student toward inclusion on the Dean's List or Honors designation at commencement.

"Incomplete" (IN) or "In Progress" (IP) grades completed after the undergraduate degree has been posted will not be included in the undergraduate GPA.

Attendance-Related Grades. A course grade of "Technical Failure" (TF) may be assigned by course instructors for students who failed to attend classes but who did not officially withdraw from the course. A "TF" is assigned 0.000 grade points for purposes of computing grade-point averages. Whether students have completed enough of the course to be assigned a grade other than "W," "TF," or "IN" (see sections explaining letter grades) is determined by the respective course instructors.

Grade Corrections. Faculty members must submit requests for grade corrections to the Registrar within one year following the recording of the incorrect grade.

Academic Standing

The faculty recognizes that the adjustment to university life may have a negative effect on the early academic performance of some students. To allow for this adjustment period, the 2.000 cumulative grade-point average requirement (ultimately necessary for graduation with a bachelor's degree) is not immediately imposed on beginning students, though all students should strive to achieve at least the minimum level of a 2.000 GPA every semester.

A sliding scale of categories of "academic deficiency" is applied to students who fall below this minimum. Students who are notified that they fall into any of these categories should re-examine their academic goals and their study habits and should avail themselves of the services provided by Western to help them to succeed academically. Students who perform at less than a 2.000 level, even if they are not technically "academically deficient," should take steps to improve their academic performance.

Academic Dean's List. Students who have attained a grade-point average of 3.70 during a semester, while carrying a full course load, will be placed on the Academic Dean's List. A full course load is 12 or more credits of letter-graded courses in a 16-week semester or six or more credits of letter-graded courses in a summer session.

Good Standing. Students whose cumulative grade-point average exceeds that which would place them on probation are considered to be in good standing. This minimum grade-point average is defined in the section below titled "Academic Probation." Fourth year students in 3+2 programs must meet graduate program requirements for GPA and course grades. Refer to the Western Graduate Catalog for further details.

Academic Alert. Students who have cumulative grade-point averages of 2.000 or higher are sent notices at the end of any semester in which they receive a semester grade-point average lower than 1.500, alerting them that corrective action should be taken to improve their performance.

Academic Probation

Students are placed on academic probation when their cumulative grade-point average falls below the minimum required (see below). It is an early warning that students should take steps to improve academic performance. Students are placed on academic probation if they:

- are in the first semester of enrollment at Western (regardless of the number of credits enrolled) and receive a semester GPA below 1.500;
- have attempted fewer than 10 credits and have less than a 1.750 cumulative GPA at the end of a non-probationary semester;
- have attempted between 10 and 44 credits and have less than a 1.880 cumulative GPA at the end of a non-probationary semester; or
- have attempted 45 or more credits and have less than a 2.000 cumulative GPA at the end of a non-probationary semester.

Students are expected to raise their cumulative grade-point average to the required level during the probationary semester. Academic probation ends when the student achieves the required cumulative grade-point average. Students on probation achieving at least a 2.000 semester grade-point average (even though the cumulative grade-point average has not reached the specified level), may be permitted to continue for an additional probationary semester.

Academic Suspension. Academic suspension notices are issued at the end of fall, spring, and summer semesters to all students who, during a probationary semester, fail to achieve at least a 2.000 semester grade-point average and do not have the cumulative grade-point average required to be in good standing:

- Students who have attempted fewer than 10 credits and have less than a 1.750 cumulative GPA at the end of a probationary semester are placed on academic suspension.
- Students who have attempted between 10 and 44 credits and have less than a 1.880 cumulative grade-point average at the end of a probationary semester are placed on academic suspension.
- Students who have attempted 45 or more credits and have less than a 2.000 cumulative grade-point average at the end of a probationary semester are placed on academic suspension.

In addition, *any* student who earns less than a 1.000 GPA in any semester may be placed on academic suspension.

The period of suspension is for one calendar year. A student to whom such a suspension notice is issued at the end of a fall semester is eligible to return a year later, at the beginning of spring semester. A student suspended at the end of the spring semester is eligible to return a year later, at the beginning of the summer session. A student suspended at the end of the summer semester is eligible to return a year later, at the beginning of the fall session. In order to return to Western after serving the specified academic suspension period, the suspended student must apply for readmission through the Office of the Registrar.

Credits earned at another institution during a period of academic suspension are evaluated by the criteria explained in the Admissions Policies and Procedures section of this *Catalog*.

Students who believe that *exceptional circumstances* contributed to their suspension may submit a written petition, through the Registrar, to the Academic Appeals Committee (a sub-committee of the Faculty Academic Policies Committee). The petition form and instructions for appeal are available on the website of the Office of the Registrar and must be submitted no later than five working days before the start of any semester during which that student wishes to re- enroll at Western. Each petition is reviewed by the Academic Appeals Committee to determine whether the appeal is granted.

The Academic Appeals Committee is authorized to specify conditions, beyond those described in these general policies, which reinstated students must meet in order to continue at Western.

Academic Dismissal. If a student returns from a period of academic suspension, the student's academic standing will be "probation after suspension." If she/he does not earn a 2.000 or higher semester grade-point average during any semester prior to earning or exceeding the cumulative grade-point average required at that point in his/her academic career, no further probationary semester is allowed, and the student is issued an immediate notice of academic dismissal.

Readmission from an academic dismissal is possible only by action of the Academic Appeals Committee, according to the established procedures of that committee. The committee will not accept for review any dismissal appeal petition before two calendar years have transpired since the dismissal. If a student is granted readmission following academic dismissal, credits earned at another institution are evaluated by the criteria explained in the Admissions Policies and Procedures section of this *Catalog*.

Errors in Determining Academic Suspension/Dismissal. Students whose suspension or dismissal resulted from an error in grading or recording will be readmitted (the suspension or dismissal will be removed from their academic records) upon receipt by the Registrar of written notification from the appropriate faculty member. Such errors in grading or recording should be resolved before the Add Deadline of the semester the student is to be readmitted.

Academic Amnesty. Students who have not attended Western State Colorado University for six years or more may, upon returning to Western, petition for academic amnesty. Academic amnesty allows students to count prior credits earned at Western of "C-" and above in meeting total graduation requirements. It also allows students to have a fresh start in their overall grade-point average, as the previous credits attempted at Western will not be used in calculating the overall grade-point average. Petitions by students may be submitted, through the Registrar, to the Faculty Academic Policies Committee. Students must submit petitions for academic amnesty before the end of their first term of re-entry. Academic amnesty will be granted to a student only once.

Graduation Requirements

Four-year Graduation Plan. Western State Colorado University has adopted a four-year graduation plan. If a student signs the four-year graduation plan agreement, fulfills all of the conditions, and is still unable to graduate in four years, the University will absorb the cost of the additional course work required for the degree. The four-year graduation plan is available on the Academic Affairs web page.

3 + 2 Programs

Western State Colorado University offers 3+2 programs in a number of disciplines allowing eligible students to complete both undergraduate and master's degrees in five years. See page 4 for available 3+2 programs.

Operative University Catalog. All first-time entering students are allowed six years from their entering date as degree-seeking students to complete undergraduate requirements in force at the time of their entrance to Western. During the six-year period, students may elect to satisfy requirements specified in a Catalog more recent than the one under which they entered. Students must, however, indicate to the Registrar which Catalog they want used for the evaluation of their credits when they request a "Graduation Audit." Students who do not complete requirements within the six-year time limit must meet all the requirements of the Catalog in effect the year in which they apply for graduation. Exceptions to this policy will be considered on a case-by-case basis.

Each operative Catalog year begins at the start of the summer session and ends with the conclusion of the following spring semester.

Readmitted or currently enrolled students who choose, or are required to use, a Catalog more recent than the one in effect when they entered must satisfy all requirements in the new Catalog with the following exception: They are allowed to use courses already posted to the permanent record in satisfying the General Education requirements.

General University Requirements. A minimum of 120 semester credits is required for graduation. Of the 120 total credits required, students must earn 40 credits in upper-division courses (those courses numbered 300 and above). Fifteen of these 40 upper-division credits must be earned in courses that are part of the standard or comprehensive major programs.

Continuing Education Units (CEUs), offered through Extended Studies, appear on your transcript; however, they are not University credits and do not fulfill degree requirements.

At the time of graduation, students are required to have a minimum overall cumulative grade-point average of 2.000 or better, as well as a 2.000 or better grade-point average in their major and minor.

All requirements specified in this section are minimums; some programs require levels beyond these minimums.

Resident Credit Requirements. Every candidate for a degree must earn a minimum of 30 credits from Western State Colorado University. This 30-credit minimum must include: a) at least 15 credits in the major, and b) at least eight credits in the minor. No more than 9 semester hours of a student's final credits will be accepted in transfer. These final credits must be selected in consultation with his or her faculty advisor. Credit earned for student teaching, independent study, internships, and other courses that may require off-campus experiences are treated as "resident" credit if the student has registered for that credit through Western directly. If a student registers for courses at another institution, regardless of the auspices under which such registration occurs, then such courses cannot be counted as "resident" credit at this University.

Major and Minor Requirements. Each student is obligated to meet either: (a) the requirements of a standard major program and a minor in another discipline, requiring a minimum of 30 credits earned in the major and a minimum of 18 credits earned in the minor; or (b) the requirements of a comprehensive major program, requiring a minimum of 48 credits with no minor required. The requirements of some majors and minors exceed these minimums. Students must complete a capstone requirement (minimum of 2 credits) as part of the standard or comprehensive major. Capstone courses are incorporated in the degree requirements listed in the Academic Programs section of this Catalog.

A student may earn a second or additional major by completing the requirements of each major.

A student may earn a second or additional emphasis within a major by completing the requirements of each emphasis, which must include a minimum of 18 unduplicated credits. To graduate with both a B.F.A. and either a B.A. or B.S., a student must complete the requirements of both degrees and complete a minimum of 150 credits. Students earning both a B.A. and a B.S. must complete the requirements of both degrees. All degrees, majors, emphases, and minors desired must be declared on the application for the Bachelor Degree.

Western allows well-prepared advanced students who have been provisionally admitted to a 3+2 program to substitute graduate courses for required or elective courses in an undergraduate degree program and then subsequently count those same courses as fulfilling graduate requirements in a related graduate program.

General Education Requirements. All students must complete the Western State Colorado University General Education Program including the Essential Skills and the Liberal Arts requirements. Specific requirements are described in the General Education section of this Catalog.

Graduation with Honors. In order to graduate with honors, a student must have a cumulative grade- point average at Western State Colorado University as follows:

Cum Laude	3.500 - 3.749
Magna Cum Laude	3.750 - 3.899
Summa Cum Laude	3.900 – 4.000

In order to be recognized for honors at a commencement ceremony, a student must have achieved the required cumulative grade-point average in all work completed at Western the semester prior to commencement. A student must also have a minimum of 40 GPA credits in residence at Western. Up to eighteen of these credits may be in progress during the final semester. Any honors status which is posted to a student's permanent record upon graduation will reflect the grade-point average that student earned on all work completed at Western.

Application for and Awarding of the Degree. In consultation with their advisor(s), students are required to file an Application for Graduation on their MyWestern account during the first two weeks of the semester prior to the one in which they expect to complete all degree requirements. Academic progress will be monitored by the Office of the Registrar upon receipt of the Application for Graduation and an official audit will be saved in DegreeWorks. The Registrar reviews the audit and communicates with the student and the student's academic advisor on requirements not yet completed.

Degrees are awarded at the end of the semester in which all degree requirements are completed provided all requirements are completed and grades recorded within 25 working days after the last day of that semester. If requirements are not completed and recorded within that period, students must notify the Office of the Registrar when all requirements are completed and file a new Application for Graduation.

Commencement. All students who complete requirements for graduation and are entitled to receive degrees are encouraged to participate in commencement exercises. In order to participate in commencement a student must have nine or fewer credits left to complete graduation requirements and be registered for those credits the following summer and/or fall term. Students must be in good standing and must submit a request to be included in the commencement ceremony to the Registrar during the first two weeks of the semester in which the commencement is held.

Academic Regalia

All degree candidates participating in commencement activities shall wear approved commencement attire. In addition to the cap and gown, candidates will be allowed to wear cords, medals and/or stoles if such items have been previously approved by the Commencement Committee and the President's Cabinet. Gold cords are restricted to the university-recognized designations of cum laude, magna cum laude, and summa cum laude. No more than two accoutrements shall be worn by an individual. If any commencement official deems attire to be inappropriate, the student will be asked to remove the unapproved item or they may be denied participation in the commencement ceremony.

Academic Integrity

As members of the academic community, students are expected to recognize and uphold standards of intellectual and academic integrity. The University assumes, as a basic and minimum standard of conduct in academic matters, that students will be honest and that they will submit for credit only the products of their own efforts. Both the ideals of scholarship and the need for practices that are fair require that all dishonest work be rejected as a basis for academic credit. They also require that students refrain from any and all forms of dishonorable conduct in the course of their academic work. Dishonest work may include, but is not limited to, the following infractions:

Plagiarism. Presenting another person's work as one's own, including para- phrasing or summarizing of the works of another person without acknowledgment and the submitting of another student's work as one's own is considered plagiarism.

Plagiarism frequently involves a failure to acknowledge in the text, notes, or foot-notes the quotation of paragraphs, sentences, or even a few phrases written or spoken by someone else.

Cheating on Examinations. Giving or receiving unauthorized help before, during, or after an examination is considered cheating. Examples of unauthorized help include the use of notes, texts, or "crib sheets" during an examination (unless specifically approved by the instructor).

Unauthorized Collaboration. Submission for academic credit of a work product, or a part thereof, represented as being one's own, which has been developed in substantial collaboration with assistance from another person or source, is a violation of academic honesty. It is also a violation of academic honesty to knowingly provide such assistance. Collaborative work specifically authorized by an instructor is allowed.

Falsification. It is a violation of academic honesty to misrepresent material or fabricate information in an academic exercise or assignment (e.g., false or misleading citation of sources or the falsification of the results of experiments or of computer data).

Multiple Submissions. It is a violation of academic honesty to submit substantial portions of the same work for credit more than once without the explicit consent of the instructor(s) to whom the material is submitted for additional credit.

Consequences of Violations

Violations of academic integrity may result in the following: a grade of "F" or a "zero" for the assignment, an "F" for the course, withdrawal from the course, or suspension or expulsion from the University. Serious violations of academic integrity are reported to the Office of Academic Affairs.

Academic Due Process for Students

US Department of Education Program Integrity Regulations Complaint Process:

Pursuant to the United States Department of Education's Program Integrity Rule, Western is required to provide all prospective and current students with the contact information of the state agency or agencies that handle complaints against postsecondary education institutions offering distance learning or correspondence education within that state. Students are encouraged to utilize the institution's internal complaint or review policies and procedures through the Office of Student Affairs or Office of the Provost prior to filing a complaint with the state agency or agencies. The link below provides a list of contacts from each state in which a student may file a complaint.
http://www.nc-sara.org/content/state-portal-entity-contacts

It is the objective of these procedures to provide for the prompt and fair resolution of the types of problems described herein which students may experience at Western.

Definitions:

Complaint. An informal claim by an affected student that a faculty member or an academic administrator has violated, misinterpreted, or improperly exercised his/her professional duties.
Complainant. An affected student who makes a complaint.
Grievance. A written allegation by an affected student that a faculty member or an academic administrator has violated, misinterpreted, or improperly exercised his/her professional duties. The grievance should include the possibility of a remedy.
Grievant. An affected student who files a grievance.
Respondent(s). The faculty member(s) and/or academic administrator(s) identified by the affected student as causing or contributing to the complaint or grievance.
Grievance Committee. A committee composed of one faculty member selected by the grievant, one faculty member selected by the respondent, and three faculty members selected by the Vice President for Academic Affairs (or assignees).
Time Limits. When a number of days are specified herein, they shall be understood to exclude Saturdays, Sundays, holidays, University vacation days, and other days when the University is not in session and holding classes.
Academic Administrator. Professional personnel of the University, other than teaching faculty, who are in positions to make academic decisions affecting students, including but not limited to, department chairs, Associate Vice President for Academic Affairs, Vice President for Academic Affairs, and the President.

Informal Complaint Procedure. The complainant shall discuss the problem with the respondent(s). If the problem is not mutually resolved at this time, the complainant shall confer with the immediate supervisor(s) of the respondent(s). This usually will be the Chair(s) of the Department(s) to which the respondent(s) is assigned.
If satisfactory resolution is still not achieved, the complainant must confer with the Vice President for Academic Affairs or selected representative.

Formal Grievance Procedure. If the complaint is not suitably resolved, the student has the right to file a grievance with the Vice President for Academic Affairs within six months of the time that the grievant could or should have known of the action which is the basis of the problem.
This written allegation shall indicate what has already been done to resolve the complaint. Preservation of relevant documents and of precise records of actions taken is advantageous.
The grievance committee shall be formed under the supervision of the Vice President for Academic Affairs, and a hearing shall be scheduled within 15 days after that officer receives the written grievance from the grievant.
The grievance committee shall hear testimony from the grievant, the respondent, and whomever else it deems appropriate.
Within 15 days after completion of the hearing(s), the grievance committee shall submit its findings to the Vice President for Academic Affairs for implementation as deemed appropriate by that officer. A copy of the finding of the committee and of the implementing decision of the Vice President for Academic Affairs shall be given to the grievant and the respondent.
The grievant may withdraw the grievance at any point in the proceedings by doing so in writing to the Vice President for Academic Affairs.
The Vice President for Academic Affairs may grant an extension of the time limit for good cause.
If the grievance has not been resolved satisfactorily after the above procedures have been completed, the grievant is advised that he/she may appeal to the President of Western State Colorado University, and ultimately, to the Board of Trustees.

GENERAL EDUCATION

As an institution whose mission seeks to unify traditionally separate academic domains in the pursuit of preparing students for an ever more complex world and to instill in them the values of the liberally educated, Western State Colorado University requires all graduates to complete General Education requirements. Through Western's General Education program, students are exposed to a wide variety of subject matter and fields of study which have evolved through time to include diverse perspectives and experiences which reflect and embrace the above mentioned principles which define the role and mission of our university.

The General Education Program provides a foundation for analytical discovery, independent thinking, and informed and engaged citizenship. General Education courses require students to engage the knowledge, perspectives, and methods of specific disciplines while developing essential skills. In so doing, students increase their understanding of themselves, the natural world, the bases of our society and institutions, the larger world, and their relationships. These courses offer a foundation for further studies and continued intellectual growth.

The thirty-five credit General Education Program contains two components:
Essential Skills (9 credits) and the Liberal Arts (26 credits).

I. Essential Skills (9 Credits)

The purpose of the Essential Skills requirements is to provide students with the tools needed to reason, write, speak, read, quantify, and use information and technology in new ways of thinking and doing. The acquisition, application, and integration of the Essential Skills are practiced through the General Education curriculum and within courses in the disciplines during the students' university careers.

Students must earn a minimum grade of "C-" in the following courses to fulfill the Essential Skills requirement:

First Writing Course (3 credits)

ENG 102 Academic Writing (GT- CO1)*	3 cr

Enrollment in English 102 Academic Writing and English 102 Honors Academic Writing requires reading and writing abilities consistent with the university entry-level expectations defined by the Colorado Commission on Higher Education. Consult with an advisor for English course prerequisites.

Second Writing Course (3 credits).

COM 202 Academic Writing and Inquiry	3 cr

Mathematics Course (3 credits).

The mathematics requirement varies by program of study (major, emphasis, minor). Many programs have specific requirements beyond the University minimum. In all cases, these specific requirements satisfy the University Mathematics Course requirement. To select the appropriate courses, see the Academic Programs section of this *Catalog*.

If there is no specific mathematics requirement within a program of study, the minimum Mathematics Course requirement of the University may be satisfied by passing, with a minimum grade of "C-,"any university-level mathematics course numbered 100 or above. Mathematics essential skills courses include the following:

MATH 105 Mathematics for the Liberal Arts (GT-MA1)*	3 cr
MATH 113 Statistical Thinking (GT-MA1)*	3 cr
MATH 140 College Algebra (GT-MA1)*	3 cr
MATH 141 Precalculus	4 cr
MATH 151 Calculus I (GT-MA1)*	4 cr
MATH 209 Mathematics for Elementary School Teachers I	3 cr
MATH 213 Probability and Statistics (GT-MA1)*	3 cr

*Colorado State Guaranteed General Education Transfer Course.

Enrollment in university-level mathematics courses (numbered 100 or above) requires mathematics abilities consistent with the university entry-level expectations defined by the Colorado Commission on Higher Education. Students should consult with their advisors about which mathematics course is appropriate.

II. Liberal Arts (26 Credits)

Each of the courses included in the Liberal Arts program extends the development of Essential Skills while examining the social sciences, natural sciences, and the arts and humanities. Courses in the Liberal Arts program may also satisfy major and/or minor requirements.

AREA I: Social Sciences (9 credits) Courses in Area I focus on the following goals:

- Students use social science methods and reasoning.
- Students demonstrate knowledge of how historical, political, economic, cultural, or social contexts shape the human environment.
- Students demonstrate knowledge of how individuals relate to the social world, past and present.

Nine credits are required from the courses listed below. Students must choose from three disciplines.

ANTH 107 Introduction to General Anthropology (GT-SS3)*	3 cr
BUAD 101 Business of Life	3 cr
ECON 201 Macroeconomics (GT-SS1)*	3 cr
ENVS 100 Introduction to Environment and Sustainability (GT-SS2)*	3 cr
GEOG 110 World Regional Geography (GT-SS2)*	3 cr

GEOG 120 Introduction to Human Geography (GT-SS2)*	3 cr
GEOG 250 Geography of North America (GT-SS2)*	3 cr
HIST 101 World History to 1500 (GT-HI1)*	3 cr
HIST 102 World History Since 1500 (GT-HI1)*	3 cr
HIST 126 U.S. History to 1865 (GT-HI1)*	3 cr
HIST 127 U.S. History Since 1865 (GT-HI1)*	3 cr
HIST 250 History of the Middle East (GT-HI1)*	3 cr
HIST 254 A History of Africa (GT-HI1)*	3 cr
HIST 260 Introduction to Latin American History (GT-HI1)*	3 cr
POLS 117 Introduction to Political Ideas (GT-SS1)*	3 cr
POLS 180 Introduction to American Politics (GT-SS1)*	3 cr
POLS 255 Introduction to Comparative Politics (GT-SS1)*	3 cr
POLS 260 Introduction to World Politics (GT-SS1)*	3 cr
PSY 100 General Psychology (GT-SS3)*	3 cr
SOC 101 Introduction to Sociology	3 cr
SOC 168 Social Problems	3 cr

*Colorado State Guaranteed General Education Transfer Course.

AREA II: Natural Sciences: (8 credits) Courses in Area II focus on the following goals:

- Students demonstrate knowledge of scientific viewpoints.
- Students use the scientific method.
- Students evaluate the impacts of science and technology on society.
- Students demonstrate scientific literacy.

Eight credits are required from the courses listed below:

ANTH 218 Physical Anthropology (with laboratory)	4 cr
BIOL 120 Studies in Biology (GT-SC2)*	3 cr
BIOL 130 Environmental Biology (GT-SC2)*	3 cr
BIOL 135 Environmental Biology Laboratory (GT-SC1)*	1 cr
BIOL 150 Biological Principles (with laboratory) (GT-SC1)*	4 cr
BIOL 151 Diversity and Patterns of Life (with laboratory)	4 cr
BIOL 200 Environmental and Public Health (GT-SC2)*	3 cr
CHEM 100 Contemporary Chemistry (GT-SC2)*	3 cr
CHEM 101 Introduction to Inorganic Chemistry (GT-SC2)*	3 cr
CHEM 111 General Chemistry I (GT-SC2)*	3 cr
CHEM 112 General Chemistry Laboratory I (GT-SC1)*	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
GEOL 101 Physical Geology (GT-SC2)*	3 cr
GEOL 105 Physical Geology Laboratory (GT-SC1)*	1 cr
PHYS 110 Introductory Astronomy (GT-SC2)*	3 cr
PHYS 115 Physics of Music	3 cr
PHYS 120 Meteorology (GT-SC2)*	3 cr
PHYS 125 Energy and the Environment (GT-SC2)*	3 cr
PHYS 140 Introductory Physics (with laboratory) (GT-SC1)*	4 cr
PHYS 170 Principles of Physics I (with laboratory) (GT-SC1)*	4 cr
PHYS 171 Principles of Physics II (with laboratory) (GT-SC1)*	4 cr
PHYS 200 General Physics I (with laboratory) (GT-SC1)*	4 cr
PHYS 201 General Physics II (with laboratory) (GT-SC1)*	4 cr
SCI 110 Habitable Planet (with laboratory)	4 cr
SCI 120 Living Planet (with laboratory)	4 cr
SCI 210 Dynamic Planet (with laboratory)	4 cr

*Colorado State Guaranteed General Education Transfer Course.

AREA III: Arts and Humanities (9 credits). Courses in Area III focus on the following goals:

- Students enhance their appreciation of the modes of creative expression.
- Students ask fundamental questions of value and meaning.
- Students survey a variety of ways humans have perceived their world.
- Students explore the ways in which the human environment is shaped by social, cultural, linguistic, religious, philosophical, and historical circumstances.
- Students gain increased awareness of the moral and ethical dimensions of the human condition.

Nine credits are required from the courses listed below. Students must choose from three disciplines.

ART 105 Introduction to Art (GT-AH1)*	3 cr
COM 119 Introduction to Film	3 cr
COM 121 Introduction to Theatre (GT-AH1)*	3 cr
COM 151 Introduction to Mass Media (GT-AH1)*	3 cr
COM 216 Dramatic Literature and Script Analysis	3 cr
ENG 150 Introduction to Literature	3 cr
ENG 205 Introduction to Creative Writing	3 cr
ENG 230 Environmental Literature (GT-AH2)*	3 cr
ENG 232 Borderlands: Race, Class, and Gender	3 cr
ENG 237 Women and Literature	3 cr
ENG 238 Literary Culture of the American West	3 cr
ENG 248 Film Arts: Film as Literature/Literature as Film	3 cr
ENG 250 Critical Approaches to Literature	3 cr
ENG 254 Popular Genre Fiction	3 cr
ENG 255 Ancient World Literature (GT-AH2)*	3 cr
ENG 270 Folklore	3 cr
MUS 100 Fundamentals of Music (GT-AH1)*	3 cr
MUS 135 Introduction to Algorithmic Music	3 cr
MUS 140 Introduction to Music (GT-AH1)*	3 cr
MUS 240 Perspectives in Music	3 cr
MUS 245 History of Rock and Roll	3 cr
PHIL 101 Introduction to Philosophy (GT-AH3)*	3 cr

*Colorado State Guaranteed General Education Transfer Course.

Colorado State Guaranteed General Education Transfer Courses

Western State Colorado University students who transfer to another Colorado public college or university may facilitate the transferring of general education credits by completing courses designated as State Guaranteed General Education Transfer Courses. Upon acceptance to another Colorado public college or university, students may have up to 31 credits of successfully completed (C- or better) State Guaranteed General Education Transfer Courses meet specific general education requirements of the receiving institution. Courses must incorporate specific content and competency areas as defined by the State Guaranteed General Education Transfer Curriculum. For more information regarding State Guaranteed General Education Transfer Courses and the 31-credit State Guaranteed General Education Transfer Curriculum, please consult the Colorado Department of Higher Education website: http://highered.colorado.gov.

Credits earned in general education courses not designated as State Guaranteed General Education Transfer Courses routinely transfer to other colleges and universities as determined by the receiving institution. A student transferring credits to another college or university should consult with the receiving institution to determine how transferred credits may meet particular general education requirements.

GT-CO1: Colorado Guaranteed General Education Transfer Course, Introduction to Writing
GT-MA1: Colorado Guaranteed General Education Transfer Course, Mathematics
GT-SS1: Colorado Guaranteed General Education Transfer Course, Economics of Political Systems
GT-SS2: Colorado Guaranteed General Education Transfer Course, Geography
GT-SS3: Colorado Guaranteed General Education Transfer Course, Human Behavior, Culture, or Social Frameworks
GT-HI1: Colorado Guaranteed General Education Transfer Course, History
GT-SC1: Colorado Guaranteed General Education Transfer Course, Natural Sciences with Laboratory
GT-SC2: Colorado Guaranteed General Education Transfer Course, Natural Sciences without Laboratory
GT-AH1: Colorado Guaranteed General Education Transfer Course, Arts and Expression
GT-AH2: Colorado Guaranteed General Education Transfer Course, Literature and Humanities
GT-AH3: Colorado Guaranteed General Education Transfer Course, Ways of Thinking

ACCOUNTING (ACC)

At Western, we believe that the best accountants are those with the greatest breadth in their undergraduate education. Thus, Accounting majors at Western are required to take a full range of General Education courses while still completing all necessary accounting and related business courses. This approach results in graduates who have over half of their course work in liberal arts disciplines, but who still meet all educational requirements to become certified public accountants. This method of accounting education, together with the rigors inherent in the study of accounting, combine to create an outstanding program with outstanding students. In addition, as with other disciplines at Western, students can count on small classes with caring and dedicated faculty.

Western State Colorado University offers three programs of study in Accounting: a Comprehensive Major: Professional Emphasis, a Comprehensive Major: Financial Analysis Emphasis, and a Standard Accounting Major.

The Professional Emphasis is intended to provide the appropriate educational background for students interested in professional accountancy (CPA) as a career, or the pursuit of a graduate degree in accounting, business, or law. The course work leading to graduation with a Comprehensive Accounting Major is composed of five areas: 1) general education and elective courses; 2) supporting tool courses; 3) Accounting Nucleus courses; 4) supporting courses in Accounting, Business Administration and Economics; and 5) a Capstone Course. Students completing one of the Comprehensive Majors do not need a minor area of study.

Students interested in becoming a Certified Public Accountant (CPA) should be aware that all states now require or will soon require 150 credits to be licensed as a CPA. In Colorado, this requirement went into effect July 1, 2015. The Professional Emphasis in accounting is designed to meet all the requirements for a Colorado CPA candidate to sit for the CPA exam. This can be done after graduation with the bachelor's degree and a total of 120 credits. Before being certified as a CPA, the candidate must then complete a total of 150 credits, including additional accounting and business credits. This can be accomplished by completing the Professional Emphasis in Accounting, a Standard major in Business Administration, and a second auditing course (ACC 415), for a total of 66 credits. A work experience requirement must also be met. Students should consult with an Accounting faculty advisor to develop an appropriate academic program.

The Financial Analysis Emphasis in Accounting is designed for students who are interested in careers in accounting or finance but who do not intend to seek CPA certification. This emphasis includes courses in the traditional areas of managerial finance, financial institutions, investments, and economics, and also requires a substantial core of accounting courses. This approach maximizes the post-graduate opportunities available to students. Students completing the Financial Analysis Emphasis do not need a minor area of study.

The Standard Accounting Major is appropriate for students who have a strong interest in both accounting and another discipline. It does not offer the integrated breadth provided in the comprehensive majors. Students pursuing a Standard Major must also complete a minor area of study or have a second major in another discipline. The Standard Major does not provide sufficient preparation for someone interested in professional accountancy, but provides an excellent preparation for graduate study or for careers that make use of accounting information. The selection of a minor area of study (or a second major) that complements a Standard Accounting Major should be made with the aid of an advisor.

Many majors are student members of the Colorado Society of Certified Public Accountants and the American Institute of Certified Public Accountants. To graduate, all majors must have a grade-point average of 2.500 or better in all courses required in the major and complete each of the following courses with a minimum grade of "C": ACC 201 Introduction to Financial Accounting, ACC 202 Introduction to Managerial Accounting, ACC 301 Intermediate Financial Accounting I, ACC 302 Intermediate Financial Accounting II, ACC 320 Advanced Management Accounting, and ACC 350 Income Tax.

FACULTY

Associate Professor Steve Crowley;
Assistant Professor Perry Solheim;
Lecturer Kathy Ridgeway.

DESCRIPTION OF THE PROGRAMS

All Accounting Majors require a minimum of 18 credits of Tool Courses and the 12- credit Accounting Nucleus.

Tool Courses

ACC 201 Introduction to Financial Accounting	3 cr
ACC 202 Introduction to Managerial Accounting	3 cr
ECON 202 Microeconomics	3 cr
One of the following:	
MATH 140 College Algebra	3 cr
MATH 141 Precalculus	3 cr
MATH 151 Calculus I	4 cr
One of the following:	
ECON 216 Statistics for Business and Economics	3 cr
MATH 213 Probability and Statistics	3 cr
One of the following:	
BUAD 220 Computer Applications in Business.	3 cr
CS 120 Professional Computer Skills	3 cr

Students are strongly encouraged to complete all Tool Courses before enrolling in Accounting Nucleus courses.

Accounting Nucleus

ACC 301 Intermediate Financial Accounting I	3 cr
ACC 302 Intermediate Financial Accounting II	3 cr
ACC 320 Advanced Management Accounting	3 cr
ACC 350 Income Tax	3 cr

Accounting Major: Standard Program

A minimum of 42 credits is required including 18 credits of Tool Courses, the 12-credit Accounting Nucleus, and the following:

ACC 498 Accounting Ethics	3 cr
BUAD 210 Legal Environment of Business	3 cr
Two of the following:	
ACC 340 Accounting Information Systems	3 cr
ACC 410 Auditing	3 cr
ACC 450 Advanced Financial Accounting	3 cr
ACC 460 Advanced Income Tax	3 cr

Accounting Major: Comprehensive Programs

PROFESSIONAL EMPHASIS

A minimum of 57 credits is required including 18 credits of Tool Courses, the 12-credit Accounting Nucleus, and the following:

ACC 340 Accounting Information Systems	3 cr
ACC 410 Auditing	3 cr
ACC 450 Advanced Financial Accounting	3 cr
ACC 498 Accounting Ethics	3 cr
BUAD 210 Legal Environment of Business	3 cr
BUAD 270 Principles of Marketing	3 cr
BUAD 315 Business Law	3 cr
BUAD 360 Managerial Finance	3 cr
One of the following:	
BUAD 333 Organizational Behavior	3 cr
BUAD 350 Human Resource Management	3 cr

FINANCIAL ANALYSIS EMPHASIS

A minimum of 57 credits is required including 18 credits of Tool Courses, the 12-credit Accounting Nucleus and the following:

ACC 460 Advanced Income Tax	3 cr
BUAD 210 Legal Environment of Business	3 cr
BUAD 311 Essential Excel Skills for the Workplace	1 cr
BUAD 312 Advanced Excel Applications	2 cr
BUAD 360 Managerial Finance	3 cr
BUAD 461 Investments	3 cr
BUAD 491 Strategic Management	3 cr
ECON 201 Macroeconomics	3 cr
Two of the following:	
ECON 301 Intermediate Macroeconomics	3 cr
ECON 316 Econometrics	3 cr
ECON 361 Money, Banking, and Financial Markets	3 cr

Accounting Minor

A minimum of 18 credits is required:

ACC 201 Introduction to Financial Accounting	3 cr
ACC 202 Introduction to Managerial Accounting	3 cr
ACC 301 Intermediate Financial Accounting I	3 cr
Accounting electives	9 cr

Capstone Course Requirement. The following courses in the Accounting Major fulfill the capstone course requirement: ACC 498 Accounting Ethics (Standard Accounting Major or Professional Emphasis); or BUAD 491 Strategic Management (Financial Analysis Emphasis).

ACCOUNTING COURSES

ACC 197 Special Topics **1-6 credits**

ACC 201 Introduction to Financial Accounting **3 credits**

An introduction to the field of accounting with emphasis on corporate financial statements. Financial statements are viewed as a communication device conveying the financial health of a business to interested parties. The objective of this first course is to teach students to read, analyze, and interpret these financial statements. The emphasis is on developing critical thinking and problem-solving skills using accounting concepts. Students are exposed to the steps used by accountants to record, measure, and process financial information. Cash flow analysis is contrasted with the accrual basis of accounting; the concepts of asset valuation and income measurement are discussed. Accounting majors must pass this class with a minimum grade of "C". Prerequisites: university-level mathematics requirement with a minimum grade of "C-", or instructor permission.

ACC 202 Introduction to Managerial Accounting **3 credits**

An introduction to the preparation, uses, and analysis of common management accounting information. Topics include cost-volume-profit analysis, capital budgeting and present value applications, cash budgets, financial statement analysis, taxes, and management decisions, plus a brief introduction to modern cost accounting, with emphasis on activity-based costing systems. The development of problem-solving and analytical abilities is given primary importance throughout the course. Accounting majors must pass this class with a minimum grade of "C". Prerequisites: MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-"; and ACC 201 with a minimum grade of "C".

ACC 297 Special Topics **1-6 credits**

ACC 301 Intermediate Financial Accounting I **3 credits**

Rigorous and comprehensive study of the means by which generally accepted accounting principles are used to generate the publicly-available in formation disseminated by modern U.S. corporations. Theoretical and practical critic isms and alternatives to current accounting practice are also considered, as is the idea of accounting as an information feedback system that allows individuals and organizations to reshape their environment. In addition, students are exposed to the realities of the economic and political climate surrounding the accounting standard-setting process. Accounting majors must pass this class with a minimum grade of "C". Prerequisites: MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-"; and ACC 201 with a minimum grade of "C".

ACC 302 Intermediate Financial Accounting II **3 credits**

Continuation of ACC 301. As the ACC 301-02 sequence progresses, increased emphasis is placed on the relationship of modern accounting and information theory to current accounting practice. In addition, students are expected to develop an insight into the behavioral and economic consequences of the financial reporting process. Accounting majors must pass this class with a minimum grade of "C." Prerequisite: ACC 301.

ACC 320 Advanced Management Accounting **3 credits**

A study of the information needed by managers for planning, control and decision making. Both the tools needed to generate this information and the principles involved in evaluating the information are covered. Topics include: breakeven analysis; product and process costing, including activity-based costing, standard costing and joint costs; cash budgets and forecasting; relevant costs and non-routine decisions; the direct vs. absorption costing tradeoff; and capital budgeting. The overall level of difficulty in this course is generally consistent with the level of difficulty encountered on typical management accounting problems found on the Uniform CPA Examination. Accounting majors must pass this class with a minimum grade of "C". Prerequisites: ACC 202 and ACC 301.

ACC 340 Accounting Information Systems **3 credits**

A dual-purpose course which explores the theoretical view of information systems, while at the same time exposing the student to actual off-the-shelf accounting software. The course alternates between textbook readings and discussions and several case studies which require the student to create a computerized accounting system for a fictional client. After completing the course, the student is expected to possess the ability to computerize a manual accounting system, to understand system theory underpinnings of accounting information systems, and to have developed a view of the implications of expected technological advances on management information systems in general and accounting systems in particular. Prerequisite: BUAD 220 or CS 120. Prerequisite or corequisite: ACC 301.

ACC 350 Income Tax **3 credits**

An introduction to the federal income tax system. Emphasis is on the ways in which the U.S. income tax laws influence personal and business behavior and decision making, and how the tax laws can be used to accomplish various economic and social objectives. Topics covered include an introduction to tax research, principles of income and deduction, tax liability, and tax credits. Individual taxation is the primary focus, but the basic principles apply to most forms of business organization as well. Accounting majors must pass this class with a minimum grade of "C". Prerequisite: minimum sophomore standing.

ACC 397 Special Topics **1-6 credits**

ACC 410 Auditing **3 credits**

An introduction to the field of auditing including an examination of the standards and methods used by certified professional accountants when attesting to the fairness of corporate financial statements. Specifics topics include the accounting professional code of ethics, generally accepted auditing standards (GAAS), internal controls, sampling techniques, audit planning, and specific audit procedures. Government policies concerning auditors' responsibilities for fraud detection are also discussed. Prerequisite: ACC 302.

ACC 415 Information Technology Auditing **3 credits**

Building on concepts covered in ACC 410 (Auditing), the course emphasizes the process of auditing information technology (IT), IT governance and management, IT acquisition, development and implementation, IT maintenance and support, and protection of IT assets. The course will present tools, concepts, and techniques necessary to properly audit IT. Prerequisites: ACC 340 and ACC 410.

ACC 450 Advanced Financial Accounting **3 credits**

An overview of the financial accounting theory, practice, problems, and reporting requirements for various economic entities. These include partnerships, foreign branches and subsidiaries, state and local governments, colleges and universities, hospitals, voluntary organizations, and the modern parent/subsidiary corporate structure. The approach taken in this course is that there are common information needs which each of these entities must satisfy. While the specific approach used to satisfy this need is dependent on a variety of factors, the common thread is that useful information is being generated for the consumers of that information. Prerequisite: ACC 302.

ACC 460 Advanced Income Tax **3 credits**

A continuation of federal income taxation, with emphasis on property transactions, corporations, partnerships, and fiduciaries. A primary objective is decision-making from an after-tax point of view, that is, how taxes affect behavior. Topics include the tax effects of organizing, operating, and liquidating partnerships and corporations. Tax research methodology and the federal estate and gift tax are also covered. Prerequisite: ACC 350.

ACC 491 Seminar in Accounting **3 credits**

A boardroom approach to problem solving through research, discussion, and analysis.

ACC 492 Independent Study **1-6 credits**

A singular investigation into a unique problem arrived at between the researcher and the advisor.

ACC 497 Special Topics **1-6 credits**

ACC 498 Accounting Ethics **3 credits**

Investigates and explores the ethical responsibilities faced by professional accountants in all fields. Students will read, discuss, and analyze case studies regarding ethical situations and issues confronted by the accounting profession. The AICPA Code of Professional Conduct will be studied, as well as foundational ethical theory and an approach for identifying and analyzing ethical issues, with a focus on current events. Students are expected to make significant written and oral contributions to the class. This is the capstone course for the Standard Accounting Major and the Professional Emphasis. Prerequisite: senior status.

ACC 499 Internship in Accounting **1-6 credits**

Experiences designed especially for the uninitiated student. Internships provide guided, counseled, and progressive experience under a dual tutelage program of a businessperson and an academician. Graded Satisfactory/Unsatisfactory only.

ANTHROPOLOGY (ANTH)

Anthropology is the scientific study of humans that is holistic and cross-cultural. Through anthropology a student achieves a broad geographical and temporal perspective of human biological and cultural adaptations. This perspective includes an understanding of cultural diversity in our own society, in our world at large, and in the past.

The Anthropology Standard Major provides students with a challenging, scholarly educational experience. Training in archaeology, physical anthropology, and cultural anthropology involves classroom, laboratory, and field work. Students majoring in Anthropology at Western apply information from the classroom as they participate in field studies. Majors are required to attend an Anthropology field school. The field school gives students hands-on field experience in anthropology. Laboratory skills are an important feature of the Anthropology curriculum, and students have the opportunity to participate in research with faculty.

Students majoring in Anthropology have used this experience to further careers in archaeology, cultural anthropology, forensics, and law enforcement, teaching, community planning, international business, and governmental research. With additional graduate work, careers in archaeology, cultural anthropology, and physical anthropology are possible.

FACULTY

Professors Mark Stiger and Lynn L. Sikkink;
Lecturer David Hyde.

DESCRIPTION OF THE PROGRAM

Anthropology Major: Standard Program

A minimum of 38 credits is required:

ANTH 107 Introduction to General Anthropology	3 cr
ANTH 218 Physical Anthropology (with laboratory)	4 cr
ANTH 219 Archaeology (with laboratory)	4 cr
ANTH 230 Cultural Anthropology (with laboratory)	4 cr
ANTH 465 Senior Research Seminar	3 cr
Anthropology electives	9 cr
MATH 113 Statistical Thinking	3 cr
Two of the following field and laboratory courses	
ANTH 322 Analysis of Material Culture (with laboratory)	4 cr
ANTH 467 Ethnography Field School	4 cr
ANTH 469 Archaeology Field School	4 cr
(ANTH 467 and 469 may be repeated for eight credits).	

Anthropology Minor

A minimum of 18 credits, including:

ANTH 107 Introduction to General Anthropology	3 cr
Anthropology Electives	7 cr
(ANTH 467 and ANTH 469 may be repeated for eight credits).	
Two of the following:	
ANTH 218 Physical Anthropology (with laboratory)	4 cr
ANTH 219 Archaeology (with laboratory)	4 cr
ANTH 230 Cultural Anthropology (with laboratory)	4 cr

Capstone Course Requirement. The following course in the Anthropology Major fulfills the capstone course requirement: ANTH 465 Senior Research Seminar.

ANTHROPOLOGY COURSES

ANTH 107 Introduction to General Anthropology **3 credits**

A general introduction to anthropology. All three sub-fields of modern anthropology: cultural anthropology (archaeology and ethnography), physical anthropology, and linguistics are covered. GT-SS3

ANTH 197 Special Topics **1-6 credits**

ANTH 218 Physical Anthropology (with laboratory) **4 credits**

An examination of biological variation in modern human populations and biological evolution of humans as shown by the fossil record. Additional course fee applies. Prerequisite: ANTH 107.

ANTH 219 Archaeology (with laboratory) **4 credits**

A study of the methods and theory of modern archaeology. The emphasis is on how archaeologists understand the past. A general chronology of world prehistory is presented. Additional course fee applies. Prerequisite: ANTH 107.

ANTH 230 Cultural Anthropology (with laboratory) **4 credits**
An exploration of ethnographic theory and methods, and a cross-cultural and comparative examination of societies studied by ethnographers. Additional course fee applies. Prerequisite: ANTH 107.

ANTH 297 Special Topics **1-6 credits**

ANTH 320 Cultural Ecology **3 credits**
An examination of key perspectives, theories, and methods in the study of ecological anthropology. Students learn about the use and definition of the environment by groups from different cultural backgrounds, and build a comparative perspective. The focus is on contemporary groups, but archaeological examples are used as comparison and to build time-depth in our understanding of cultural ecology. Prerequisite: ANTH 107 or instructor permission.

ANTH 322 Analysis of Material Culture (with laboratory) **4 credits**
A lab course training students in analytical methods in anthropology. Students are responsible for a major project in which they carry out all phases of anthropological research, including research design, background research, hypothesis, analysis, and presentation of results. Materials studied include lithics, fauna, ceramics, and botanical remains. An excellent preparation for (or follow-up to) the Archaeological Field School. Prerequisite: ANTH 219.

ANTH 333 Archaeology of Colorado **3 credits**
A detailed look at the archaeological sequences of Colorado with an emphasis on western Colorado. Time periods from Paleo-Indian to Historic are described. This course is a recommended preparatory course for the Archaeological Field School in Colorado or the Archaeological Field Trip. Prerequisite: ANTH 219.

ANTH 344 Indians of North America **3 credits**
A detailed look at the native people found in North America and their relationships to each other and the non-native settlers of North America. Several case studies are examined in depth. Prerequisite: ANTH 107 or instructor permission.

ANTH 355 Medical Anthropology **3 credits**
An examination of medical systems from various cultural groups, focusing on beliefs, methods of healing, health practitioners, and medical pluralism. Prerequisite: ANTH 107.

ANTH 369 Anthropology Field Trip **1-3 credits**
A field study of archaeological and ethnographic cultures in the western United States. Students camp and tour ancient sites, modern Native American towns, and anthropological museums. This course may be taken for a maximum of six credits.

ANTH 392 Independent Study in Anthropology **1-4 credits**

ANTH 397 Special Topics **1-6 credits**

ANTH 465 Senior Research Seminar **3 credits**
A study of the history and intellectual growth of anthropology is paired with individual work on student projects, which employ theory and methods discussed in class. Students present their work to the university community. Prerequisite: Senior standing; or instructor permission.

ANTH 467 Ethnography Field School **4 credits**
A field experience in cultural anthropology in which students are immersed in the culture, traditions, and lifeways of a group of people, learning methods of inquiry and anthropological perspectives through hands-on experiences. This course may be taken for a maximum of eight credits. Prerequisite: ANTH 230 or instructor permission.

ANTH 469 Archaeology Field School **4 credits**
A field-experience course in which students learn and perform proper field techniques. Some laboratory work may be involved. This course is offered during the summer session and may be taken for a maximum of eight credits. Additional course fee applies. Prerequisites: ANTH 219 or instructor permission.

ANTH 497 Special Topics
1-6 credits

ART (ART)

The Western State Colorado University Department of Art offers degree programs in multiple emphases that are grounded in the fundamentals of art and design. Western Art students are fully prepared to pursue advanced studies leading to a variety of careers.

This training begins with comprehensive Foundations classes in drawing, two-dimensional design and three-dimensional design. During this first year, students document their university artwork and produce professional portfolios to submit for formal admittance into the Art program.

In their sophomore year, formally-admitted Art students begin to specialize in their emphasis: Painting, Photography, Printmaking, Ceramics, Jewelry, Sculpture, Graphic Design, K-12 Art Education Licensure, Art History. Art majors and minors also take courses in other areas of interest. Degree-seeking Art students additionally have access to two computer labs with digital industry-standard facilities.

Students majoring in Art may select either a Bachelor of Arts or Bachelor of Fine Arts degree.

The Bachelor of Arts degree is designed for the qualified student intending to graduate with a liberal arts background with an in-depth emphasis in Art. The Bachelor of Arts Degree consists of a Standard Major, or a Comprehensive Major which allows students to specialize in Studio Art (2-D: Painting, Photography, Printmaking; or 3-D: Ceramics, Jewelry, Sculpture), Graphic Design, K-12 Education licensure, and Art History.

The Bachelor of Fine Arts Degree is designed for the qualified student intending to become a professional artist or to pursue graduate study in Art, and is a Comprehensive Major specializing students in Painting, Photography, Printmaking, Ceramics, Jewelry, Sculpture, and Graphic Design.

In their senior year, Art majors exhibit their senior show in the Quigley Gallery, or present their senior art history thesis.

Formal Admission to the Art Program:

Students declare a major or minor in Art to enter into their first year in the program. Students apply for formal admission to the Art program when they have completed most of their Foundation requirements. All degree-seeking students who wish to major or minor in Art must be formally admitted to the Art program in order to take sophomore and upper level Art courses.

To be formally admitted to the Art Program, a student must:

1. submit an application for admission;
2. have demonstrated a minimum competency by completing the following courses with a minimum grade of "C":

ART 119 Foundation Drawing I	3 cr
ART 120 Foundation Drawing II	3 cr
ART 171 Foundation Design: Two-Dimensional	3 cr
ART 172 Foundation Design: Three-Dimensional	3 cr
and completed two semesters of (with a Satisfactory grade):	
ART 000 Exhibition and Convocation Attendance	0 cr

3. submit a portfolio of recent art work;
4. submit a current transcript which shows an overall grade-point average of 2.000.

All majors must have an overall grade-point average of 2.500 or above in order to graduate.

FACULTY

Professors Albert R. Caniff, Jr., Heather S. Orr and S. Chase Hutchison.
Associate Professors Tina Butterfield;
Assistant Professor Anders M. Johnson;
Lecturer Emily Loehle;
Emeritus Professors Terri J. Murphy and Don E. Seastrum.

DESCRIPTION OF THE PROGRAMS

Bachelor of Arts Degree in Art

All majors require a total of 24 credits of Art Foundation Courses in addition to specific Art emphasis course requirements. A senior exhibition or an art history senior thesis is required of all majors. A quality representation of the student's artwork from their junior and senior years is used for the senior exhibition.

Art Foundation Courses

Fall offerings

ART 119 Foundation Drawing I	3 cr
ART 171 Foundation Design: Two-Dimensional	3 cr
ART 222 Art History I	3 cr
ART 400 Artist's Portfolio / Senior Exhibition (one semester required)	3 cr

Spring offerings

ART 120 Foundation Drawing II	3 cr

ART 172 Foundation Design: Three-Dimensional	3 cr
ART 223 Art History II	3 cr

Offered both Fall and Spring

ART 000 Exhibition and Convocation Attendance (six semesters with "S" grade required)	0 cr
ART 319 Intermediate Drawing	3 cr

Art Major: Standard Program

A minimum of 36 credits is required, including the 24-credit Art Foundation Courses and 12 credits of Art electives (nine credits must be at the 300- or 400 -level).

Art Major: Comprehensive Programs

STUDIO ART EMPHASIS

Painting, Photography, Printmaking, Ceramics, Jewelry, and/or Sculpture

A minimum of 54 credits is required, including the 24-credit Art Foundation Courses, 24 credits of Art electives (nine credits must be at the 300- or 400-level), and six credits of non-art supporting courses selected in consultation with an Art advisor.

GRAPHIC DESIGN EMPHASIS

A minimum of 54 credits is required, including the 24-credit Art Foundation Courses, three credits of Art electives, three credits of non-art supporting courses selected in consultation with an Art advisor, and the following 24 credits:

Fall Offerings

ART 246 Introduction to Photography	3 cr
ART 257 Introduction to Printmaking	3 cr
ART 270 Introduction to Graphic Design and Illustration	3 cr
ART 283 Introduction to Airbrush	3 cr

Spring Offerings

ART 370 Intermediate Graphic Design	3 cr
ART 271 Calligraphy / Typography	3 cr

Offered both Fall and Spring

ART 470 Advanced Design and Illustration I	3 cr
ART 471 Advanced Design and Illustration II	3 cr

K- 12 ART EDUCATION LICENSURE EMPHASIS

This program provides students with Art content coursework necessary to earn the State of Colorado License in Art Education for K-12 teaching. Specific Education courses which are also required for Art Education Licensure are arranged through the Education Department (see description under Education).

A minimum of 48 credits is required, including the 24-credit Art Foundation Courses and the following 24 credits:

Six of the following (18 credits total):

Fall offerings

ART 203 Introduction to Ceramics	3 cr
ART 230 Introduction to Sculpture	3 cr
ART 235 Introduction to Jewelry	3 cr
ART 257 Introduction to Printmaking	3 cr
ART 280 Introduction to Painting	3 cr
ART 283 Introduction to Airbrush	3 cr

Two of the following (six credits total):

Spring offerings

ART 271 Calligraphy/Typography	3 cr
ART 303 Intermediate Ceramics	3 cr
ART 330 Intermediate Sculpture	3 cr
ART 357 Intermediate Printmaking	3 cr
ART 380 Intermediate Painting	3 cr

*It is recommended that students majoring in the Art Education Licensure Emphasis include COM 119 Theatre and Media Aesthetics, and MUS 140 Introduction to Music, in their General Education Liberal Arts Area III electives.

ART HISTORY AND THEORY EMPHASIS

A minimum of 54 credits is required, including the 24 credits of Art Foundation Courses, six credits of Art electives, six credits of non-art supporting courses selected in consultation with an Art History advisor, and the following 18 credits:

Fall offerings

ART 324 Art Criticism and Critical Theory in Contemporary Art	3 cr

ART 421	Art of Mesoamerica and the Andean Region of South America*	3 cr
ART 422	Native American Art of North America*	3 cr

Spring offerings

ART 321	American Art: Colonial to Modern*	3 cr
ART 325	Women Artists*	3 cr
ART 424	Modern Art History, Aesthetics, Theory, and Criticism	3 cr

*Offered every other year.

Bachelor of Fine Arts Degree in Art

To receive and maintain Bachelor of Fine Arts (B.F.A.) in Art candidate status each semester, students must continuously create artwork outside of course assignments that exhibits the highest quality and creativity. When students receive B.F.A. in Art candidate status, they must report to their advisor for continuance in the program. The advisor is responsible for critiques, guidance, and assistance in the completion of the senior exhibition.

At the completion of the B.F.A. Foundation Program, students' portfolios should demonstrate the criteria identified by the Art faculty and B.F.A. acceptance form. The review committee will identify students' portfolios that reflect Bachelor of Fine Arts in Art degree potential.

Students wishing to apply for candidacy to the Bachelor of Fine Arts in Art Program must: apply no earlier than the spring of their sophomore year and no later than the fall of their junior year, present a portfolio of recent art works, specify an emphasis of study, be in good academic standing, and have completed the following courses with a minimum grade of "C":

ART 119	Foundation Drawing I	3 cr
ART 120	Foundation Drawing II	3 cr
ART 171	Foundation Design: Two-Dimensional	3 cr
ART 172	Foundation Design: Three-Dimensional	3 cr

All Bachelor of Fine Arts in Art Majors require the 36-credit BFA Foundation Courses. All Art courses must be selected in consultation with an Art advisor.

A senior exhibition is required of all majors. A quality representation of students' artwork from the junior and senior years is used for the senior exhibition.

BFA Foundation Courses

Fall offerings

ART 119	Foundation Drawing I	3 cr
ART 171	Foundation Design: Two-Dimensional	3 cr
ART 222	Art History I	3 cr
ART 319	Intermediate Drawing	3 cr
ART 400	Artist's Portfolio / Senior Exhibition	3 cr
ART 491	Seminar in Art	3 cr
Art History (300 level)		3 cr

Spring offerings

ART 120	Foundation Drawing II	3 cr
ART 172	Foundation Design: Three-Dimensional	3 cr
ART 223	Art History II	3 cr
ART 419	Advanced Drawing	3 cr
Art History (400 level)		3 cr

Offered both Fall and Spring

ART 000	Exhibition and Convocation Attendance (six semesters with "S" grade required)	0 cr

TWO-DIMENSIONAL ART: PAINTING EMPHASIS

A minimum of 63 credits is required including the 36-credit BFA Foundation Courses, six credits of Art electives, and 21 credits from the following, which must include 15 credits from one painting medium (painting or watercolor):

Fall offerings

ART 280	Introduction to Painting	3 cr
ART 283	Introduction to Airbrush	3 cr
ART 286	Introduction to Watercolor	3 cr

Spring offerings

ART 380	Intermediate Painting	3 cr
ART 386	Intermediate Watercolor	3 cr

Offered both Fall and Spring

ART 480	Advanced Painting I	3 cr
ART 481	Advanced Painting II	3 cr

ART 482 Advanced Painting III	3 cr
ART 486 Advanced Watercolor I	3 cr
ART 487 Advanced Watercolor II	3 cr
ART 488 Advanced Watercolor III	3 cr

TWO-DIMENSIONAL ART: PHOTOGRAPHY EMPHASIS

A minimum of 63 credits is required including the 36-credit BFA Foundation Courses, six credits of Art electives, and the following 21 credits:

Fall offerings

ART 246 Introduction to Photography	3 cr
ART 270 Introduction to Graphic Design and Illustration	3 cr

Spring offerings

ART 346 Intermediate Photography	3 cr
ART 370 Intermediate Graphic Design	3 cr

Offered both Fall and Spring

ART 446 Advanced Photography I	3 cr
ART 447 Advanced Photography II	3 cr
ART 448 Advanced Photography III	3 cr

TWO-DIMENSIONAL ART: PRINTMAKING EMPHASIS

A minimum of 63 credits is required including the 36-credit BFA Foundation Courses, six credits of Art electives, and the following 21 credits:

Fall offerings

ART 246 Introduction to Photography	3 cr
ART 257 Introduction to Printmaking	3 cr

Spring offerings

ART 357 Intermediate Printmaking	3 cr

Offered both Fall and Spring

ART 457 Advanced Printmaking I	3 cr
ART 458 Advanced Printmaking II	3 cr
ART 459 Advanced Printmaking III	3 cr

One of the following:

ART 280 Introduction to Painting	3 cr
ART 286 Introduction to Watercolor	3 cr

THREE-DIMENSIONAL ART: CERAMICS EMPHASIS

A minimum of 63 credits is required, including the 36-credit BFA Foundation Courses, six credits of Art electives, and the following 21 credits:

Fall offerings

ART 203 Introduction to Ceramics	3 cr
ART 230 Introduction to Sculpture	3 cr
ART 235 Introduction to Jewelry	3 cr

Spring offerings

ART 303 Intermediate Ceramics	3 cr

Offered both Fall and Spring

ART 403 Advanced Ceramics I	3 cr
ART 404 Advanced Ceramics II	3 cr
ART 405 Advanced Ceramics III	3 cr

THREE-DIMENSIONAL ART: JEWELRY EMPHASIS

A minimum of 63 credits is required, including the 36-credit BFA Foundation Courses, six credits of Art electives, and the following 21 credits:

Fall offerings

ART 203 Introduction to Ceramics	3 cr
ART 230 Introduction to Sculpture	3 cr
ART 235 Introduction to Jewelry	3 cr

Spring offerings

ART 335 Intermediate Jewelry	3 cr

Offered both Fall and Spring

ART 435 Advanced Jewelry I	3 cr
ART 436 Advanced Jewelry II	3 cr

ART 437 Advanced Jewelry III	3 cr

THREE-DIMENSIONAL ART: SCULPTURE EMPHASIS

A minimum of 63 credits is required, including the 36-credit BFA Foundation Courses, six credits of Art electives, and the following 21 credits:

Fall offerings

ART 203 Introduction to Ceramics	3 cr
ART 230 Introduction to Sculpture	3 cr
ART 235 Introduction to Jewelry	3 cr

Spring offerings

ART 330 Intermediate Sculpture	3 cr

Offered both Fall and Spring

ART 430 Advanced Sculpture I	3 cr
ART 431 Advanced Sculpture II	3 cr
ART 432 Advanced Sculpture III	3 cr

DESIGN ART: GRAPHIC DESIGN EMPHASIS

A minimum of 63 credits is required, including the 36-credit BFA Foundation Courses, and the following 27 credits:

Fall offerings

ART 246 Introduction to Photography	3 cr
ART 257 Introduction to Printmaking	3 cr
ART 270 Introduction to Graphic Design and Illustration	3 cr
ART 271 Calligraphy / Typography	3 cr

Spring offerings

ART 370 Intermediate Graphic Design	3 cr

Offered both Fall and Spring

ART 375 Magazine Production (one semester required)	3 cr
ART 470 Advanced Design and Illustration I	3 cr
ART 471 Advanced Design and Illustration II	3 cr
ART 472 Advanced Design and Illustration III	3 cr

Art Minor

A minimum of 18 credits is required:

ART 119 Foundation Drawing I	3 cr
ART 120 Foundation Drawing II	3 cr
ART 171 Foundation Design: Two-Dimensional	3 cr
ART 172 Foundation Design: Three-Dimensional	3 cr
Art electives	3 cr
One of the following:	
ART 222 Art History I	3 cr
ART 223 Art History II	3 cr

Capstone Course Requirement. The following course in the Art Major fulfills the capstone course requirement: ART 400 Artist's Portfolio/Senior Exhibition.

ART COURSES

ART 000 Exhibition and Convocation Attendance **0 credits**

Monthly or bi-monthly department gatherings for presentations by exhibiting artists and scholars, or workshops, which enable students to develop their own work and their understanding of the discipline of art. Art majors are required to register for and attend Art 000 every semester of enrollment towards their Art degree; minimum 6 semesters of Satisfactory grade. Graded Satisfactory/Unsatisfactory only.

ART 105 Introduction to Art **3 credits**

An introduction to the visual arts, including consideration of the fundamentals of art making, artistic practice, design, art history, analysis, and interpretation. Students engage with art through a combination of lectures, demonstrations, gallery-based exercises, and/or hands-on studio projects. (Course does not count toward the Art major or minor.) GT-AH1

ART 119 Foundation Drawing I **3 credits**

A foundation course in drawing with special attention to line, value, perspective, texture, and shape. Landscape, still life, and other forms are used as subject matter. The visual elements and principles of organization in relationship to perceiving both flat and illusionary space are explored. Black and white media are exclusively practiced. Prerequisite: Art major or minor status.

ART 120 Foundation Drawing II **3 credits**
A foundation course in drawing, placing emphasis on composition. The study of the essential aspects of drawing (such as gesture, contour, proportions, anatomy, structure, textural surface, and articulation) and their synthesis into a coherent drawing attitude. Included in this course is the introduction of drawing the life form and color. Prerequisite: ART 119.

ART 171 Foundation Design: Two-Dimensional **3 credits**
An introduction to design organization with an emphasis on the exploration of line, value, texture, shape, and color. Prerequisite: Art major or minor status.

ART 172 Foundation Design: Three-Dimensional **3 credits**
A foundation course in design organization with emphasis on the exploration of mass, texture, process, and techniques in the three-dimensional area. Tools and materials are explored. Prerequisite: Art major or minor status.

ART 197 Special Topics **1-6 credits**

ART 203 Introduction to Ceramics **3 credits**
An introduction to the basic techniques and processes of ceramics: pinch, coil, slab, and some wheelwork. Prerequisites: ART 120, ART 171, and ART 172.

ART 222 Art History I **3 credits**
A survey of western and non-western art from approximately 30,000 years ago to the 14th century. Works of art and architecture are examined within the cultural and historic context for art-making through world human history. Prerequisite: ENG 102 with a minimum grade of "C", and sophomore or higher status, or instructor permission.

ART 223 Art History II **3 credits**
A survey of western and non-western art from approximately the 14th century to the present. Works of art and architecture are examined within the cultural and historic context for art-making through world human history. Prerequisite: ENG 102 with a minimum grade of "C", and sophomore or higher status, or instructor permission.

ART 230 Introduction to Sculpture **3 credits**
An introduction to the various processes of sculpture: carving, modeling, and casting. Aesthetic qualities and craftsmanship of the sculptural forms are emphasized. Prerequisites: ART 120, ART 171, and ART 172.

ART 235 Introduction to Jewelry **3 credits**
An introduction to the creative use of silver and precious gemstones in the making of jewelry. Design and craftsmanship are emphasized. Prerequisites: ART 120, ART 171, and ART 172.

ART 246 Introduction to Photography **3 credits**
An introduction to contemporary photographic techniques incorporating traditional black-and-white analogue photography alongside digital photographic practice and procedure. Lectures introduce topic areas that the student must exercise in lab sessions. Students must supply their own "quality" 35mm or 120mm camera. Prerequisites: ART 120, ART 171, and ART 172.

ART 257 Introduction to Printmaking **3 credits**
An introduction to the basic techniques of printmaking including lithography, wood-cut, etching, and the collagraph. Emphasis is on the traditional approaches in print-making. Prerequisites: ART 120, ART 171, and ART 172.

ART 270 Introduction to Graphic Design and Illustration **3 credits**
An introductory course utilizing the basic fundamentals of art in a broad base of commercial applications. Design in the areas of corporate identity, packaging, illustration, and typography are explored. Illustration, new techniques, materials, and tools used by the designer are emphasized. Prerequisites: ART 120, ART 171, and ART 172.

ART 271 Calligraphy/Typography **3 credits**
A study of individual letter forms as design elements that relate to visual communication. Prerequisites: ART 120, ART 171, and ART 172.

ART 280 Introduction to Painting **3 credits**
An introduction to oil painting, using basic tools, materials, techniques, and the development of compositional methods. Prerequisites: ART 120, ART 171, and ART 172.

ART 283 Introduction to Airbrush **3 credits**
An introduction to the use of the airbrush as a tool for painting, drawing, and design. Multiple use of the tool within traditional and non-traditional directions, as well as tool maintenance, are stressed. Prerequisites: ART 120, ART 171, and ART 172.

ART 286 Introduction to Watercolor **3 credits**
An introduction to both the traditional and contemporary methods of watercolor. The various watercolor media are explored. Prerequisites: ART 120, ART 171, and ART 172.

ART 297 Special Topics **1-6 credits**

ART 303 Intermediate Ceramics **3 credits**
An exploration of the expressive possibilities of individual ceramic direction. Students collaborate with the instructor to plan a suitable and particular direction for study. Prerequisite: ART 203.

ART 319 Intermediate Drawing **3 credits**
A study of figure drawing with an emphasis on structure, figure compositions, and portrait studies from the model using various drawing media and techniques. Prerequisite: ART 120.

ART 321 American Art: Colonial to Modern **3 credits**
A survey of the arts of America from the 17th century to the present. Emphasis is placed on uniquely American innovations and expressions, regional distinctions in American art, with a strong component in art of the American West; significant individual artists and trends; and the arts of the many diverse peoples that comprise America. Prerequisite: junior standing or instructor permission.

ART 324 Art Criticism and Critical Theory in Contemporary Art **3 credits**
A survey of contemporary art and art practices through the discipline of art criticism. This seminar course prepares students for senior-level courses and advanced studies in art and art history at the graduate level. A survey of modern and contemporary art since the mid-twentieth century is followed by seminar presentations on selected readings. Prerequisites: ART 222 and ART 223.

ART 325 Women Artists **3 credits**
A survey of women artists and their work from the 16th century (Renaissance) to contemporary times. The contribution of women artists and the changing roles of women in the western tradition of the visual arts are examined within relevant historical, political, social, theoretical, and gender contexts. Prerequisite: junior standing or instructor permission.

ART 330 Intermediate Sculpture **3 credits**
An exploration of the expressive possibilities of individual sculpture direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 230.

ART 335 Intermediate Jewelry **3 credits**
An exploration of the expressive possibilities of individual jewelry direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 235.

ART 346 Intermediate Photography **3 credits**
An intermediate course that explores the expressive possibilities of individual photography direction with an emphasis placed on digital photographic practices and principles. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 246.

ART 357 Intermediate Printmaking **3 credits**
An exploration of the expressive possibilities of individual printmaking direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 257.

ART 370 Intermediate Graphic Design **3 credits**
A study of graphic design processes and applications. Emphasis is on the exploration of creative solutions to design problems. Topics include past and current design trends, tools, and computer related graphics. Prerequisite: ART 270.

ART 375 Intermediate Magazine Production **3 credits**
An integration of journalism and art course work into a study of magazine production. Faculty supervise students in design and production work leading to the publication of the *Western Pathfinder Magazine*, in both print and online versions. Prerequisite: ART 370 and instructor permission.

ART 380 Intermediate Painting **3 credits**
An exploration of the expressive possibilities of individual painting direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 280.

ART 386 Intermediate Watercolor **3 credits**
Designed for exploration of the expressive possibilities of individual watercolor direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 286.

ART 390 Workshop in Art **3 credits**
A review and critique of advanced problems in art: two-dimensional, three-dimensional, or design. May be repeated for a maximum of nine credits (three per semester). Prerequisites: minimum junior standing and instructor permission. Students must have completed 300-level course in their chosen emphasis.

ART 397 Special Topics **1-6 credits**

ART 398 Field Study in Art **1 credit**
A 7-10 day course offered at differing national or international sites by Art faculty. Field study classes offer a variety of educational experiences, including workshops, museum/gallery/artist studio visits, study of art historically significant sites, in combination with course lectures and assignments. May be taken up to three times for credit as an Art elective by Art majors or minors. Prerequisite: students must have taken minimally one university-level Art course.

ART 400 Artist's Portfolio/Senior Exhibition **3 credits**
A capstone course in which students develop a portfolio of recent work which enhances preparation for the Senior Exhibition, a career in art, gallery representation, or application to graduate school. Prerequisite: senior standing.

ART 403 Advanced Ceramics I **3 credits**
An advanced exploration of the expressive possibilities of individual ceramic direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 303.

ART 404 Advanced Ceramics II **3 credits**
An advanced exploration of the expressive possibilities of individual ceramic direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 403.

ART 405 Advanced Ceramics III **3 credits**
An advanced exploration of the expressive possibilities of individual ceramic direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 404.

ART 419 Advanced Drawing **3 credits**
An advanced study in figure drawing with emphasis on the figure, expanding visual awareness by developing control of drawing as a tool for research and invention. Problems progress from simple structural analysis to more sophisticated exploration of subject matter, and finally to individual interpretation. Prerequisite: ART 319 and B.F.A. candidate.

ART 421 Art of Mesoamerica and the Andean Region of South America **3 credits**
A survey of the arts of the pre-contact civilizations in Middle America and the Andes. The art and architecture of these ancestral peoples are examined within their cultural contexts. Prerequisite: minimum junior standing or instructor permission.

ART 422 Native American Art of North America **3 credits**
A survey of the arts of the indigenous (First Nations) civilizations in North America, from antiquity to the present era. The art and architecture of these peoples are examined contextually. Prerequisite: minimum junior standing or instructor permission.

ART 424 Modern Art History, Aesthetics, Theory, and Criticism **3 credits**
An exploration of trends and developments in the Western tradition of the visual arts from the mid-nineteenth century to the present, considering Modernism, Post- Modernism, and recent tendencies. The visual arts of these periods are viewed through the lens of theories and ideas that have powered change in Western art, including current revisionist and theoretical considerations in Art and Art History. Prerequisite: minimum junior standing or instructor permission.

ART 430 Advanced Sculpture I **3 credits**
An advanced exploration of the expressive possibilities of individual sculptural direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 330.

ART 431 Advanced Sculpture II **3 credits**
An advanced exploration of the expressive possibilities of individual sculptural direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 430.

ART 432 Advanced Sculpture III **3 credits**
An advanced exploration of the expressive possibilities of individual sculptural direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 431.

ART 435 Advanced Jewelry I **3 credits**
An advanced exploration of the expressive possibilities of individual jewelry direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 335.

ART 436 Advanced Jewelry II **3 credits**
An advanced exploration of the expressive possibilities of individual jewelry direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 435.

ART 437 Advanced Jewelry III **3 credits**
An advanced exploration of the expressive possibilities of individual jewelry direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 436.

ART 446 Advanced Photography I **3 credits**
An advanced exploration of the expressive possibilities of individual photography direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 346.

ART 447 Advanced Photography II **3 credits**
An advanced exploration of the expressive possibilities of individual photography direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 446.

ART 448 Advanced Photography III **3 credits**
An advanced exploration of the expressive possibilities of individual photography direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 447.

ART 457 Advanced Printmaking I **3 credits**
An advanced exploration of the expressive possibilities of individual printmaking direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 357.

ART 458 Advanced Printmaking II **3 credits**
An advanced exploration of the expressive possibilities of individual printmaking direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 457.

ART 459 Advanced Printmaking III **3 credits**
An advanced exploration of the expressive possibilities of individual printmaking direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 458.

ART 470 Advanced Design and Illustration I **3 credits**
An advanced exploration of the expressive possibilities of individual graphic design direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 370.

ART 471 Advanced Design and Illustration II **3 credits**
An advanced exploration of the expressive possibilities of individual graphic design direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 470.

ART 472 Advanced Design and Illustration III **3 credits**
An advanced exploration of the expressive possibilities of individual graphic design direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 471.

ART 475 Advanced Magazine Production I **3 credits**
An advanced integration of journalism and art course work into a study of magazine production. Faculty supervise students in design and production work leading to the publication of the *Western Pathfinder Magazine*, in both print and online versions. Prerequisite: ART 375 and instructor permission.

ART 476 Advanced Magazine Production II **3 credits**
An advanced integration of journalism and art course work into a study of magazine production. Faculty supervise students in design and production work leading to the publication of the *Western Pathfinder Magazine*, in both print and online versions. Prerequisite: ART 475 and instructor permission.

ART 477 Advanced Magazine Production III **3 credits**
An advanced integration of journalism and art course work into a study of magazine production. Faculty supervise students in design and production work leading to the publication of the *Western Pathfinder Magazine*, in both print and online versions. Prerequisite: ART 476 and instructor permission.

ART 480 Advanced Painting I **3 credits**
An advanced exploration of the expressive possibilities of individual painting direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisites: ART 380.

ART 481 Advanced Painting II **3 credits**
An advanced exploration of the expressive possibilities of individual painting direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 480.

ART 482 Advanced Painting III **3 credits**
An advanced exploration of the expressive possibilities of individual painting direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 481.

ART 486 Advanced Watercolor I **3 credits**
An advanced exploration of the expressive possibilities of individual watercolor direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisites: ART 386.

ART 487 Advanced Watercolor II **3 credits**
An advanced exploration of the expressive possibilities of individual watercolor direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 486.

ART 488 Advanced Watercolor III **3 credits**
An advanced exploration of the expressive possibilities of individual watercolor direction. Students collaborate with the instructor to plan a suitable and particular direction of study. Prerequisite: ART 487.

ART 490 Workshop in Art **3 credits**
A review and critique of advanced problems in art: two-dimensional, three-dimensional, or design. May be repeated for a maximum of nine credits (three credits per semester). Prerequisites: senior standing and instructor permission. Students must have completed a 400-level course in chosen emphasis.

ART 491 Seminar in Art **3 credits**
An investigation and evaluation of contemporary topics in art. Students are exposed to artistic expression through visiting artist programs, exhibitions, and workshops. Students develop individual research topics. Prerequisites: B.F.A. candidate and senior standing.

ART 492 Directed Study **1-6 credits**
Individualized instruction for advanced students who have taken all the courses in a particular art area and wish to pursue the area further. Prerequisite: junior or senior status with at least 15 credits in Art.

ART 497 Special Topics **1-6 credits**

ART 499 Internship in Art **1-12 credits**
Supervised practical experiences in art for advanced students. With faculty approval, credit earned in this course may be applied to the Major or Minor in Art. Prerequisite: instructor permission.

BIOLOGY (BIOL)

The Biology Program provides a comprehensive educational experience consistent with the liberal arts philosophy of the University. The contemporary curriculum includes hands-on learning through laboratory and field experience. Small classes and low student-to-faculty ratios allow meaningful interaction between biology students and faculty, both in and out of the classroom. Professors advise students' academic scheduling and career options. Students are encouraged to conduct research projects with faculty and to participate in internships with private entities and local agencies.

Biology majors receive broad training in the life sciences leading to a variety of careers. Our graduates pursue entry-level careers in biological research, education, and applied sciences such as wildlife biology, fisheries, and forestry. The Biology Major prepares graduates to succeed in graduate school and professional schools in disciplines such as medicine, dentistry, veterinary medicine, physical therapy, ecology, and wildlife biology.

Seven different emphases are offered: Environmental Biology and Ecology, General Biology, Pre-Medicine/Cell and Molecular Biology, Pre-Nursing, Secondary Education Licensure, and Wildlife and Conservation Biology. All majors receive training in fundamental biological principles and in supporting sciences appropriate for each emphasis. The Program's flexibility allows students to specialize in areas of their interest.

The Environmental Biology and Ecology Emphasis is recommended for students with career interests in environmental biology including ecology, environmental science, and natural resource management. Students with this emphasis may continue in graduate programs in ecological research.

The Wildlife and Conservation Biology Emphasis is recommended for students interested in a career in wildlife ecology or management or conservation biology. Students graduating with this emphasis may continue their education in graduate programs, obtain entry level positions with state and federal natural resources agencies, work for non-profit conservation organizations, or obtain employment with environmental consulting firms. Students may choose to take all the courses required to meet the educational component for certification through The Wildlife Society.

The Pre-Medicine/Cell and Molecular Biology Emphasis is recommended for students pursuing careers in biotechnology, graduate programs in laboratory biology, and professional school in most health fields, including medicine, veterinary medicine, dentistry, pharmacy, and physician assistantships. Because the admission requirements of these different schools vary greatly, students must consult with their advisors to design a curriculum that meets their professional interests.

The Pre-Nursing Emphasis is designed for students planning to enter professional programs in nursing, medical technology, chiropractics, optometry, physical therapy, and public health. Because the admission requirements of these schools vary greatly, students must consult with their advisors to design a curriculum that meets their professional interests.

The Secondary Licensure Emphasis qualifies students for the State of Colorado License in Secondary Science Education.

The General Biology Emphasis is our most flexible major. Students pursuing this emphasis work closely with their academic advisor to select from a variety of upper division elective courses and supporting science courses to create a self-designed major in areas such as botany, zoology, molecular ecology, and integrative biology. This emphasis allows students to integrate the study of structure and function at all levels of biological organization from molecules to ecosystems and across all branches of the tree of life.

FACULTY

Professors Kevin D. Alexander, Robin A. Bingham, Peter H. Gauss, and Cassandra L. Osborne, Shan M. Hays;
Assistant Professor Patrick A. Magee;
Lecturer Amy Honan.

DESCRIPTION OF THE PROGRAMS

The courses listed for each of the following emphases are the minimum requirements. Higher-level supporting courses may be appropriate for students pursuing certain careers. Students should consult with their advisors for proper course selections. All majors require a Capstone Course.

Biology Major: Comprehensive Programs

All Biology majors require the 18-credit Biology Nucleus.

Biology Nucleus

BIOL 150 Biological Principles (with laboratory)	4 cr
BIOL 151 Diversity and Patterns of Life (with laboratory)	4 cr
BIOL 301 General Ecology	3 cr
BIOL 310 Cell Biology	3 cr
BIOL 312 Genetics (with recitation)	4 cr

ENVIRONMENTAL BIOLOGY AND ECOLOGY EMPHASIS

The Environmental Biology and Ecology Emphasis requires a minimum of 58 credits, including the 18-credit Biology Nucleus, 17 additional credits in Biology and 23 credits of supporting courses.

Required Biology Courses:

BIOL 302 Ecology Laboratory and Recitation	2 cr
6 credits in two or more of the following systems and applications courses:	
BIOL 362 Evolutionary Biology: Theory and Application	3 cr
BIOL 430 Wildlife Ecology and Management (with laboratory)	4 cr
BIOL 431 Wildlife Techniques Workshop	1 cr
BIOL 440 Conservation Biology	3 cr
BIOL 444 Colorado Ecoregions	3 cr
BIOL 476 Aquatic Ecology (with laboratory)	4 cr
BIOL 477 Plant Ecology (with laboratory)	4 cr
BIOL 481 Forest Ecology (with laboratory)	4 cr
Two of the following organismal courses:	
BIOL 320 Ornithology (with laboratory)	4 cr
BIOL 322 Mammalogy (with laboratory)	4 cr
BIOL 327 Field Entomology (with laboratory)	4 cr
BIOL 352 Botany (with laboratory)	4 cr
BIOL 353 Rocky Mountain Flora	3 cr
BIOL 467 Fisheries Biology	3 cr
At least two credits of Capstone Experience courses:	
BIOL 495 Senior Seminar (may be repeated)	1 cr
BIOL 496 Senior Thesis	2-4 cr

Minimum supporting courses:

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
CHEM 231 Introduction to Organic Chemistry and Biochemistry	3 cr
CHEM 234 Introductory Organic and Biochemistry Laboratory	1 cr
GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr
MATH 213 Probability and Statistics	3 cr
PHYS 140 Introductory Physics (with laboratory)	4 cr

GENERAL BIOLOGY EMPHASIS

The General Biology Emphasis requires a minimum of 51 credits including the 18-credit Biology Nucleus, 14 credits of 300- and 400-level Biology electives, and 19 credits of additional courses:

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
CHEM 231 Intro to Organic Chemistry and Biochemistry	3 cr
CHEM 234 Intro to Organic Chemistry and Biochemistry Laboratory	1 cr
PHYS 140 Introductory Physics (with laboratory)	4 cr
One of the following:	
MATH 151 Calculus I	4 cr
MATH 213 Probability and Statistics	3 cr

*The following restrictions apply: Biology electives must include at least two credits of either BIOL 302 Ecology Laboratory and Recitation or BIOL 313 Cell and Genetics Laboratory; at least two credits of Capstone courses (BIOL 495 Senior Seminar, or BIOL 496 Senior Thesis); CHEM 471 Biochemistry I may be used to satisfy up to four credits; Biology faculty approval is required to apply more than three credits of BIOL 392 Independent Study or SCI 499 Internship in Science.

PRE-MEDICINE/CELL AND MOLECULAR BIOLOGY EMPHASIS

The Pre-Medicine/Cell and Molecular Biology Emphasis requires a minimum of 64 credits, including the 18-credit Biology Nucleus, 15 credits of required Biology elective courses, and 31 credits of minimum supporting courses.

Required Biology courses:

BIOL 313 Cell and Genetics Laboratory	2 cr
And three of the following:	
BIOL 317 Genome Analysis	3 cr

BIOL 342 Microbiology (with laboratory)	4 cr
BIOL 362 Evolution	3 cr
BIOL 373 Human Anatomy and Physiology II (with laboratory)	4 cr
BIOL 420 Molecular Biology (with laboratory)	4 cr
BIOL 454 Developmental Biology (with laboratory)	4 cr
BIOL 474 Comparative Animal Physiology (with laboratory)	4 cr
At least two credits of Capstone Experience Courses:	
BIOL 495 Senior Seminar (may be repeated)	1 cr
BIOL 496 Senior Thesis	2-4 cr

Minimum supporting courses:

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
CHEM 331 Organic Chemistry I	3 cr
CHEM 332 Organic Chemistry II	3 cr
CHEM 334 Organic Chemistry Laboratory I	1 cr
CHEM 335 Organic Chemistry Laboratory II	1 cr
CHEM 471 Biochemistry I	4 cr
One of the following:	
MATH 151 Calculus I	4 cr
MATH 213 Probability and Statistics	3 cr
And either both:	
PHYS 170 Principles of Physics I	4 cr
PHYS 171 Principles of Physics II	4 cr
or both:	
PHYS 200 General Physics I (with laboratory)	4 cr
PHYS 201 General Physics II (with laboratory)	4 cr

PRE-NURSING EMPHASIS

The Pre-Nursing Emphasis requires a minimum of 54 credits including the 18-credit Biology Nucleus, 17 additional biology credits, and 19 credits of supporting courses. Appropriate microbiology, chemistry and physics courses should be selected in consultation with an advisor.

Required Biology courses:

BIOL 300 Basic Nutrition	3 cr
BIOL 372 Human Anatomy & Physiology I (with laboratory)	4 cr
BIOL 373 Human Anatomy & Physiology II (with laboratory)	4 cr
One of the following:	
BIOL 201 Microbiology (with laboratory)	4 cr
BIOL 342 Microbiology	4 cr
At least two credits of Capstone Experience Courses:	
BIOL 495 Senior Seminar (may be repeated)	1 cr
BIOL 496 Senior Thesis	2-4 cr

Minimum supporting courses:

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
CHEM 231 Introduction to Organic Chemistry and Biochemistry	3 cr
CHEM 234 Introductory Organic and Biochemistry Laboratory	1 cr
MATH 213 Probability and Statistics	3 cr
PHYS 140 Introductory Physics (with laboratory)	4 cr

SECONDARY LICENSURE EMPHASIS

The Secondary Licensure Emphasis requires a minimum of 59 credits including the 18-credit Biology Nucleus, eight additional credits in Biology and/or ESS, and 33 credits in supporting courses. Students must fulfill the requirements for the Secondary Licensure Option (described under Education). Students interested in pursuing this comprehensive program should consult with the Teacher Education Program advisor in addition to the advisor in their major as soon as possible. EDUC 409 Secondary Student Teaching fulfills the Capstone Requirement for students completing this emphasis.

Required Biology and/or ESS courses:

Either:

BIOL 201 Introduction to Microbiology (with laboratory)	4 cr

or:

BIOL 342 Microbiology (with laboratory)	4 cr

And either:

ESS 201 Essentials of Human Anatomy and Physiology (with laboratory)	4 cr

or both of the following:

BIOL 372 Human Anatomy and Physiology I (with laboratory)	4 cr
BIOL 373 Human Anatomy and Physiology II (with laboratory)	4 cr

Minimum supporting courses:

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
CHEM 231 Introduction to Organic Chemistry and Biochemistry	3 cr
CHEM 234 Introductory Organic Chemistry and Biochemistry Laboratory	1 cr
GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr
GEOL 201 Historical Geology (with laboratory)	4 cr
MATH 213 Probability and Statistics	3 cr
PHYS 110 Introductory Astronomy	3 cr
PHYS 120 Meteorology	3 cr
PHYS 140 Introductory Physics (with laboratory)	4 cr

WILDLIFE AND CONSERVATION BIOLOGY EMPHASIS

The Wildlife and Conservation Biology Emphasis requires a minimum of 67 credits, including the 18-credit Biology Nucleus, 23 additional credits in Biology, and 26 credits of supporting courses.

Required Biology courses:

BIOL 302 Ecology Laboratory and Recitation	2 cr
BIOL 430 Wildlife Ecology and Management	4 cr
BIOL 431 Wildlife Techniques Workshop	1 cr
BIOL 353 Rocky Mountain Flora	3 cr

One of the following:

BIOL 362 Evolution	3 cr
BIOL 440 Conservation Biology	3 cr

Two of the following:

BIOL 320 Ornithology	4 cr
BIOL 322 Mammalogy	4 cr
BIOL 327 Field Entomology	4 cr
BIOL 352 Botany	4 cr
BIOL 467 Fisheries Biology	3 cr
BIOL 476 Aquatic Ecology	4 cr
BIOL 481 Forest Ecology	4 cr

At least two credits of Capstone Experience Courses:

BIOL 495 Senior Seminar (may be repeated)	1 cr
BIOL 496 Senior Thesis	2-4 cr

Minimum supporting courses:

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
CHEM 231 Introduction to Organic Chemistry and Biochemistry	3 cr
CHEM 234 Introductory Organic and Biochemistry Laboratory	1 cr
MATH 213 Probability and Statistics	3 cr
GEOG 340 Introduction to Geographic Information Systems	3 cr
PHYS 140 Introductory Physics (with laboratory)	4 cr
GEOL 101 Introduction to Geology	3 cr
GEOL 105 Introduction to Geology Laboratory	1 cr

Ecology and Environmental Management Emphasis (with a 3+2 Master in Environmental Management)

The Environmental Management emphasis allows students to complete the B.S. in Biology (BIOL) and the Master in Environmental Management (MEM) at Western in five years. To remain qualified for the 3+2, after 67 credits each student must have:

- maintained a 3.0 cumulative GPA and a 3.25 GPA within the major;
- earned a B or above in two social science, two natural science (one with lab), and one statistics course;
- fulfilled the 3-credit Internship requirement with a B or above and positive letter from the project sponsor;
- provided three letters of recommendation, at least one of which is to be a professional reference and at least one of which is to be an academic reference from the student's major at Western;
- written a Statement of Purpose to the MEM program, detailing early career ambitions and ideas and connections for the eventual master's Project.

At this point, if any aspect of a student's performance is found to be insufficient, the MEM Director may reject a 3+2 student from the MEM program, in which case the student will need to find a new emphasis or minor in order to complete the undergraduate degree. In addition to meeting the requirements above, and after Junior Year (holding to the same GPA standards as outlined above) and completion of BIOL nucleus plus one systems and application course and one organismal course in the requirements (100 credits in this plan—see "MAJOR MAP" at western.edu/3_2), the School of Graduate Studies will designate students as "MEM candidates with provisional acceptance." Upon completion of the final 26 credits of the Western B.S. after Year Four of this plan, the School of Graduate Studies will designate students as "MEM degree seeking students." Students who have completed all other requirements of the 3+2 program and all Western undergraduate requirements, yet choose to leave the MEM program before Year 5, will still have completed the BIOL undergraduate emphasis in Environmental Management and have earned the 120 credits necessary for a Western undergraduate degree.

Biology Major: Comprehensive Programs

All Biology majors require the 18-credit Biology Nucleus.

Biology Nucleus

BIOL 150 Biological Principles (with laboratory)	4 cr
BIOL 151 Diversity and Patterns of Life (with laboratory)	4 cr
BIOL 301 General Ecology	3 cr
BIOL 310 Cell Biology	3 cr
BIOL 312 Genetics (with recitation)	4 cr

ECOLOGY AND ENVIRONMENTAL MANAGEMENT EMPHASIS (with a 3+2 MEM)

The Ecology and Environmental Management Emphasis requires a minimum of 83 credits, including the 18-credit Biology Nucleus, 19 additional credits in Biology, 23 credits of supporting courses, and 23 credits of MEM coursework. In the fifth year, an additional 23 credits of MEM coursework results in the MEM degree.

Required Biology Courses:

BIOL 302 Ecology Laboratory and Recitation	2 cr
6 credits in two or more of the following systems and applications courses:	
BIOL 362 Evolutionary Biology: Theory and Application	3 cr
BIOL 430 Wildlife Ecology and Management (with laboratory)	4 cr
BIOL 431 Wildlife Techniques Workshop	1 cr
BIOL 440 Conservation Biology	3 cr
BIOL 444 Colorado Ecoregions	3 cr
BIOL 476 Aquatic Ecology (with laboratory)	4 cr
BIOL 477 Plant Ecology (with laboratory)	4 cr
BIOL 481 Forest Ecology (with laboratory)	4 cr
Two of the following organismal courses:	
BIOL 320 Ornithology (with laboratory)	4 cr
BIOL 322 Mammalogy (with laboratory)	4 cr
BIOL 327 Field Entomology (with laboratory)	4 cr
BIOL 352 Botany (with laboratory)	4 cr
BIOL 353 Rocky Mountain Flora	3 cr
BIOL 467 Fisheries Biology	3 cr
At least two credits of Capstone Experience courses:	
BIOL 495 Senior Seminar (may be repeated)	1 cr
BIOL 496 Senior Thesis	2-4 cr

Minimum supporting courses:

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr

CHEM 114 General Chemistry Laboratory II	1 cr
CHEM 231 Introduction to Organic Chemistry and Biochemistry	3 cr
CHEM 234 Introductory Organic and Biochemistry Laboratory	1 cr
GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr
MATH 213 Probability and Statistics	3 cr
PHYS 140 Introductory Physics (with laboratory)	4 cr
Core MEM Courses	
ENVS 601 Introduction to Environmental Management	5 cr
ENVS 605 Science of Environmental Management	3 cr
ENVS 608 Environmental Politics and Policy	3 cr
ENVS 611 Integrative Skills for Environmental Management	3 cr
ENVS 612 Quantitative Skills for Environmental Management	3 cr
ENVS 615 Science of Climate Mitigation and Adaptation	3 cr
One of the following from the MEM Emphases:	
Sustainable and Resilient Communities Emphasis:	
ENVS 616 Environmental Organizational Development and Management	3 cr
Global Sustainability Emphasis:	
ENVS 617 Global Sustainability	3 cr
Integrative and Public Land Management Emphasis:	
ENVS 618 Public Lands Management	3 cr

*Upon successful completion of the prescribed courses listed above, University defined General Education, and elective requirements totaling 120 credits (with 40 at the 300-level or higher), students are eligible for their B.S. conferral. Students electing to complete MEM must follow the balance of their declared emphasis curriculum:

MEM Sustainable and Resilient Communities Emphasis (beyond required Core courses)

Nine Credits of:

ENVS 623 Studies in Environmental Management	1-6 cr
and/or	
ENVS 620 Studies in Sustainable and Resilient Communities	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*****Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

MEM Integrative and Public Land Management Emphasis (beyond required Core courses)

Nine Credits of:

ENVS 623 Studies in Environmental Management	1-6 cr
and/or	
ENVS 625 Studies in Integrative and Public Land Management	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

MEM Global Sustainability Emphasis (beyond required Core courses)

Nine credits of (choose any combination with a global theme):

ENVS 620 Studies in Sustainable and Resilient Communities	3 cr
ENVS 623 Studies in Environmental Management	1-6 cr
ENVS 625 Studies in Integrative and Public Land Management	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

Biology Minor

A minimum of 18 credits is required, including:

BIOL 150 Biological Principles (with laboratory)	4 cr
BIOL 151 Diversity and Patterns of Life (with laboratory)	4 cr
Biology electives	10 cr

Substitutions. The following substitutions may be used to satisfy biology degree requirements: CHEM 331 Organic Chemistry I (3 credits), CHEM 332 Organic Chemistry II (3 credits), CHEM 334 Organic Chemistry Lab I (1 credit), and CHEM 335 Organic Chemistry Lab II (1 credit) may be substituted for CHEM 231 Introduction to Organic Chemistry and Biochemistry (3 credits) and CHEM 234 Introductory Organic and Biochemistry Lab (1 credit); CHEM 472 Biochemistry II (with laboratory) (4 credits) may be substituted for BIOL 420 Molecular Biology (with laboratory) (4 credits); PHYS 170 Principles of Physics I (with laboratory) (4 credits) and PHYS 171 Principles of Physics II (with laboratory) (4 credits) may be substituted for PHYS 140 Introductory Physics (with laboratory) (4 credits); PHYS 200 General Physics I (with laboratory) (4 credits) and PHYS 201 General Physics II (with laboratory) (4 credits) may be substituted for PHYS 170 Principles of Physics I (with laboratory) (4 credits) and PHYS 171 Principles of Physics II (4 credits).

Capstone Course Requirement. The following courses in the Biology Major fulfill the capstone course requirement: BIOL 495 Senior Seminar, BIOL 496 Senior Thesis, or EDUC 409 Secondary Student Teaching (Secondary Licensure Emphasis).

BIOLOGY COURSES

BIOL 120 Studies in Biology **3 credits**
An introduction to selected biological topics and the methods of science through an exploration of current topics such as evolution, bioethics and conservation biology. Students may only take this course once for credit. GT-SC2

BIOL 130 Environmental Biology **3 credits**
An introduction to basic biological principles as they apply to interactions between organisms and their environment. Consideration is given to biotic and abiotic interactions, energy flow, biogeochemical cycling, population growth, biodiversity, basic cell biology, genetics, and evolution with a special emphasis on human impacts on these biological systems. This course establishes a strong foundation in applied biology from a scientific perspective. GT-SC2

BIOL 135 Environmental Biology Laboratory **1 credit**
An experimental approach in both the field and laboratory to explore fundamental biological principles including biotic and abiotic interactions, energy flow, bio- geochemical cycling, population growth, biodiversity, basic cell biology, genetics and evolution. Additional course fee applies. Prerequisite or corequisite: BIOL 130. GT-SC1

BIOL 150 Biological Principles (with laboratory) **4 credits**
An introduction to the central unifying concepts of biology including the biochemical foundations of life, cell structure and function, cell metabolism, genetics, and evolution. Laboratories introduce students to the process and methods of science through investigative experiences. This course is designed for the science major. A year of high school biology and a year of high school chemistry are highly recommended. Additional course fee applies. Prerequisites: University Entry-Level Expectations met for mathematics and English. GT-SC1

BIOL 151 Diversity and Patterns of Life (with laboratory) **4 credits**
An overview of organismal diversity and evolution. Through a taxonomic survey, students are introduced to prokaryotic and eukaryotic diversity and evolution including microorganisms, fungi, plants, and animals. Fundamentals of evolution including the history of life, evidence for common ancestry, mechanisms of evolutionary change, and speciation are covered. Organismic structure, function, and ecology are also explored. Laboratories introduce students to the process and methods of science through investigative experiences. This course is designed for the science major. A year of high school biology and a year of high school chemistry are highly recommended. Additional course fee applies. Prerequisites: University Entry-Level Expectations met for mathematics and English.

BIOL 197 Special Topics **1-6 credits**

BIOL 200 Environmental and Public Health **3 credits**
An appraisal of man's surroundings which influence his health, including an introduction to the societal structure designed to cope with health problems. Of particular benefit to those who plan to major in the social sciences or enter the field of public health. GT-SC2

BIOL 201 Introduction to Microbiology (with laboratory) **4 credits**
A study of the basic aspects of microbiology for pre-nursing students that includes an introduction to the identification, physiology, growth and control of microbes. Laboratory exercises will emphasize aseptic, pure culture, and identification techniques. This course can only be used to fulfill graduation requirement for students in the pre-nursing biology emphasis. Additional course fee applies.

BIOL 297 Special Topics **1-6 credits**

BIOL 300 Basic Nutrition **3 credits**
An introduction to the science of human nutrition. Consideration is given to the chemical nature and functions of the major groups of nutrients, the function of the digestive system, energy, metabolism and balance, weight control, and nutrition for fitness. Human nutrition during the life span is also addressed. Prerequisites: BIOL 150; and CHEM 101 or CHEM 111.

BIOL 301 General Ecology **3 credits**
An introduction to basic ecological principles and their relationships to natural systems. Human impact on the natural systems is assessed. Prerequisite: BIOL 150 and BIOL
151. Prerequisite or corequisite: COM 202.

BIOL 302 Ecology Laboratory and Recitation **2 credits**
An experimental approach in both field and laboratory to explore fundamental ecological principles. Students gather and analyze data to address ecological hypotheses, learn practical ecological skills (performing field techniques, using statistical and graphical tools, and interpreting ecological software), and develop oral and written communication skills. Additional course fee applies. Prerequisites: BIOL 150, BIOL 151, and CHEM 113. Prerequisite or corequisite: BIOL 301.

BIOL 310 Cell Biology **3 credits**
An introduction to cellular function and structure. Prerequisites: BIOL 150 and BIOL 151. Prerequisite or corequisite: CHEM 231 or CHEM 331; and COM 202.

BIOL 312 Genetics (with recitation) **4 credits**
A course in Mendelian inheritance, linkage, chromosomal aberrations, molecular genetics, gene regulation, genetic engineering, and population genetics. Prerequisites: BIOL 301, BIOL 310, CHEM 231, and CHEM 234; or CHEM 331.

BIOL 313 Cell and Genetics Laboratory **2 credits**
An introduction to experimentation and laboratory techniques used in cell biology, physiology, and genetics, including experimental design, data analysis, and presentation of research results. Additional course fee applies. Prerequisite or corequisite: BIOL 312.

BIOL 317 Genome Analysis (with laboratory) **3 credits**
This course introduces students to the appropriate mathematical techniques to answer questions about information contained in genetic sequences. These techniques may include dynamic programming, motif similarity, Bayesian models, hidden Markov models, principal component analysis, and clustering. Students use standard genome query tools to annotate genomic DNA. BIOL 317 and MATH 317 cannot both be taken for credit. Prerequisites: BIOL 312 and MATH 213.

BIOL 320 Ornithology (with laboratory and recitation) **4 credits**
An introduction to the study of bird evolution, ecology, and conservation. This course has a strong field component providing frequent opportunities to observe birds in their native environments. Additional course fee applies. Prerequisite: BIOL 301 or instructor permission.

BIOL 322 Mammalogy (with laboratory and recitation) **4 credits**
An introduction to the study of mammal taxonomy, evolution, ecology and conservation. Additional course fee applies. Prerequisite: BIOL 301 or instructor permission.

BIOL 327 Field Entomology (with laboratory) **4 credits**
An introduction to the world of the most diverse and abundant form of animal life on Earth through an experiential, field, and laboratory class. The course emphasizes field study, collection and preservation, identification, ecology, and natural history. Additional course fee applies. Prerequisite: BIOL 301 or instructor permission.

BIOL 342 Microbiology (with laboratory) **4 credits**
An introduction to microbial morphology, identification, physiology, genetics, and microbiology laboratory techniques. A brief consideration is given to fungi. Additional course fee applies. Prerequisites: Biology Nucleus.

BIOL 352 Botany (with laboratory) **4 credits**
Using field and laboratory experiences this course explores the diversity within the plant kingdom using a comparative approach to examine evolutionary trends and relationships. Students are introduced to the structure and function of plants through an investigation of plant cells, tissues, organs, and basic physiological processes. Economic importance, human uses, and significance of plants to society are emphasized. Additional course fee applies. Prerequisites: BIOL 150, BIOL 151, and ENG 102; or instructor permission.

BIOL 353 Rocky Mountain Flora **3 credits**
A field and laboratory course focusing on identification of flowering plants common to the Western Slope of the Colorado Rocky Mountains. This course covers methods of plant collection and preservation, field identification, natural history, and ecology as well as local plants of particular human interest, including those that are medically important, edible, and are poisonous. Additional course fee applies. Prerequisites: BIOL 150 and BIOL 151; or instructor permission.

BIOL 362 Evolution **3 credits**
This course provides a comprehensive overview of evolutionary processes, mechanisms, and analytical techniques. Topics include population genetics, conservation genetics, phylogenetic analysis, adaptation, behavioral evolution, sexual selection, and speciation. Evolutionary perspectives in human health and medicine, conservation biology, agriculture, natural resource management, biotechnology, global change, and emerging diseases are considered. Prerequisites: BIOL 312; or ENVS 350, ENVS 370, ENVS 390, and either BIOL 151 or Both BIOL 130 and BIOL 135; or instructor permission.

BIOL 372 Human Anatomy and Physiology I (with laboratory) **4 credits**
An introduction to regulatory mechanisms which maintain normal body function. Specific topics include cytology, histology, integumentary system, skeletal system, muscular system, and nervous system. The course is designed for pre-nursing and exercise and sport science students. Additional course fee applies. Prerequisites: BIOL 150; CHEM 231 or CHEM 111.

BIOL 373 Human Anatomy and Physiology II (with laboratory) **4 credits**
A continuation of BIOL 372 Human Anatomy and Physiology I. Specific topics include immunology, cardiovascular system, respiratory system, digestive system, excretory system, reproductive system, and endocrine system. Additional course fee applies. Prerequisite: BIOL 372.

BIOL 392 Independent Study in Biology **1-4 credits**
A study in a specific area of biology under the direction of a faculty member. May be taken for a maximum of four credits. Graded Satisfactory/Unsatisfactory only.

BIOL 397 Special Topics **1-6 credits**

BIOL 398 Biology Teaching Practicum **1 credit**
Under faculty supervision, students participate in the development of laboratory and field experience exercises, as well as in their instruction and execution. Specifically designed for students serving as teaching assistants in Biology. May be taken for a maximum of 3 credits. Graded Satisfactory/Unsatisfactory only. Prerequisite: BIOL 150, BIOL 151, and instructor permission.

BIOL 420 Molecular Biology (with laboratory) **4 credits**
A study of the molecular mechanisms by which cellular processes are controlled in prokaryotic and eukaryotic cells. Topics include the biochemistry of macromolecular processes, the structure of genes and chromosomes, the genetic and molecular techniques used to study gene expression, and the transcriptional and translational control of gene expression. The laboratory includes recombinant DNA techniques to manipulate the genome of a model organism. Additional course fee applies. Prerequisites: BIOL 312 and CHEM 471.

BIOL 430 Wildlife Ecology and Management (with laboratory) **4 credits**
Principles of ecology are applied to population and habitat management towards wildlife conservation. Tools used by wildlife biologists to restore endangered species, harvest sustainable populations, reduce overpopulated species, and to monitor and study populations are emphasized. Habitat management approaches are discussed, along with human dimensions in wildlife conservation. A field component allows students to investigate wildlife populations and habitat issues in the Gunnison Basin. Additional course fee applies. Prerequisite: BIOL 301 or instructor permission. Co-requisite: BIOL 431.

BIOL 431 Wildlife Techniques Workshop **1 credit**
A one week intensive field course focuses on wildlife conservation issues and wildlife management techniques such as trapping and marking wildlife, radio telemetry, population monitoring, GPS and GIS, and wildlife conflict resolution. The course includes a trip outside the basin; a field trip course fee is required. This course meets the week prior to the start of the fall semester. Prerequisite: BIOL 301 or instructor permission. Co-requisite: BIOL 430.

BIOL 435 Animal Behavior **3 credits**
An introduction to the study of animal behavior. This course emphasizes the importance of ecology and evolution in understanding animal behavior. Prerequisites: Biology Nucleus; or instructor permission.

BIOL 440 Conservation Biology **3 credits**
This course addresses the reduction in biological diversity of the planet and suggested solutions to prevent further reduction. Integrating themes are drawn from scientific disciplines such as population genetics, ecology, evolutionary biology, botany, zoology, molecular biology, biochemistry, and wildlife management. Prerequisites: BIOL 312; or ENVS 350, ENVS 370, ENVS 390, and either BIOL 151 or both BIOL 130 and BIOL 135; or instructor permission.

BIOL 444 Colorado Ecoregions **3 credits**
A survey of the three main ecoregions of Colorado including the Great Plains, the Southern Rocky Mountains, and the Colorado Plateau. Students travel throughout Colorado and explore the ecology and natural history of the ecosystems by hiking, back- packing, and river rafting. Content includes an evolutionary perspective on ecosystem features and the adaptations of species characterizing each system, as well as applied issues in natural resources management. Additional course fee applies. Prerequisite: BIOL 301 or instructor permission.

BIOL 454 Developmental Biology (with laboratory) **4 credits**
An examination of the embryology of vertebrates, stressing mammalian embryonic development and comparisons with amphibians, reptiles, and birds. Additional course fee applies. Prerequisite: BIOL 312.

BIOL 467 Fisheries Biology **3 credits**
An introduction to the science underlying fisheries and their management. Topics will include the morphology, evolution, ecology, behavior and conservation of fishes, including experimental design, data analysis and communication of results focusing primarily on freshwater fisheries and common fishes of Colorado. Marine fisheries will be covered briefly. Prerequisites: BIOL 301 or instructor permission.

BIOL 474 Comparative Animal Physiology (with laboratory) **4 credits**
An analysis of function in invertebrates and vertebrates, utilizing an environmental approach and emphasizing evolutionary trends in physiological systems. Prerequisites: Biology Nucleus and PHYS 140 or PHYS 170 or PHYS 200.

BIOL 476 Aquatic Ecology (with laboratory) **4 credits**
A study of physical, chemical, and biological parameters of lakes and streams in the functioning of freshwater ecosystems. Additional course fee applies. Prerequisite: BIOL 301 or GEOL 320; or instructor permission.

BIOL 477 Plant Ecology (with laboratory) **4 credits**
An introduction to plant populations and communities, including their role within terrestrial ecosystems. Additional course fee applies. Prerequisite: BIOL 301 or instructor permission.

BIOL 481 Forest Ecology (with laboratory) **4 credits**
Ecology of forest species, communities, landscapes, and ecosystems, with a focus on the Gunnison Basin. Topics include tree physiology, species interactions, fire and disturbance, succession, forest types, climate, forest management and restoration. Labs and field trips will provide hands-on experience and practical skills in tree identification, forest mensuration, vegetation sampling, statistics and GIS. Students will develop and conduct independent/group research projects. Additional course fee applies. Prerequisites: BIOL 301, MATH 213.

BIOL 495 Senior Seminar **1 credit**
An examination of biological subdisciplines through an investigation of the primary literature. The professional practices, procedures, and standards of the subdiscipline are discussed. This course may be repeated for credit and must be taken twice to fulfill the capstone course requirement. Prerequisites: Biology Nucleus; and MATH 151 or MATH 213.

BIOL 496 Senior Thesis **2-4 credits**
An advanced research experience resulting in a Senior Thesis, supervised by a thesis committee of three faculty members including at least one biologist. A proposal of the project must be approved by the thesis committee prior to project initiation. In addition to completing the written thesis, students must present the results of their work in a departmental seminar. This course satisfies the capstone course requirement. Prerequisites: Biology Nucleus; and MATH 151 or MATH 213.

BIOL 497 Special Topics **1-6 credits**

BUSINESS ADMINISTRATION (BUAD)

The Business Administration Program is designed to produce graduates who possess skills and abilities needed to succeed in the business world of the 21st century. An emphasis is placed on critical thinking skills, communication skills, liberal arts breadth, and the fundamental business concepts essential for successful careers in business. Each of the degree options is organized to develop a thorough understanding of the fundamental concepts of business. In addition to conceptual knowledge, each student develops the ability to apply specific principles in a specialty of the student's choosing. These principles are taught through a program that has three essential elements.

The Base Curriculum consists of a group of courses mainly outside of the Business area that covers the basic competencies needed to succeed in the upper-division Business requirements. These courses have been selected to ensure basic knowledge in the areas of communication, reasoning, and critical thinking required for upper-division study. The second element is the Business Administration Nucleus, comprised of a core of Business courses focusing on principles in the areas of communication, marketing, management, and law. These courses form the fundamental business concepts required in all emphasis areas and represent the bulk of the requirements for the Standard Program in Business Administration.

The third element consists of a group of courses in the area in which the student wishes to acquire additional technical skills. In the Standard Program, the courses are in an area outside of Business Administration where the student is required to attain at least a minor. In the other emphasis areas offered by the department (management, marketing, entrepreneurship, Latin American business, professional land and resource management, and resort management), the student has additional requirements that develop skills necessary to succeed in the chosen area.

The Management Emphasis provides opportunities to develop the necessary expertise to enter a training program for managerial-level employees in any size business. These courses place emphasis on learning both essential management principles and their application in the highly competitive world of business.

The Marketing Emphasis is designed to prepare students for entry-level positions in strategic marketing, sales, marketing research, and promotion. Students are encouraged to relate their studies in related disciplines, such as Communications and Economics, to the study of marketing.

The Innovation, Creativity, and Entrepreneurship (ICE) Emphasis prepares students to think and act as a leader who challenges the status quo. Students experience cutting edge innovation and design-thinking techniques necessary for solving the ever changing commercial, social, and environmental challenges of tomorrow. ICE students master the ability to recognize opportunity, frame problems, think creatively, manage risk, and launch organizations.

The Latin American Business Emphasis prepares students for entry-level positions in international organizations that specialize in Latin America. The program is highly interdisciplinary with a solid business core. In addition to business fundamentals, the student will develop an understanding of the predominant language and culture of Latin America and its history, together with the broad concepts of international economics.

The Energy Management Emphasis is designed to prepare students for entry-level positions as land negotiators. Students learn land and resource management principles through knowledge and perspectives of business administration, economics, geology, and environmental studies. The program is designed to prepare students to work in the business side of energy and mineral exploration.

The Resort Management Emphasis prepares students for entry-level management positions in the hospitality industry. With a solid foundation in business, a student is well prepared to succeed in specific courses in resort management and equipped with employment-ready skills upon graduation. Students are required to complete 400 hours of work experience in the industry prior to graduation to provide practical experience in the field.

Graduate study in business (MS or MBA) is possible regardless of undergraduate major. However, students lacking sufficient quantitative and analytical skills may find it difficult at best. These skills can be acquired by completing the Base Curriculum previously described and by adding a higher level math class than required for the undergraduate degree.

To graduate, all business majors must have a "C-"or better in all courses required in the major.

FACULTY

Professors Kevin A. Nelson, and Michael Vieregge;
Associate Professors Jeffrey Dykes, Christopher W. Greene;
Assistant Professors Jim Harris and Joel Watson;
Lecturers Menon Billingsley, Jessica Laramie, and Tom Miller.

DESCRIPTION OF THE PROGRAMS

All Business Administration majors must complete the Base Curriculum, which requires a minimum of 18 credits. Students majoring in Business Administration should complete this base curriculum before enrolling in 300- or 400-level BUAD courses. Discuss specific exceptions with your advisor before enrolling in 300- or 400-level BUAD courses.

Base Curriculum

ACC 201 Introduction to Financial Accounting	3 cr
ACC 202 Introduction to Managerial Accounting	3 cr
ECON 202 Microeconomics	3 cr

One of the following mathematics courses:	
MATH 140 College Algebra	3 cr
MATH 141 Precalculus	3 cr
MATH 151 Calculus I	4 cr
One of the following:	
BUAD 220 Computer Applications in Business	3 cr
CS 120 Professional Computer Skills	3 cr
One of the following:	
MATH 213 Probability and Statistics	3 cr
ECON 216 Statistics for Business and Economics	3 cr

The 15-credit Business Administration Nucleus forms the core for each of the emphasis areas and also comprises the bulk of the Standard Program. It is important that the student achieve a high level of understanding of the basic fundamental concepts represented by these courses to be successful in the completion of the required upper- level course work and in their business career. If BUAD 350 Human Resource Management is used to satisfy the requirements of the Business Administration Nucleus, then it cannot be used to satisfy the elective requirement within the major.

Business Administration Nucleus

BUAD 210 Legal Environment of Business	3 cr
BUAD 270 Principles of Marketing	3 cr
BUAD 309 Business Communication	3 cr
BUAD 360 Managerial Finance	3 cr
One of the following:	
BUAD 333 Organizational Behavior	3 cr
BUAD 350 Human Resource Management	3 cr

Business Administration Major: Standard Program

The Standard Program requires a minimum of 45 credits including the 18-credit Base Curriculum, the 15-credit Business Administration Nucleus, BUAD 491 Strategic Management, and nine credits of Business Administration electives. At least six credits of the nine credits must be upper-division Business Administration electives, and no more than three credits may be from: BUAD 100 Business in Society, BUAD 150 Introduction to Hospitality, or BUAD 499 Internship in Business Administration. Electives should be chosen in consultation with an advisor. BUAD 397 or BUAD 497 special topics courses are allowed to count toward the nine-credit requirement only with departmental approval.

Business Administration and Environment and Sustainability Coordinated Double Major: If a student elects to complete a Business Administration Major: Standard Program and the coordinated Environmental Studies Major: Standard Program, the student must complete the nine credits of upper-division Business Administration electives by taking ECON 370 Natural Resource Economics, BUAD 363 Business and the Environment, and BUAD 410 Water and Environmental Law.

Business Administration Major: Comprehensive Programs

ENERGY MANAGEMENT EMPHASIS

Admission to the program: All students wishing to major in the Energy Management (EM) emphasis in Business Administration must be formally admitted to the program. Students who have already completed a BA/BS in Business or Accounting will be considered to have completed most of the Energy Management Base Curriculum and Energy Management Nucleus upon admission to the program, and will need to take only the following courses (7 credits) to complete these requirements: BUAD 240 Strategic Negotiations, BUAD 311 Essential Excel Skills for the Workplace, BUAD 312 Advanced Excel Applications, and at least one of the following: BUAD 202 EM Professional Development I, BUAD 302 EM Professional Development II.

A minimum of 83 credits is required, including the 21-credit Energy Management Base Curriculum, the 19 to 20- credit Energy Management Nucleus, and the following emphasis courses:

Energy Management Base Curriculum

ACC 201 Introduction to Financial Accounting	3 cr
ACC 202 Introduction to Managerial Accounting	3 cr
ECON 201 Macroeconomics	3 cr
ECON 202 Microeconomics	3 cr
ECON 216 Statistics for Business and Economics	3 cr
MATH 232 Applied Calculus for the Managerial and Social Sciences	3 cr
BUAD 311 Essential Excel Skills for the Workplace	1 cr
BUAD 312 Advanced Excel Applications	2 cr

Energy Management Nucleus

BUAD 210 Legal Environment of Business	3 cr
BUAD 240 Strategic Negotiations	3 cr
BUAD 270 Principles of Marketing	3 cr
BUAD 309 Business Communications	3 cr
BUAD 333 Organizational Behavior	3 cr
BUAD 360 Managerial Finance	3 cr
At least one of the following:	
BUAD 202 EM Professional Development I	1 cr
BUAD 302 EM Professional Development II	1 cr

Energy Management Emphasis

BUAD 230 Evolution of the Oil and Gas Economy	3 cr
BUAD 305 Applied Energy Seminar	3 cr
BUAD 320 Petroleum Land Management	3 cr
BUAD 321 Oil and Gas Agreements	3 cr
BUAD 370 Introduction to Exploration and Production Processes	3 cr
BUAD 410 Water and Environmental Law	3 cr
BUAD 420 Oil and Gas Law	3 cr
BUAD 495 Prospect Economics and Evaluation	3 cr
ECON 370 Natural Resource Economics	3 cr
ENVS 350 U.S. and Western Environmental Politics	3 cr
GEOG 340 Introduction to Geographic Information Systems	3 cr
GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Lab	1 cr
GEOL 240 Introduction to Petroleum and Mining Geology	3 cr
One of the following elective courses:	
COM 274 Public Relations Communication	3 cr
COM 372 Issues Management	3 cr

*Students must maintain a cumulative GPA of 3.0 to continue in and graduate from Energy Management Program. Students may take both BUAD 202 and BUAD 302 depending on when they enter Western and Energy Management. Take these in consultation with your Energy Management advisor.

INNOVATION, CREATIVITY, AND ENTREPRENEURSHIP EMPHASIS (ICE)

Admission to the program: All students who wish to major in the ICE emphasis in Business Administration must be formally admitted to the program. For admission, a student must complete and submit an application for admission.

A minimum of 60 credits is required, including the 18-credit Base Curriculum, the 15-credit Business Administration Nucleus, and the following:

ACC 350 Income Tax	3 cr
BUAD 275 Innovation, Creativity, and Entrepreneurship: Mindset	3 cr
BUAD 315 Business Law	3 cr
BUAD 375 Innovation, Creativity, and Entrepreneurship: Toolkit	3 cr
BUAD 494 Innovation, Creativity, and Entrepreneurship: Launch (ICE: Launch)	3 cr
One of the following:	
BUAD 335 Marketing Communications	3 cr
BUAD 345 Consumer Behavior	3 cr
Nine credits of the following electives:	
BUAD 100 Business in Society	3 cr
BUAD 150 Introduction to Hospitality	3 cr
BUAD 300 Business Ethics	3 cr
BUAD 311 Essential Excel Skills for the Workplace	1 cr
BUAD 312 Advanced Excel Applications	2 cr
BUAD 340 Global Business	3 cr
BUAD 350 Human Resource Management	3 cr
BUAD 425 Marketing Research	3 cr
BUAD 491 Strategic Management	3 cr
BUAD 499 Internship in Business Administration	3 cr
ECON 201 Macroeconomics	3 cr
ECON 302 Intermediate Microeconomics	3 cr

*No more than three credits from BUAD 100 Business in Society, BUAD 150 Introduction to Hospitality, or BUAD 499 Internship in Business Administration and no more than one economics course, ECON 201 Macroeconomics or ECON 302 Intermediate Microeconomics, may be used to satisfy the elective requirement.

FINANCE EMPHASIS

A minimum of 57 credits is required, including the 18-credit Business Administration Base Curriculum, the 15-credit Business Administration Nucleus, and the following courses:

BUAD 315 Business Law	3 cr
BUAD 322 Financial Planning	3 cr
BUAD 401 Derivatives	3 cr
BUAD 412 Financial Risk Management	3 cr
BUAD 461 Investments	3 cr
BUAD 491 Strategic Management	3 cr
ECON 201 Macroeconomics	3 cr
ECON 361 Money, Banking, and Financial Markets	3 cr

LATIN AMERICAN BUSINESS EMPHASIS

A minimum of 60 credits is required including the 18-credit Base Curriculum, the 15- credit Business Administration Nucleus, and the following courses:

BUAD 340 Global Business	3 cr
BUAD 491 Strategic Management	3 cr
ECON 201 Macroeconomics	3 cr
ECON 303 International Economics and Globalization	3 cr
HIST 260 Latin American History (or another appropriate History course)	3 cr
Three credits of the following:	
BUAD 311 Essential Excel Skills for the Workplace	1 cr
BUAD 312 Advanced Excel Applications	2 cr
BUAD 335 Marketing Communications	3 cr
BUAD 345 Consumer Behavior	3 cr
BUAD 350 Human Resource Management	3 cr
Three of the following, based on proficiency:	
SPAN 101 Elementary Spanish I	3 cr
SPAN 102 Elementary Spanish II	3 cr
SPAN 254 Intermediate Spanish I	3 cr
SPAN 255 Intermediate Spanish II	3 cr
SPAN 341 Latin American Civilization and Culture	3 cr
SPAN 342 Mexican Civilization and Culture	3 cr

MANAGEMENT EMPHASIS

A minimum of 57 credits is required, including the 18-credit Base Curriculum, the 15- credit Business Administration Nucleus (students must take BUAD 333 in the Nucleus), and the following courses:

BUAD 311 Essential Excel Skills for the Workplace	1 cr
BUAD 312 Advanced Excel Applications	2 cr
BUAD 350 Human Resource Management	3 cr
BUAD 375 Innovation, Creativity, and Entrepreneurship: Toolkit	3 cr
BUAD 491 Strategic Management	3 cr
ECON 201 Macroeconomics	3 cr
Three of the following electives:	
BUAD 100 Business in Society	3 cr
BUAD 150 Introduction to Hospitality	3 cr
BUAD 300 Business Ethics	3 cr
BUAD 315 Business Law	3 cr
BUAD 325 Management Information Systems	3 cr
BUAD 335 Marketing Communications	3 cr
BUAD 337 Hospitality Law and Risk Management	3 cr
BUAD 340 Global Business	3 cr
BUAD 345 Consumer Behavior	3 cr
BUAD 499 Internship in Business Administration	3 cr
ECON 303 International Economics and Globalization	3 cr

*No more than three credits from BUAD 100 Business in Society, BUAD 150 Introduction to Hospitality, or BUAD 499 Internship in Business Administration may be used to satisfy the elective requirement.

MARKETING EMPHASIS

A minimum of 57 credits is required, including the 18-credit Base Curriculum, the 15- credit Business Administration Nucleus, and the following courses:

BUAD 335 Marketing Communications	3 cr
BUAD 340 Global Business	3 cr
BUAD 345 Consumer Behavior	3 cr
BUAD 425 Marketing Research	3 cr
BUAD 491 Strategic Management	3 cr
Nine credits of the following electives:	
BUAD 100 Business in Society	3 cr
BUAD 150 Introduction to Hospitality	3 cr
BUAD 300 Business Ethics	3 cr
BUAD 311 Essential Excel Skills for the Workplace	1 cr
BUAD 312 Advanced Excel Applications	2 cr
BUAD 315 Business Law	3 cr
BUAD 325 Management Information Systems	3 cr
BUAD 350 Human Resource Management	3 cr
BUAD 499 Internship in Business Administration	3 cr
CS 160 Introduction to Web Design	3 cr
COM 372 Issues Management	3 cr
ECON 201 Macroeconomics	3 cr

No more than three credits from BUAD 100 Business in Society, BUAD 150 Introduction to Hospitality, or BUAD 499 Internship in Business Administration may be used to satisfy the elective requirement.

RESORT MANAGEMENT EMPHASIS

A minimum of 60 credits is required, including the 18-credit Base Curriculum, the 15- credit Business Administration Nucleus, and the following 27 credits:

BUAD 150 Introduction to Hospitality	3 cr
BUAD 331 Food & Beverage Management	3 cr
BUAD 332 Rental & Retail Management	3 cr
BUAD 334 Lodging Operations	3 cr
BUAD 337 Hospitality Law and Risk Management	3 cr
BUAD 363 Business and the Environment	3 cr
BUAD 482 Hospitality Operations Management	3 cr
BUAD 491 Strategic Management	3 cr
One of the following:	
BUAD 345 Consumer Behavior	3 cr
BUAD 350 Human Resource Management	3 cr
BUAD 499 Internship in Business Administration	3 cr
ROE 398 Program Planning	3 cr

Business Administration Minor

A minimum of 18 credits is required, including one upper-division Business Administration elective and the following:

ACC 201 Introduction to Financial Accounting	3 cr
BUAD 210 Legal Environment of Business	3 cr
BUAD 270 Principles of Marketing	3 cr
BUAD 309 Business Communication	3 cr
One of the following:	
BUAD 100 Business in Society	3 cr
BUAD 150 Introduction to Hospitality	3 cr

Business Administration Minor – Innovation, Creativity, and Entrepreneurship (ICE)

A minimum of 18 credits is required, including the three required courses plus nine credits of electives from the list below:

BUAD 275 Innovation, Creativity, and Entrepreneurship: Mindset	3 cr
BUAD 375 Innovation, Creativity, and Entrepreneurship: Toolkit	3 cr
BUAD 494 Innovation, Creativity, and Entrepreneurship: Launch	3 cr
Three of the following:	
ACC 201 Introduction to Financial Accounting	3 cr
BUAD 101 Business of Life	3 cr
BUAD 210 Legal Environment of Business	3 cr
BUAD 240 Strategic Negotiations	3 cr

BUAD 270 Principles of Marketing	3 cr
BUAD 345 Consumer Behavior	3 cr
BUAD 492 Independent Study in Business Administration	3 cr
BUAD 499 Internship in Business Administration	3 cr

Capstone Course Requirement. The following courses in the Business Administration Major fulfill the capstone course requirement: BUAD 491 Strategic Management (Standard Major or Management, Marketing, Latin American Emphases) or BUAD 494 ICE: Launch (Innovation, Creativity, and Entrepreneurship emphasis) or BUAD 495 Prospect Economics and Evaluation (Energy Management Emphasis)

BUSINESS ADMINISTRATION COURSES

BUAD 100 Business in Society **3 credits**
A study of the role of business in modern society. Topics include the private enterprise system, consumerism, management functions, major functional areas of large business, vital areas of small-business operation, and the environment of business.

BUAD 101 Business of Life **3 credits**
This course helps students begin building the foundations of four critical life skills: economic decision making, managing personal finances, personal branding and creating change. Students learn the basics of objective decision making, managing budgets and filing income taxes, creating and projecting a personal image, and using creativity and innovation within organizations and personal lives.

BUAD 150 Introduction to Hospitality **3 credits**
An introduction to hospitality management, including historical developmental patterns, current business trends, and future international expectations. Current job market, working environments, personal risks, and rewards are explored.

BUAD 197 Special Topics **1-6 credits**

BUAD 202 Energy Management Professional Development **1 credit**
Designed specifically for Energy Management students. It is intended to provide students with hands on, real world professional awareness. Prerequisite: Instructor permission**.**

BUAD 206 Personal Finance **3 credits**
Designed to help students plan the handling of their finances in everyday business transactions. Topics include budgeting, credit, savings, insurance, income tax, investments, and estate planning.

BUAD 210 Legal Environment of Business **3 credits**
Provides students an ability to sense the occasions when a lawyer should be consulted for guidance in avoiding legal mistakes. A study is made of the ordinary legal aspects of common business transactions, including the topics of social forces, contracts, personal property, and agency.

BUAD 220 Computer Applications in Business **3 credits**
Designed to teach students to apply a variety of interdisciplinary computer applications in their business professions. Topics include integrating word processing, spreadsheets, databases, communications, and graphics on personal computers. A minimal skill in keyboarding is required.

BUAD 230 Evolution of the Oil Economy **3 credits**
Studies the evolution of global oil and gas development and its economic and geopolitical effects. The relationships between oil technology, economics, social and political institutions, and the unique cultures in oil-producing regions are investigated. Additionally students study a multi-disciplinary approach to understanding how oil affects economic development and commerce.

BUAD 240 Strategic Negotiations **3 credits**
Merges theory with practice, offering students a hands-on opportunity to learn negotiation and communication skills. Students study how to develop personal negotiation plans and preparation methods, analyze other parties' interests, identify and implement solutions for mutual gain, communicate effectively, and successfully draft agreements. Students practice and refine both their personal and professional negotiation and communication skills using realistic mock scenarios to negotiate, compose, and evaluate agreements. Prerequisite: COM 202 with a minimum grade of "C-".

BUAD 270 Principles of Marketing **3 credits**
An introduction to the fundamental concepts of marketing, including consumer demand and behavior, segmentation, advertising, marketing research, product development, distribution, pricing, the internet as a marketing agent, and global marketing issues. The student is exposed to the most basic tools, factors, and marketing principles administered by management in establishing policy, planning, and complex problem solving. Prerequisites: ENG 102 with a minimum grade of "C-" and completion of at least 24 credits; or instructor permission.

BUAD 275 Innovation, Creativity and Entrepreneurship: Mindset (ICE: Mindset) **3 credits**
The ICE mindset comprises the underlying beliefs and assumptions that drive the behavior enabling people to create positive change. This course takes the approach that anyone (not just those who want to start businesses) can benefit from understanding and applying an innovative, creative, and entrepreneurial mindset to any situation that demands change in their life. Students are immersed in learning about the fundamental aspects of an ICE mindset and the unlimited opportunities it can provide.

BUAD 297 Special Topics **1-6 credits**

BUAD 299 Internship **3 credits**
A course designed specifically for freshmen- and sophomore-level students. Internships provide guided, counseled, and progressive experience under a dual-tutelage program of a businessperson and an academician. An academically monitored activity to assure quality experience. Graded Satisfactory/Unsatisfactory only.

BUAD 300 Business Ethics **3 credits**
A study of how ethics apply to business organizations today. Special emphasis is placed on developing moral reasoning. The course provides multiple perspectives on actual cases and ethical dilemmas faced by organizations with an emphasis on allowing students to think through ethical problems. Topics studied include moral philosophies, moral agency and development, ethical underpinnings of free markets and Economic a systems, and ethical concerns with the environment, future generations, and other stakeholders such as employees and consumers. Prerequisites: completion of Base Curriculum; BUAD 309 or COM 202; or instructor permission.

BUAD 301 Topics in Business Administration **1-6 credits**
Provides an opportunity for students to examine current issues, topics, problems, and trends within the field.

BUAD 302 Energy Management Professional Development II **1 credit**
Designed specifically for Energy Management students. It is intended to provide students with hands on, real world professional awareness. Prerequisite: Junior or senior standing and instructor permission.

BUAD 305 Applied Energy Seminar **3 credits**
Introduction to the energy industry, including fossil fuel and renewable energy use and development. Explores topics including global energy production and consumption, energy efficiency, infrastructure, grid systems and transmission, and environmental and social impacts of energy development with an emphasis on regulation, policy, and the oil and gas industry. Prerequisite: COM 202.

BUAD 309 Business Communication **3 credits**
A study of the fundamentals, principles, and practices of effective written communication, including concepts of appearance, language, and psychology of tone and persuasiveness as applied to the business letter, memorandum, and report. Presentation skills are also discussed. Prerequisites: ENG 102 with a minimum grade of "C-"; sophomore standing.

BUAD 311 Essential Excel Skills for the Workplace **1 credit**
This course prepares the student for Microsoft Excel Office Specialist certification. This covers all of the topics tested by the certifying examination including managing worksheets and workbooks, applying formulas and functions, analyzing and organizing data, visual presentation of data, and sharing worksheet data with others. Prerequisites: university-level mathematics requirement with a minimum grade of "C-" or instructor permission.

BUAD 312 Advanced Excel Applications **2 credits**
This course emphasizes the use of computer spreadsheets to organize, analyze and present quantitative information to aid managerial decision-making. The course exercises include examples from several disciplines including business, energy and environmental impact analysis, natural sciences, and social sciences. Specific topics include business planning and budgeting, capital budgeting and net present value analysis, time value of money, cost/benefit analysis, goal seeking, scenario planning, and pivot tables. Prerequisites: BUAD 311, Excel Office Specialist certification, or instructor permission.

BUAD 315 Business Law **3 credits**
Study includes: sales, commercial paper, secured transactions, corporations, partnerships, estates, trusts, and agency. Prerequisite: BUAD 210.

BUAD 320 Petroleum Land Management **3 credits**
Introduction to the field of land management in the petroleum industry. Covers the necessary knowledge and skills of the petroleum land professional, both in the U.S. and internationally. Topics include land survey systems, mineral ownership and severance, as well as oil and gas leases. Examines other oil and gas exploration and development phases. State and federal leasing is covered. Prerequisites admission into the EM program, or instructor permission.

BUAD 321: Oil and Gas Agreements **3 credits**
Introduces the preparation, negotiation, and drafting of contracts and agreements used in land management and the petroleum industry. This course covers the knowledge and skills a petroleum land professional is expected to exhibit in drafting and negotiating commonly used contracts with a focus on upstream agreements including but not limited to: oil and gas leases, surface use agreements, farmout agreements, AMI's, joint operating agreements, master service agreements, seismic agreements, pooling agreements, purchase and sale agreements, and exchange agreements. Prerequisites: BUAD 320; or instructor permission.

BUAD 322 Financial Planning **3 credits**
An exploration of the fundamental issues of financial planning. Students gain an understanding of the concepts of the financial planning process, the economic environment, the time value of money, the legal environment, financial analysis, and ethical and professional considerations in financial planning. Prerequisite: Completion of Base Curriculum.

BUAD 325 Management Information Systems **3 credits**
A study of how managers can and should be involved with systems planning, development, and implementation; what information systems resources are available to managers for decision support; and how information and technology can be used to support business strategy. Also, this course takes a managerial approach to information systems concepts and applications in business, while exposing the student to various types of software in the business sector. Prerequisite: BUAD 220 or CS 120.

BUAD 331 Food and Beverage Management **3 credits**
Prepares students for management of sales, food cost controls, beverage cost controls, labor, personnel, sanitation, and market analysis as they relate to the resort industry. Prerequisites: completion of Base Curriculum; BUAD 150; or instructor permission.

BUAD 332 Rental and Retail Management **3 credits**
An introduction to operating rental and retail-profit centers as part of a corporation involved in the resort industry. Topics covered include managing personnel, equipment, training, traffic flow, buying, forecasting, and accounting. Prerequisites: completion of Base Curriculum; BUAD 150; or instructor permission.

BUAD 333 Organizational Behavior **3 credits**
Provides students an understanding of human behavior in organizations today. Students will become familiar with the basic dimensions of organizational behavior covering topics such as leadership, motivation, management of people, and group dynamics. The course stresses an experimental approach as well as the personal nature of the material and how this relates to the complexities of behavior in and of organizations. Prerequisite: BUAD 309 or COM 202; or instructor permission.

BUAD 334 Lodging Operations **3 credits**
A focus on organizational structure and front office positions. Topics covered include reservation, registration and rooming process; management, financial, and policy control procedures; and organization, staffing, and functions of housekeeping departments. Prerequisite: completion of Base Curriculum; BUAD 150; or instructor permission.

BUAD 335 Marketing Communications **3 credits**
Advertising, sales promotions, media utilization, public relations, and personal selling are highlighted in this course. Legal regulations and ethical considerations in mass media advertising and promotions are also covered. Finally, the student is exposed to the principles of planning and budgeting for such media events. Prerequisites: MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-"; ACC 201 with a minimum grade of "C"; BUAD 270; or instructor permission.

BUAD 337 Hospitality Law and Risk Management **3 credits**
Provides an awareness of the rights and responsibilities that the law grants to or imposes upon a hotelkeeper and illustrates the possible consequences of failure to satisfy legal obligations. Also included is risk management as a means of mitigating exposure to lawsuits and fines. Prerequisites: BUAD 150; BUAD 210; or instructor permission.

BUAD 340 Global Business **3 credits**
An advanced course with application of management and marketing principles to the inter-national marketplace. Cultural, political, and geographic differences are analyzed in order to develop market strategies for global markets. Prerequisite: BUAD 309 or COM 202; or instructor permission.

BUAD 345 Consumer Behavior **3 credits**
Utilizing theories from the behavioral sciences, this course provides an in-depth examination of the individual customer learning and decision-making processes, segmentation, as well as culture, subculture, and social class relationships with marketing. Students develop an understanding of consumers' shopping behavior, utilization of different marketing channels, perception of products, and reactions to advertising and other selling methods. Prerequisites: completion of Base Curriculum; BUAD 270; or instructor permission.

BUAD 350 Human Resource Management **3 credits**
Provides students with an understanding of the functions, content and challenges of Human Resource Management (HRM) in organizations today. Insights will be developed on basic dimensions of HRM such as recruitment, selection, performance management, rewards and retention, as well as particular challenges concerning strategic HRM and global environments. Emphasis is placed on how the complexities of HRM relate to students' past and future experiences as members of organizations. Prerequisite: BUAD 309 or COM 202; or instructor permission.

BUAD 375 Innovation, Creativity, and Entrepreneurship: Toolkit (ICE: Toolkit) **3 credits**
This course helps students identify and frame business and other societal problems that are characterized by complexity, uncertainty, volatility, and ambiguity. Students learn to think problems through by understanding the situation and framing problems in new ways that might alter how they generate and evaluate solutions. Prerequisite or corequisite: BUAD 275; or instructor permission.

BUAD 360 Managerial Finance **3 credits**
An introductory course to the field of managed finance, covering such topics as financial analysis, time value of money, risk/return analysis, capital budgeting, working capital management, cost of capital, optimal capital structure. Prerequisites: Completion of Business Administration Base Curriculum; or Energy Management Base Curriculum; or instructor permission.

BUAD 370: Exploration and Production Processes **3 credits**
Provides students with an introduction to engineering in exploration and production, focusing on oil and gas upstream and midstream engineering processes and their interface with land functions. Concepts discussed in this course include: seismic, exploration, well-site selection and preparation, drilling, wellbore integrity, completions, hydraulic fracturing, facilities, separating, treating, processing, transportation, pipelines, and well-site reclamation. Prerequisites: BUAD 305. Prerequisite or corequisite GEOL 101 and GEOL 105; or instructor permission.

BUAD 363 Business and the Environment **3 credits**
A focus on the impact on the environment of human presence and absence. There is a consideration of various 'green practices' that result in both positive environmental impacts and cost savings to industry, and examination of governmental initiatives regarding various business practices and their expected impacts on the environment, on businesses' bottom lines, and on consumers. Course material emphasizes videos, readings, and guest lectures. Prerequisite: completion of Base Curriculum; or instructor permission.

BUAD 375 Innovation, Creativity, and Entrepreneurship: Toolkit (ICE: Toolkit) **3 credits**
This course helps students identify and frame business and other societal problems that are characterized by complexity, uncertainty, volatility, and ambiguity. Students learn to think problems through by understanding the situation and framing problems in new ways that might alter how they generate and evaluate solutions. Prerequisite or corequisite: BUAD 275; or instructor permission.

BUAD 397 Special Topics **1-6 credits**
Prerequisite: completion of Base Curriculum; or instructor permission.

BUAD 401 Derivatives **3 credits**
An introduction to the analytics of financial derivatives and risk management; and covers a range of topics in contemporary finance. Specifically, students examine the pricing and use of financial derivatives, including options, forwards, futures, swaps and credit derivatives in risk management. Prerequisite: Completion of Base Curriculum.

BUAD 410 Water and Environmental Law **3 credits**
A comprehensive case law study of water and environmental law, addressing the historical development of the riparian, prior appropriation, Federal and Indian water rights doctrines, and the emergence of Federal and State environmental law and policy, specifically addressing how water law and environmental law interface with and impact each other. This course will develop a knowledge base fundamental to the preparation of a student in the PLRM emphasis. Prerequisite: completion of Base Curriculum; or instructor permission. BUAD 210 recommended.

BUAD 412 Financial Risk Management **3 credits**
A study of the basic concepts of modeling, measuring and managing financial risks. Topics include mean-variance portfolio theory, fixed income securities, options pricing, Greeks, risk measures and utility functions. Prerequisite: Completion of Base Curriculum.

BUAD 420 Oil and Gas Law **3 credits**
A comprehensive study of oil and gas law & regulations. The course addresses the historical development of the law as it relates to the conservation of oil and gas, the rights and duties of operators and landowners, implied covenants, titles and conveyances, contracts, pooling and unitization, and other oil and gas development issues. Students also learn about the oil and gas regulatory scheme at the federal, state, and local levels. This course analyzes laws and regulations in light of recent technologic advances, such as the emergence of horizontal drilling and hydraulic fracturing. Prerequisites: Admission into The Energy Management Program; BUAD 210, BUAD 305, BUAD 320; or instructor permission.

BUAD 425 Marketing Research **3 credits**
The focus of this course is the collection, analysis, and interpretation of marketing data for reporting research information necessary to make informed marketing decisions. Students develop skills in defining research problems, designing surveys, experiments, and observational studies, managing data collection, performing data analysis, and communicating results. Prerequisites: completion of Base Curriculum; BUAD 270; or instructor permission. BUAD 335 and BUAD 345 recommended.

BUAD 461 Investments **3 credits**
A study of the many investments available for individual portfolios. Emphasis is placed on the risks inherent in investments and the methods and techniques of analysis used in selecting securities for investments. Prerequisite: completion of Base Curriculum; BUAD 360; or instructor permission.

BUAD 482 Hospitality Operations Management **3 credits**
An integration of management functions learned in previous classes into a workable approach to profitable resort operations. Students are encouraged to take this course during their last semester; graduating seniors are given priority in enrollment. Prerequisite: completion of Base Curriculum; BUAD 331; BUAD 332; BUAD 334; BUAD 337; BUAD 360; or instructor permission.

BUAD 491 Strategic Management **3 credits**
The formal analysis of an organization's macro and industry environment; its mission and goals; and strategy formulation, implementation, and control. This is a capstone course which integrates the student's knowledge from the areas of accounting, finance, marketing, and management. Students are encouraged to take this course during their last semester; graduating seniors are given priority in enrollment. Prerequisites: completion of Base Curriculum; BUAD 309; BUAD 333 or 350; BUAD 360; and senior standing.

BUAD 492 Independent Study **1-6 credits**
A singular investigation into a unique problem to be determined jointly by the researcher and the advisor. Prerequisite: completion of Base Curriculum; or instructor permission.

BUAD 494 Innovation, Creativity, and Entrepreneurship: Launch (ICE: Launch) **3 credits**
This course provides real world, hands on learning on what it's like to actually start an organization. Students talk to customers, partners, competitors, as they encounter the chaos and uncertainty of how a startup actually works. Prerequisites: BUAD 275 and BUAD 375; or instructor permission.

BUAD 495 Prospect Economics and Evaluation **3 credits**
Synthesizes previous coursework, focusing on the application of advanced concepts in finance, economics, law, regulatory schemes, mergers and acquisitions, negotiations, contract drafting, geology, engineering, title, leasing and environmental, social, and political issues. Prerequisites: BUAD 305, BUAD 320, BUAD 321, BUAD 360, GEOL 240 prerequisite or corequisite; or instructor permission.

BUAD 497 Special Topics **1-6 credits**
Prerequisite: completion of Base Curriculum; or instructor permission.

BUAD 499 Internship in Business Administration **1-6 credits**
A course designed specifically for junior- and senior-level students. Internships provide guided, counseled, and progressive experience under a dual-tutelage program of a businessperson and an academician. An academically monitored activity to assure quality experience. Graded Satisfactory/Unsatisfactory only. Prerequisite: completion of Base Curriculum; or instructor permission.

CHEMISTRY (CHEM)

Chemistry is the study of the principles that govern matter and the chemical transformations of matter. This fundamental discipline plays a pivotal role in all of the sciences. In fact, life itself is essentially a complicated system of interrelated chemical processes. In the study of Chemistry, the student is exposed to atomic and molecular structure, properties of matter, chemical reactions, and spectroscopy.

A student who successfully completes the Chemistry Major gains basic theoretical knowledge and practical experimental skills in areas of inorganic, organic, analytical, physical, and biochemistry. Courses in the supporting areas provide a basic foundation in calculus, physics, and subjects necessary to understanding modern chemical concepts. Coordinated laboratory experiences reinforce concepts presented in lecture classes. Students also benefit from "hands-on" use of modern chemical instrumentation and from student research, a requirement of every student majoring in Chemistry.

Knowledge of chemistry is necessary for all health and allied health professional programs, geochemistry, environmental science, and molecular biology. Students seeking entrance into professional and graduate programs in these areas are well-prepared as Chemistry majors. Employment opportunities (academic and research laboratories, governmental agencies, hazardous materials management, sales, environmental testing, and remediation) remain good for students possessing undergraduate degrees in Chemistry. Opportunities expand exponentially for those students who continue their training for a masters or doctoral degree. Chemistry graduates from Western have been successful in their careers because of the theoretical and practical training received in their areas of emphasis.

The Chemistry Major at Western consists of a comprehensive program offering three areas of emphasis selected according to the interests and career goals of the student. These emphases are: general chemistry, biochemistry, and secondary licensure.

The Secondary Licensure Emphasis in Chemistry qualifies students for the State of Colorado License in Science Education. Other Chemistry emphases may also be used for licensure but may require additional classes. In addition, the student must fulfill the requirements of the Secondary Licensure Program (see description under Education).

FACULTY

Professors Jason E. Mullins, Dale L. Orth and Anne W. Ryter;
Senior Lecturer Jarral W. Ryter;
Lecturer Michelle Watt.

DESCRIPTION OF THE PROGRAMS

All Chemistry Majors require the 26-credit Chemistry Nucleus.

Chemistry Nucleus

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
CHEM 302 Chemical Information Literacy and Communication	3 cr
CHEM 306 Analytical Chemistry (with laboratory)	4 cr
CHEM 331 Organic Chemistry I	3 cr
CHEM 332 Organic Chemistry II	3 cr
CHEM 334 Organic Chemistry Laboratory I	1 cr
CHEM 335 Organic Chemistry Laboratory II	1 cr
CHEM 451 Physical Chemistry I	3 cr

Chemistry Major: Comprehensive Programs

GENERAL CHEMISTRY EMPHASIS

A minimum of 60 credits is required including the 26-credit Chemistry Nucleus and the following:

CHEM 406 Instrumental Analysis (with laboratory)	4 cr
CHEM 452 Physical Chemistry II	3 cr
CHEM 454 Physical Chemistry Laboratory	2 cr
CHEM 461 Advanced Inorganic Chemistry	3 cr
CHEM 494 Research Problems in Chemistry	2-4 cr

Required supporting courses:

MATH 151 Calculus I	4 cr
MATH 251 Calculus II	4 cr
MATH 252 Calculus III	4 cr
PHYS 200 General Physics I (with laboratory)	4 cr
PHYS 201 General Physics II (with laboratory)	4 cr

BIOCHEMISTRY EMPHASIS

A minimum of 67 credits is required including the 26-credit Chemistry Nucleus and the following supporting courses:

BIOL 150 Biological Principles (with laboratory)	4 cr
BIOL 151 Diversity and Patterns of Life (with laboratory)	4 cr
BIOL 310 Cell Biology	3 cr
BIOL 312 Genetics (with recitation)	4 cr
CHEM 471 Biochemistry I	4 cr
CHEM 472 Biochemistry II	4 cr
CHEM 494 Research Problems in Chemistry	2-4 cr
MATH 151 Calculus I	4 cr
MATH 251 Calculus II	4 cr
PHYS 200 General Physics I (with laboratory)	4 cr
PHYS 201 General Physics II (with laboratory)	4 cr

*BIOL 420 Molecular Biology I, may substitute for CHEM 472 Biochemistry II, with permission of your advisor.

SECONDARY LICENSURE EMPHASIS

Students interested in pursuing this comprehensive program should consult with the Teacher Education Program advisor in addition to the advisor in their major as soon as possible. A minimum of 67 credits is required including the 26-credit Chemistry Nucleus, the requirements for the Secondary Licensure Program (described under Education) and the following:

BIOL 150 Biological Principles (with laboratory)	4 cr
BIOL 151 Patterns and Diversity of Life (with laboratory)	4 cr
BIOL 301 General Ecology	3 cr
GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr
GEOL 201 Historical Geology (with laboratory)	4 cr
MATH 151 Calculus I	4 cr
MATH 251 Calculus II	4 cr
PHYS 110 Introductory Astronomy	3 cr
PHYS 120 Meteorology	3 cr
PHYS 200 General Physics I (with laboratory)	4 cr
PHYS 201 General Physics II (with laboratory)	4 cr

Chemistry Minor

The Chemistry Minor requires a minimum of 19 credits including the following:

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr

And either Plan A, B, or C (below)

Plan A:

CHEM 331 Organic Chemistry I	3 cr
CHEM 332 Organic Chemistry II	3 cr
CHEM 334 Organic Chemistry Laboratory I	1 cr
CHEM 335 Organic Chemistry Laboratory II	1 cr
Chemistry elective (Chemistry course numbered 306 or above)	3 cr

Plan B:

CHEM 451 Physical Chemistry I	3 cr
CHEM 452 Physical Chemistry II	3 cr
CHEM 454 Physical Chemistry Laboratory	2 cr
Chemistry elective (Chemistry course numbered 306 or above)	3 cr

Plan C:

CHEM 306 Analytical Chemistry (with laboratory)	4 cr
CHEM 406 Instrumental Analysis (with laboratory)	4 cr
Chemistry elective (Chemistry course numbered 306 or above)	3 cr

Capstone Course Requirement. The following courses fulfill the capstone course requirement for the Chemistry Major: CHEM 494 Research Problems in Chemistry, or EDUC 409 Secondary Student Teaching (Secondary Licensure Emphasis).

CHEMISTRY COURSES

CHEM 100 Contemporary Chemistry **3 credits**
An introductory course which addresses the basic facts and principles of chemistry, as well as the history of chemistry, practical aspects of chemistry, and relevance of chemistry. Topics covered in the course are dependent on the instructor and contemporary events. This course is designed for non-science majors without a background in chemistry or mathematics and may not be counted toward the Chemistry Major or Minor. GT-SC2

CHEM 101 Introduction to Inorganic Chemistry **3 credits**
A survey of inorganic chemistry, with an emphasis on chemical principles, atomic theory, periodic law, chemical equilibrium, equations, solutions, and descriptive chemistry of the elements. This course is designed for non-majors without a background in chemistry or mathematics and may not be counted toward the Chemistry Major or Minor. GT- SC2

CHEM 111 General Chemistry I **3 credits**
An introductory course designed for science majors focusing on principles and applications of chemistry. Previous experience with chemistry is expected. Topics covered are stoichiometry, bonding models, intermolecular forces, and periodic trends. Prerequisite: ACT math score of 23 or above; SAT math score of 560 or above; MATH 140 with a minimum grade of C-; or Accuplacer university-level mathematics test score of 65 or above; or corequisite MATH 140 and ACT math score of 21 or above or SAT math score of 540 or above or Accuplacer Elementary Algebra test score of 106 or above; or instructor permission. GT-SC2

CHEM 112 General Chemistry Laboratory I **1 credit**
An introduction to basic laboratory techniques of inorganic chemistry correlating with CHEM 111. Experiments emphasize techniques, instrumentation, and solution chemistry. Laboratory notebook keeping and the safe handling and disposal of laboratory chemicals is also stressed. Additional course fee applies. Corequisite: CHEM 111. GT-SC1

CHEM 113 General Chemistry II **3 credits**
A continuation of CHEM 111. Topics covered are thermodynamics, kinetics, equilibrium, electrochemistry, and nuclear chemistry. Additional course fee applies. Prerequisite: CHEM 111 with a minimum grade of C-.

CHEM 114 General Chemistry Laboratory II **1 credit**
A continuation of CHEM 112. An introduction to basic laboratory techniques of inorganic chemistry correlating with CHEM 113. Experiments emphasize techniques, instrumentation, and solution chemistry. Laboratory notebook keeping and the safe handling and disposal of laboratory chemicals are also stressed. Prerequisite: CHEM 112. Corequisite: CHEM 113.

CHEM 197 Special Topics **1-6 credits**

CHEM 231 Introduction to Organic Chemistry and Biochemistry **3 credits**
A descriptive survey course which introduces the essential topics and applications of organic chemistry and biochemistry. The course is designed for non-majors who need the second semester of a one-year chemistry core that includes general, organic, and biochemistry. This course may not be counted for credit toward the Chemistry Major or Minor. Prerequisite: CHEM 101 or CHEM 113.

CHEM 234 Introductory Organic and Biochemistry Laboratory **1 credit**
An introductory laboratory to accompany CHEM 231. Experiments focus on reactions of organic functional groups, organic synthesis, and the chemistry of biological molecules. This course may not be counted for credit toward the Chemistry Major or Minor. Additional course fee applies. Prerequisite or corequisite: CHEM 231.

CHEM 297 Special Topics **1-6 credits**

CHEM 302 Chemical Information Literacy and Communication **3 credits**
In this course designed for chemistry majors, students learn about the organization of the chemical literature, important resources for navigating the literature of chemistry, and methods for selecting the most appropriate resources. Students will work on effective written, oral and graphical communication for chemistry and the sciences. Prerequisites: COM 202, CHEM113 and CHEM114.

CHEM 306 Analytical Chemistry (with laboratory) **4 credits**
A lecture/laboratory course involving principles, techniques and calculations involved with quantitative analysis of substances. Includes solution chemistry, gravimetric, volumetric, redox, and pH determinations. Additional course fee applies. Prerequisites: CHEM 113 and CHEM 114.

CHEM 331 Organic Chemistry I **3 credits**
A study of saturated and unsaturated hydrocarbons. Topics include their naming, electronic structure, bonding, radioactivity, stereochemistry, and reaction mechanisms. Prerequisite: CHEM 113.

CHEM 332 Organic Chemistry II **3 credits**
A continuation of CHEM 331. This course discusses spectroscopic analysis, physical and chemical properties of organic functional groups. Emphasis includes synthesis, mechanisms, and reactions of aromatic compounds, carbonyl containing compounds, and amines. Prerequisite: CHEM 331.

CHEM 334 Organic Chemistry Laboratory I **1 credit**
An accompanying laboratory course for CHEM 331, serving as an introduction to basic macro-and micro-scale organic techniques used to separate, isolate, and characterize organic compounds. Methods utilized include distillation, extraction, chromatography, Infrared (IR) spectroscopy. Additional course fee applies. Prerequisite: CHEM 114. Corequisite: CHEM 331.

CHEM 335 Organic Chemistry Laboratory II **1 credit**
A continuation of CHEM 334, with an expansion in scope that allows incorporation of more complex synthetic problems. The lab will employ the use of thin layer chromatography (TLC) to follow reaction progress along with NMR spectroscopy to determine reaction outcomes. Additional course fee applies. Prerequisite: CHEM 334. Corequisite: CHEM 332.

CHEM 397 Special Topics **1-6 credits**

CHEM 406 Instrumental Analysis (with laboratory) **4 credits**
A lecture/laboratory course examining the theory and techniques of instrumental methods of quantitative analysis, including spectrophotometric methods, electrochemical methods, and chromatography. Additional course fee applies. Prerequisite: CHEM 306

CHEM 451 Physical Chemistry I **3 credits**
A detailed study of thermodynamics, phase equilibria, kinetic theory and chemical kinetics. Prerequisites: CHEM 113, MATH 251, and PHYS 201.

CHEM 452 Physical Chemistry II **3 credits**
A continuation of CHEM 451, which examines quantum chemistry, atomic, and molecular structure and spectra, photochemistry, and statistical mechanics. Offered in alternate years. Prerequisites: CHEM 451.

CHEM 454 Physical Chemistry Laboratory **2 credits**
An experimental-techniques course in physical chemistry (including computer-assisted instruction), with emphasis on thermodynamics, chemical kinetics, quantum chemistry, statistical mechanics, and spectroscopy. Offered in alternate years. Additional course fee applies. Corequisite: CHEM 452 or PHYS 452.

CHEM 461 Advanced Inorganic Chemistry **3 credits**
Inorganic chemistry based on principles of bonding, structure, and reaction mechanisms. Chemistry of representative and transition elements and their compounds are covered. Offered in alternate years. Prerequisites: CHEM 113, CHEM 302, and MATH 251.

CHEM 471 Biochemistry I **4 credits**
A study of structural biochemistry and metabolism. The course begins with an overview of the aqueous environment and its effects on solutes, including biomolecules. Other subject matters include the chemistry of proteins, carbohydrates, nucleic acids, and lipids; the mechanisms and kinetics of enzymes; and the stoichiometry and chemistry underlying the core metabolic processes of photosynthesis and cellular respiration. Prerequisite: BIOL 150 and CHEM 332.

CHEM 472 Biochemistry II (with laboratory) **4 credits**
A continuation of CHEM 471. A study of the molecular mechanisms by which cellular processes are controlled in prokaryotic and eukaryotic cells. Topics include the biochemistry of macromolecular processes, the structure of genes and chromosomes, the genetic and molecular techniques used to study gene expression, and the transcriptional and translational control of gene expression. The laboratory includes recombinant DNA techniques to manipulate the genome of a model organism. Additional course fee applies. Prerequisites: BIOL 312 and CHEM 471.

CHEM 494 Research Problems in Chemistry **1-4 credits**
An advanced, supervised laboratory or literature research experience involving methods of chemical research in an area of analytical, physical, organic, or biochemistry. A research paper and oral presentation of research results is required. Prerequisite: CHEM 302.

CHEM 497 Special Topics **1-6 credits**

COMMUNICATION ARTS (COM)

All acts of communication and self-expression are performative. The media through which humanity communicates and expresses itself is constantly evolving. Effectively engaging that media becomes a key skill in remaining versatile, marketable, and relevant within the larger cultural, social, and economic landscape. An individual with a comprehensive background in Strategic Communication, Film Studies, or Theatre and Performance can more easily interpret, analyze, and participate in the collaborative arenas of organizational and interpersonal communication, emergent media, and theatrical performance; remaining a step ahead of trends instead of struggling to keep up with them.

The Communication Arts major provides the fundamental analytical and practical skills necessary to facilitate life-long learning, allowing students to adapt to changes in their fields as their careers evolve. To help support this versatility, students majoring in Communication Arts may select a standard emphasis, or one of the three comprehensive emphases. A 12-credit Communication and Theatre nucleus provides students a liberal arts foundation supplemented by the more specific courses within each emphasis.

The Strategic Communication Emphasis provides the study of complex organizations and their use of applied communication in connecting with their audiences. Students in Strategic Communication explore interpersonal and media-based communication, and our courses often require creative work tied to real-world situations. Graduates in the Strategic Communication Emphasis have moved on to careers in public relations and advertising, government relations, issues management and events management.

The Film Studies Emphasis focuses on the study of theory, aesthetics, and history through practical, hands-on creative work in the areas of scriptwriting, visual and aural storytelling, and production management. This provides our students with a keen understanding of the role of current and emerging media in society. Our objective is for students to exit our program well prepared for careers, which may not even exist yet, in various settings related to communication. Our graduates in the Film Studies Emphasis have achieved careers in broadcasting, the motion picture industry, and major corporate media outlets as well as success in graduate programs in film at the highest international level.

The Theatre and Performance Studies Emphasis provides students with an in-depth, multi-disciplinary, and hands-on approach to the role of theatre and live performance. Theatre mirrors the nature of life in all its rich variety. To work effectively within the theatre arts requires a broad knowledge upon which to draw. To that end, the Theatre and Performance Studies emphasis believes in giving students a full range of instruction and experience in the theatre arts—practice, history, and theory—along with the full benefits of a liberal arts education. In addition, the Performance Studies curriculum intersects a broad study of performance with literature, narrative, culture, and a dialogue for social change. By thinking critically about cultural performance, students are given the opportunity to explore, challenge and sometimes re-define traditional concepts of what performance is. Graduates in the Theatre and Performance Studies Emphasis have gone on to successful careers in the professional performance industry, graduate school, education, legal and social work, and other related fields.

The standard Communication Emphasis allows for the greatest flexibility and efficiency for transfer students, double majors, and those students seeking the broadest possible experience across all of the Communication Arts emphases, while still providing a balance between theory and practice.

Admission to the Program: All degree-seeking students who wish to major in Communication Arts must be formally admitted to the program. For admission, a student must:

1. have demonstrated a minimum competency by completing COM 202 Academic Writing and Inquiry, COM 205 Communication Arts I, each with a grade of "C" or above;
2. have completed a letter of application, admission form and portfolio (guidelines provided in COM 284, Sophomore Seminar);
3. have an overall grade-point average of 2.500 or above (at the time of the application). All majors must have an overall grade-point average of 2.500 or above in order to graduate.

FACULTY

Professors Jack Lucido, and Terence S. Schliesman;
Associate Professor Eun-A Park;
Assistant Professor Melissa Myser;
Lecturer Steven Hughes;
Emeritus Professor Paul A. Edwards.

DESCRIPTION OF THE PROGRAMS

The 12-credit Communication Arts Nucleus is required for all Communication Arts Majors.

Communication Arts Nucleus

COM 205 Communication Arts I	3 cr
COM 284 Sophomore Seminar	1 cr
COM 305 Communication Arts II	3 cr
COM 405 Communication Arts III	3 cr
COM 484 Communication Arts Seminar	2 cr

Communication Arts Major: Standard Program

COMMUNICATION EMPHASIS

A minimum of 36 credits is required including the 12-credit Communication Arts Nucleus, 12 credits of upper- division Communication Arts electives and the following:

COM 241 Media Writing	3 cr
COM 264 Introduction to Production and	3 cr
COM 274 Public Relations Communication	3 cr
One of the following:	
COM 119 Introduction to Film	3 cr
COM 121 Introduction to Theatre	3 cr
COM 151 Introduction to Mass Media	3 cr

Communication Arts Major: Comprehensive Program

FILM STUDIES EMPHASIS

A minimum of 51 credits is required including the 12-credit Communication Arts Nucleus and the following:

COM 119 Introduction to Film	3 cr
COM 241 Media Writing	3 cr
COM 261 Introduction to Audio Communication	3 cr
COM 264 Introduction to Production & Theory	3 cr
COM 274 Public Relations Communication	3 cr
COM 306 Scriptwriting	3 cr
COM 346 Multimedia Communication	3 cr
COM 352 Advanced Cinema Studies	3 cr
One of the following:	
COM 231 Technical Production I	3 cr
COM 235 Fundamentals of Acting	3 cr
Four of the following:	
COM 310 Introduction to Performance Studies	3 cr
COM 323 Media/Arts Management	3 cr
COM 324 Advanced Acting	3 cr
COM 330 Technical Production II	4 cr
COM 361 Multi-Camera Studio Production	3 cr
COM 362 Advanced Audio Production	3 cr
COM 385 Experimental Media Production	3 cr
COM 389 Media Production: Narrative	3 cr
COM 390 Media Production: Documentary	3 cr
COM 406 Advanced Screen Writing & Producing	3 cr
COM 423 Directing	3 cr
COM 490 Advanced Media Production	3 cr

STRATEGIC COMMUNICATION EMPHASIS

A minimum of 51 credits is required including the 12-credit Communication Arts Nucleus and the following:

COM 151 Introduction to Mass Media	3 cr
COM 241 Media Writing	3 cr

COM 264 Introduction to Production and Theory	3 cr
COM 274 Public Relations Communication	3 cr
COM 323 Media/Arts Management	3 cr
COM 346 Multimedia Communication	3 cr
COM 351 Media Theory and Research	3 cr
COM 371 Small Group and Conflict Management	3 cr
COM 372 Issues Management	3 cr
COM 474 Campaign Planning in Advertising and Public Information	3 cr
COM 499 COM Internship	3 cr
BUAD 270 Principles of Marketing	3 cr
One of the following:	
BUAD 333 Organizational Behavior	3 cr
BUAD 335 Marketing Communications	3 cr
BUAD 345 Consumer Behavior	3 cr
PSY 258 Introduction to Personality	3 cr
SOC 380 Social Inequalities	3 cr

THEATRE AND PERFOMANCE STUDIES EMPHASIS

A minimum of 55 credits is required including the 12-credit Communication Arts Nucleus, six credits of upper-division Communication Arts electives, and the following:

COM 121 Introduction to Theatre	3 cr
COM 216 Dramatic Literature and Script Analysis	3 cr
COM 231 Technical Production I	4 cr
COM 235 Fundamentals of Acting	3 cr
COM 306 Scriptwriting	3 cr
COM 310 Introduction to Performance Studies	3 cr
COM 317 Studies in Theatre and Performance (Taken twice with different subject focus)	6 cr
COM 323 Media/Arts Management	3 cr
COM 423 Directing	3 cr
Two of the following:	
COM 324 Advanced Acting (May be taken twice with different subject focus)	3-6 cr
COM 330 Technical Production II	4 cr
COM 431 Scenography in Film and Theatre	3 cr

Communication Arts Minor

The Communication Arts Minor consists of a minimum of 18 credits:

COM 205 Communication Arts I	3 cr
COM 305 Communication Arts II	3 cr
Communication Arts electives (three credits must be upper division)	9 cr
One of the following:	
COM 119 Introduction to Film	3 cr
COM 121 Introduction to Theatre	3 cr
COM 151 Introduction to Mass Media	3 cr

*COM 202 Academic Writing and Inquiry may not be used as an elective in the completion of the Communication Arts Minor.

Film Minor

The Film Minor consists of a minimum of 18 credits:

COM 119 Introduction to Film	3 cr
COM 205 Communication Arts I	3 cr
COM 261 Introduction to Audio Communication	3 cr
COM 264 Introduction to Production and Theory	3 cr
Two of the following:	
COM 306 Scriptwriting	3 cr
COM 352 Advanced Cinema Studies	3 cr
COM 361 Multi-Camera Studio Production	3 cr

COM 362 Advanced Audio Production	3 cr
COM 385 Experimental Media Production	3 cr
COM 389 Media Production: Narrative	3 cr
COM 390 Media Production: Documentary	3 cr
COM 490 Advanced Media Production	3 cr

Public Relations Minor

The Public Relations minor consists of a minimum of 21 credits:

COM 151 Introduction to Mass Media	3 cr
COM 205 Communication Arts I	3 cr
COM 241 Media Writing	3 cr
COM 274 Public Relations	3 cr
COM 351 Media Theory & Research	3 cr

Two of the following:

COM 323 Media/Arts Management	3 cr
COM 346 Multimedia Production	3 cr
COM 372 Issues Management	3 cr
COM 474 Campaign Planning in Advertising and Public Information	3 cr

Theatre Minor

The Theatre minor consists of a minimum of 21 credits:

COM 121 Introduction to Theatre	3 cr
COM 205 Communication Arts I	3 cr
COM 216 Dramatic Literature and Script Analysis	3 cr
COM 231 Technical Production I	3 cr
COM 235 Fundamentals of Acting	3 cr

Two of the following:

COM 306 – Scriptwriting	3 cr
COM 317 – Studies in Theatre and Performance	3 cr
COM 323 - Media/Arts Management	3 cr
COM 324 – Advanced Acting	3 cr
COM 330 – Technical Production II	3 cr

COMMUNICATION ARTS COURSES

COM 119 Introduction to Film **3 credits**

Students are introduced to the aesthetics of narrative and documentary motion pictures through the study of the basic elements of cinema. Topics may include story structure, cinematography, editing, sound, and lighting.

COM 121 Introduction to Theatre **3 credits**

This course will include a general survey of Western theatre from Classical Greece to contemporary America. Students will learn the diverse practice of the art of theatre by studying theatre history, dramatic literature, and the practical components of acting, directing, design and production. GT-AH1

COM 151 Introduction to Mass Media **3 credits**

An examination of media-related industries (broadcasting, journalism, advertising, public relations and online communications), and the issues related to those industries that affect contemporary public discourse. GT-AH1

COM 197 Special Topics **1-6 credits**

COM 202 Academic Writing and Inquiry **3 credits**

Students expand on the process and techniques begun in Academic Writing. Primary focus is on analytical written communication and on advocacy oral communication. Also included throughout the course is the reading of relevant academic professional writing, which promotes student awareness of the role of written and oral communication in academic and professional life. Prerequisite: ENG 102 with a minimum grade of "C-." GT-CO2

COM 205 Communication Arts I **3 credits**

This course is a study of the theory and associated terminology of visual communication including the application of concepts to film, theatre, and convergent media. Topics include aesthetics, design elements, mimesis, performance, semiotics and introduction to the primary techniques of the various communication arts. Prerequisite: ENG 102 with a minimum grade of "C-."

COM 216 Dramatic Literature and Script Analysis **3 credits**
This course will introduce students to the diverse genre of dramatic literature in Western and Eastern theatre. We will study the origins of tragedy, comedy, melodrama, the rise of Realism and Anti-Realism, as well as the sub-genres within those general categories. We will also study Eastern traditions of text such as Kabuki, Noh, and Bunraku. Students will learn how to read a play on a deeper level for content, themes historical and socio-political influences, as well as the emerging and changing aesthetics of each genre. Prerequisite: ENG 102.

COM 231 Technical Production I **4 credits**
A study of how things are done behind the scenes in theatre and film and why they are done that way, including the basic customs and traditions of production work and the philosophy, aesthetics, and process of production. Intensive hands-on development of skills in the construction of sets, costumes, lights, sound, and props; the operation of rolling units, lights, flies, and sound; and production assistant duties.

COM 235 Fundamentals of Acting **3 credits**
An introduction to the principles, processes, and techniques of acting. The study is designed to balance theory and performance; to explore in detail the psychological, perceptual, and conceptual linkages to the strategies, techniques, and skills of the actor; and to develop a significant sense of self-discipline on the part of the actor. Topics include warm-up and awareness skills, basic body and voice integration techniques, the theories of Stanislavski, character analysis, and performance process.

COM 241 Media Writing **3 credits**
An analysis and practice of the major forms of media writing, including print, broadcast and web-based publication, with an introduction to the ways that production varies the writing of each. Prerequisite: ENG 102 with a minimum grade of "C-."

COM 261 Introduction to Audio Communication **3 credits**
This course introduces the basic concepts, functions and technology of audio production as they relate to the elements of narrative and storytelling. Prerequisite COM 119, COM 121, or COM 151; or instructor permission.

COM 264 Introduction to Production and Theory **3 credits**
An introduction to the theory and practice of media production including critical and aesthetic theories. Topics may include scriptwriting, producing, directing, cinematography, sound recording, editing, and standards of operation for production facilities and equipment. Prerequisites: COM 205, COM 261, and sophomore standing; or instructor permission.

COM 274 Public Relations Communication **3 credits**
A study of the use of communication to establish credibility, trust, and confidence between and among communities, employees, public agencies, civic organizations and business institutions.

COM 284 Sophomore Portfolio **1 credits**
A course in which students familiarize themselves with the requirements for the Communication Arts program and related capstone project, formulate specific goals, and prepare strategies through which those goals can be achieved. Students will develop an awareness of field-specific expectations required of them in professional or graduate-level work, and develop a plan for creating a portfolio that reflects that awareness. A part of the course consists of formally applying for admission to the Communication Arts program. Prerequisite or corequisite: COM 205 or instructor permission.

COM 297 Special Topics **1-6 credits**

COM 298 Practicum **1-4 credits**
Entry-level supervised experiences in theatre, organizational communication and journalism/mass media. Prerequisite: instructor permission.

COM 305 Communication Arts II **3 credits**
An exploration of the philosophical and theoretical foundations of human communication, concentrating specifically on textual analysis and interpretation. Using a wide range of media, students will investigate how the particular method of communication informs, alters, and shapes the messages being consumed, and how those messages both constitute and affect self-expressive acts. Prerequisites: COM 205 and admission to the Communication Arts Program; or instructor permission.

COM 306 Scriptwriting **3 credits**
An introduction to the fundamental tools and skills required to craft a script for performance on stage or in film/video. Students are expected to produce play scripts and screenplays of varying lengths; they are also expected to read and respond to one another's writing. Some history of playwriting and study of prevailing models of scriptwriting are also included. Prerequisites: COM 205 or ENG 205, with a minimum grade of "C", or instructor permission.

COM 310 Introduction to Performance Studies **3 credits**
An interdisciplinary course exploring the human desire to perform in both aesthetic and everyday settings. It explores the links between the arts and literature, anthropology, communication, sociology, and philosophy. Critical reading, written analysis, and performance of literary texts are essential elements of the course.

COM 317 Studies in Theatre and Performance **3 credits**
An introduction to performance studies research and artistic practice through readings, discussion and creative work. Prerequisites: junior standing and instructor permission. Repeatable for a maximum of six credits among different topic areas.

COM 323 Media/Arts Management **3 credits**
An introduction to the basic principles and structure of management as it applies to Communication Arts. Particular focus is given to management of small and mid-size non-profit media and arts organizations, and to the interrelationship between those two areas. Prerequisite: junior standing or permission of the instructor.

COM 324 Advanced Acting **3 credits**
An advanced-level course that focuses on specific areas of actor training, including methods of voice and movement training; the requirements and techniques of different styles of acting including classical, Elizabethan, Restoration/18th Century, Commedia, and Advanced Contemporary acting styles; and advanced textual analysis required of actors by specific theatrical works. Repeatable for a maximum of six credits among different topic areas. Prerequisite: COM 235

COM 330 Technical Production II **4 credits**
An intermediate-level study of lighting and sound production for theatre and film. Instruction is provided in the proper rigging of light and sound equipment, use of control consoles and software, optics, basic electrical theory, the nature of light, and acoustics. The design and aesthetic use of light and sound are also explored. Prerequisite: COM 231 or instructor permission.

COM 331 Scenography in Film and Theatre **3 credits**
A study of designing visually for the stage and screen, with an emphasis on a unified look and a single intense effect. A strong emphasis on script analysis as a basis for design. Additional information on visual research for theatre and film including location scouting and contextual research into the background of the story. Hands-on development of skills in generating graphic communication of design ideas is included. Prerequisite: COM 231 or instructor permission.

COM 346 Multimedia Communication **3 credits**
An exploration of the theory and application of multimedia communication principles through projects that use common interactive multimedia, animation, non-linear editing, web authoring, and desktop-publishing programs. Prerequisites: COM 205, or instructor permission.

COM 351 Media Theory and Research **3 credits**
An examination of media from a theoretical, organizational perspective. Topics covered include departmental functions and duties, programming, formats, regulations and finances. Also, in the context of media theory, empirical data is explored. Prerequisite: COM 241 and COM 274, or instructor permission.

COM 352 Advanced Cinema Studies **3 credits**
An in-depth study of the aesthetics and theory of cinema through the examination and critical analysis of the technical and creative elements of selected iconic Hollywood and international motion pictures. Prerequisite: Junior standing.

COM 361 Multi-Camera Studio Production **3 credits**
Through the instruction in the theories and practices of studio-based media production, students receive training in the operation of studio equipment and technology. Students will practice the various job duties required in a studio production environment. Topics may include media writing, directing, floor directing, technical directing, camera operating, lighting, and audio. Prerequisite: COM 264 or instructor permission.

COM 362 Advanced Audio Production **3 credits**
An in-depth study of audio design and production for film, radio, television and live theatre. Prerequisite COM 261.

COM 371 Small Group and Conflict Management **3 credits**
An exploration of various concepts and types of conflict and the role of argumentation in managing and/or resolving conflict. The study examines the theory and practice of communication within small groups, as well as problem solving and decision making as common contexts in which argument occurs and conflict arises, and a continuum from formal to informal modes of conflict management/resolution is discussed and practiced by the students. Examples of specific areas covered include formal debate, negotiation, and arbitration. Prerequisite: COM 202.

COM 372 Issues Management **3 credits**
An exploration of the communication practices and strategies used by organizations to react to current events, publicity, and society. Emphasis is placed upon persuasion, media relations, and information campaigns. Prerequisite: Junior standing.

COM 385 Experimental Media Production **3 credits**
The essential theory and practice of experimental filmmaking, scanning all modes of making that defy traditional cinema techniques and focus on our individual creative voices. Topics may include: lyrical and structural films, in-camera editing, and the long take. Prerequisite: COM 264 with a minimum grade of "C."

COM 389 Media Production: Narrative **3 credits**
An introduction to the theory and practice of the field-based production of narrative films. Topics emphasized may include fictional story, cinematography, lighting, sound, editing, and production management. Prerequisite: COM 264 with a minimum grade of "C."

COM 390 Media Production: Documentary **3 credits**
An introduction to the theory and practice of producing nonfiction works, including conventional documentary forms and autobiographical or experimental works. Topics may include actual story, cinematography, lighting, sound, editing, and production management. Prerequisite: COM 264 with a minimum grade of "C."

COM 392 Independent Study in Communication Arts **1-6 credits**
A detailed study in a specific area of communication arts, emphasizing individualized approaches toward development of creativity and scholarship. Prerequisites: junior or senior status and 10 credits in Communication Arts.

COM 397 Special Topics **1-6 credits**

COM 398 Practicum **1-4 credits**
Supervised applications and experiences in communication arts. Students assist, analyze, manage, and participate in various aspects of practical situations or job training. Prerequisites: instructor permission and completion of one of the following: COM 241, COM 261, or COM 298.

COM 405 Communication Arts III **3 credits**

A multi-disciplinary and multi-media course offering significant historical, theoretical, and practical content by which to explore and discuss how meaning is conveyed in communication. Special emphasis is given to the nature of oral communication in oral societies and to the nature and function of myth, symbol, sign, and inferential reasoning. Prerequisites: COM 305 or instructor permission.

COM 406 Advanced Screenwriting and Producing **3 credits**

Students are immersed in advanced screenwriting projects and pitching for independent feature film, television drama and situation comedy. Producing content may include such topics as contract law, releases, copyright, fair use, ethics, location and talent management, production management, and other administrative subject matter pertaining to film and television production. Prerequisite: COM 306 with a minimum grade of "C".

COM 423 Directing **3 credits**

A comprehensive introduction to the theory and practice of directing for the stage. Includes an exploration of play selection, character and script analysis, conceptualization of production, actor coaching approaches, and staging techniques; as well as the actual direction and presentation of scenes and plays. Prerequisites COM 231, COM 235, COM 310 and junior standing; or instructor permission.

COM 474 Campaign Planning in Advertising and Public Information **3 credits**

An analysis of the many facets of information campaign planning. It explores concepts like persuasion and audience behavior, researching attitudes and effectiveness, campaign objectives and strategies, media choices, and relevant social and ethical issues. In addition, students are expected to build their own information campaigns. Prerequisite: COM 274.

COM 484 Communication Arts Seminar **2 credits**

A capstone course in which students complete their individual Communication Arts portfolios, based upon their cumulative work through the COM program and guided by their specific career or graduate school goals. The seminar provides an opportunity for students to work individually, in small groups, and with the instructor to evaluate the overall effectiveness of their finished portfolios, and revise accordingly, utilizing the critical techniques, cultural awareness, and technical skills students have developed throughout the COM program. Prerequisite: COM 305

COM 490 Advanced Media Production **3 credits**

Students are immersed in advanced project work. Topics may include cinematography, lighting, grip, electrical, special effects, visual effects, sound effects recording, sound design, and animation. Prerequisite: COM 361, COM 389 or COM 390 with a minimum grade of "C."

COM 497 Special Topics **1-6 credits**

COM 499 Internship in Communication Arts **1-12 credits**

Prerequisite: instructor permission.

COMPUTER SCIENCE (CS)

The Computer Science major is designed to provide students with the knowledge and skills for a career in software development, cyber security or further study in graduate school. Our graduates have jobs in software engineering, network administration, web design, database management, and computer security.

Computer Science students can pursue the 36 credit Standard major, the 49 credit Comprehensive major or the 54 credit Information Security major. The majors share a core of course work in programming fundamentals, database management, visual application development, web development and software engineering. The Standard major requires a minor, allowing the student additional study in an area of interest. The Comprehensive major does not require a minor but does require additional CS course work in advanced topics and has a more rigorous math requirement. The Information Security major does not require a minor but does requires additional CS course work in computer security topics and a Math cryptography course.

Currently the main teaching and development language is Java. Course work also covers other general-purpose languages like Python and C# as well as web development languages and technologies such as XHTML, CSS, JavaScript, and PHP. Several courses use SQL, the language of database manipulation. Modern software engineering techniques are practiced throughout. Course work is focused on real-world problem solving with emphasis on event driven GUIs, client-server relationships and database driven applications. Internships with software companies and major corporations like Lockheed-Martin, Dell, Raytheon and others are a popular option.

FACULTY

Professor Daniel L. Schuster;
Associate Professor Stephen Winters-Hilt;
Assistant Professor Marc Rubin;
Lecturer Doug MacGregor.

DESCRIPTION OF THE PROGRAMS

All Computer Science Majors require the 33-credit Computer Science Core.

Computer Science Core:

CS 150 Computers in Society	3 cr
CS 190 Computer Science I	3 cr
CS 191 Computer Science II	3 cr
CS 195 Database Management Systems	3 cr
CS 250 Web Applications Development I	3 cr
CS 280 Data Structures	3 cr
CS 310 Programming Projects with X	3 cr
CS 320 Programming Languages	3 cr
CS 350 Web Applications Development II	3 cr
CS 410 Systems Analysis and Design	3 cr
One of the following:	
CS 480 Computer Science Application Project	3 cr
CS 499 Internship or Field Experience in Computer Science	3 cr

Computer Science Major: Standard Program

A minimum of 36 credits is required, including the 33-credit Computer Science Core and one of the following:

MATH 140 College Algebra	3 cr
MATH 141 Precalculus	3 cr
MATH 151 Calculus	3 cr

Computer Science Major: Comprehensive Program

A minimum of 49 credits is required, including the 33-credit Computer Science Core and the following:

CS 235 Computer Networks	3 cr
CS 412 Software Engineering	3 cr
One of the following:	
CS 303 Machine Learning	3 cr
CS 311 Embedded Systems	3 cr
And	
MATH 151 Calculus I	4 cr
One of the following:	

MATH 200 Discrete Mathematics	3 cr
MATH 213 Probability and Statistics	3 cr
MATH 260 Applied Linear Algebra	3 cr

Computer Science Major: Information Security Comprehensive Emphasis

A minimum of 54 credits is required, including the 33-credit Computer Science Core and the following:

CS 170 Information Security and Hacking	3 cr
CS 235 Computer Networks	3 cr
CS 330 Operating Systems and Architecture	3 cr
CS 360 Systems Security	3 cr
CS 450 Ethical Hacking and Malware	3 cr
CS 460 Network Security	3 cr
MATH 380 Introduction to Cryptography	3 cr

Computer Science Minor

A minimum of 18 credits is required, including twelve credits of Computer Science electives, at least six of which must be upper-division, and the following:

CS 190 Computer Science I	3 cr
CS 191 Computer Science II	3 cr
12 Credits of Computer Science Electives	12 cr

CS 120, CS 140, and CS 160 may not be used to satisfy the elective requirement.

Capstone Course Requirement. At least 3 credits from the following courses fulfill the capstone course requirement in the Computer Science Major: CS 480 Application Project or CS 499 Internship in Computer Science.

COMPUTER SCIENCE COURSES

CS 120 Professional Computer Skills **3 credits**

A comprehensive study of the essentials of software used by professionals, emphasizing applications of spreadsheets to fundamental data organization, presentation, analysis and decision making applications.

CS 140 Game Programming for Beginners **3 credits**

For the complete beginner, an introduction to computer programming by writing basic animations and arcade games. Standard programming issues such as language constructs, problem solving and debugging are combined with game specific considerations such as animation, scoring, collision detection, game levels and working with multiple moving objects. The course uses industry-standard software such as Python.

CS 150 Computers in Society **3 credits**

An introduction to the use of computing devices and their impact on society. Topics include: how computers work, the history of computing, philosophical issues in computing, the economics of software development, intellectual property issues, privacy and security, applications of computing, legal issues, the digital divide, the role of computing in government, and computer-assisted collaboration.

CS 160 Introduction to Web Design **3 credits**

An introduction to creating web pages and sites with XHTML and CSS as well as using site building software and commercial plugin capabilities. This course is designed for students without a background in computer science.

CS 170 Information Security and Hacking **3 credits**

An introduction to the principles and concepts of information security and hacking. The course uses real world examples to illustrate attacks on computer systems and networks. Topics include vulnerabilities, threats and attackers, data protection and encryption and the nature of malware. Basic hacking concepts are introduced along with defensive measures and counterattacks.

CS 190 Computer Science I **3 credits**

An introduction to software development. Students develop applications using modern programming languages and techniques. Emphasis is placed on good software engineering practices for problem analysis, program design, documentation, testing and debugging. The course uses an industry standard programming language.

CS 191 Computer Science II **3 credits**

A continuation of CS 190 taught in the Java programming language. Students develop stand-alone GUI and console applications and applets of increasing sophistication. Topics include: arrays, objects and classes, encapsulation and inheritance, file management, dynamic data structures, searching, sorting, recursion, stacks and queues, with emphasis on abstraction and implementation and an introduction to algorithm analysis. Prerequisite: CS 190 with a minimum grade of "C-."

CS 195 Database Management Systems **3 credits**
An introduction to the principles and practice of relational database design, implementation and manipulation. Topics include Structured Query Language (SQL), relational models, and elementary database design as well as database management with a programming language such as Java. Prerequisite: CS 190 with a minimum grade of "C-".

CS 197 Special Topics **1-6 credits**

CS 235 Computer Networks **3 credits**
An investigation of the transmission of data and information between computer systems. Topics include simple data communications, protocols, error control, local-area networks, wide-area networks such as the Internet packet-switching networks, and several networking models. Various data communication hardware and software are also examined. Prerequisites: CS 191 with a minimum grade of "C-".

CS 250 Web Applications Development I **3 credits**
A course studying web site design, focusing on HTML5 and CSS for page structure and style, the embedded JavaScript language for interactivity, and a web application server language for database access. The student learns to implement the essentials of a interactive, database driven website. Prerequisite: CS 191; Corequisite: CS 195.

CS 280 Data Structures **3 credits**
A survey of advanced data structures and algorithms. Topics include: linear lists, linked lists, arrays, trees, multi-linked lists, hashing, searching, sorting, recursion and analysis of the algorithms that use these structures. Taught in Java. Prerequisite: CS 191 with a minimum grade of "C-".

CS 297 Special Topics **1-6 credits**

CS 303 Machine Learning **3 credits**
A study of computer systems that learn from experience. Classroom exercises include the building of systems that learn and adapt using real-world applications. Topics covered include decision trees, concept learning, neural networks, reinforcement learning, linear and non-linear models, clustering, validation, and feature selection. Prerequisites: CS 190; and MATH 213 or ECON 216.

CS 310 Programming Projects with X **3 credits**
A project-based course focusing on medium-sized projects in a given programming language using tools and environments appropriate to the selected language. Students gain proficiency in the language by doing projects from a variety of subjects such as artificial intelligence, graphics, machine learning, compilers, and Human-Computer Interaction. This course contains individual and group work. May be repeated with a different implementation language. Prerequisite: CS 191 with a minimum grade of "C-."

CS 311 Embedded Systems **3 credits**
A project-based introduction to embedded systems. Students build and program systems that include microcontrollers and sensors, actuators, networking, motors, and cameras. Various applications involve robotics, remote sensing, sound processing, and kinetic sculpture. Prerequisites: CS 190 and junior standing.

CS 320 Programming Languages **3 credits**
An investigation of the theory, usage, and implementation of programming languages. Emphasis is on the theoretical basis for programming languages and practical examples of their use. Basic language paradigms are developed: imperative, functional, object-oriented, and logic. Other topics include type systems and language translation. Languages studied include C, C++, Java, Lisp, Haskell, Prolog, and Python. Prerequisite: CS 280 with a minimum grade of "C-."

CS 330 Operating Systems and Architecture **3 credits**
A study of how hardware and operating systems work in a multiprocessing computer system. The Intel architecture including the instruction set, memory hierarchy, and exception handling are covered. The Windows and Linux operating systems functions and programming interfaces are studied to understand modern computing environments. Prerequisite: CS 191

CS 340 Computer Graphics **3 credits**
A presentation of the design and use of computer-graphics systems (hardware and software) and construction of two- and three-dimensional graphics. Applications of computer graphics in business, industry, education, and communications are emphasized. Prerequisite: CS 190 with a minimum grade of "C-."

CS 350 Web Applications Development II **3 credits**
A study of client-server applications designed around the World Wide Web. Students design and implement interactive applications which provide access to centralized resources such as databases and mail servers from web browsers. Students utilize JavaScript and server-based technologies to construct web-based programs that communicate with servers. Technologies such as Ajax, XML, JSON, and commonly used JavaScript libraries are included. Prerequisite: CS 250 with a minimum grade of "C-."

CS 360 System Security **3 credits**
A study of system level hacking. Topics include workstation and server vulnerabilities, security and protection mechanisms. The Nature of system attacks combined with standard intrusion detection systems will demonstrate the challenge of correctly preventing, diagnosing and responding to attacks. Prerequisite: CS330

CS 391 Computer Science Seminar **1 credit**
An advanced topic in computing, selected by the instructor from areas of computer science not usually included in the regular curriculum, conducted in a lecture, seminar or individualized format. Student involvement through presentations is emphasized. May be taken under different topics for a total of three credits. Prerequisite: CS 191 with a minimum grade of "C-."

CS 397 Special Topics **1-6 credits**

CS 410 Systems Analysis and Design **3 credits**

The fundamental concepts of systems analysis and design are studied in the context of computerized information systems. Topics include high-level system construction tools, system design methodology, data representation languages such as XML, server-based system design, web services, system security, and system description languages such as UML. Also addressed is the human element in system design: working with users and domain experts to develop system requirements, and understanding the challenges of large scale system projects. Each student completes a number of systems design projects during the term. Prerequisite: CS 310 with a minimum grade of "C-."

CS 412 Software Engineering **3 credits**

An introduction to the fundamental principles of software engineering. Formal software development techniques and high-level software tools are emphasized. Students are taught a programming method based on the recognition and description of useful abstractions. Topics include encapsulation and reuse, design patterns, object-based design, software testing and quality, formal methods for software design, and project management. Students are expected to complete a significant project that employs techniques from the topics studied. Prerequisite: CS 410 with a minimum grade of "C-."

CS 450 Ethical Hacking and Malware **3 credits**

Application of computer hacking principles to determine vulnerabilities in computer systems and to design preventative processes. Each stage of the attack process from reconnaissance to final objective will be used to analyze attack methods and determine the best method to detect and remediate an attack using an incident response process. Prerequisite: CS 330

CS 460 Network Security **3 credits**

A study of network and web hacking. Topics include web vulnerabilities, cryptographic tools, web security and protection mechanisms. The nature of network attacks using sample data sets combined with standard intrusion detection systems will demonstrate the challenge of correctly diagnosing and responding to attacks. Prerequisite: CS 235 and CS 330

CS 480 Computer Science Application Project **3 credits**

Students develop a comprehensive application project with a supervising faculty member. A summary paper is written or public presentation of the project is made to the CS faculty and students. Prerequisite: 18 credits of Computer Science course work, including nine upper-division credits, and instructor permission.

CS 490 Workshop in Computer Science **1-6 credits**

A series of organized meetings dealing with a topic of current interest. Offered periodically in a variety of computer-related subjects. Only three credits of this title can be applied toward a Computer Science Minor.

CS 492 Independent Study in Computer Science **1-3 credits**

A singular investigation into a unique problem agreed upon by the student and the advisor. Independent Studies (CS 192, CS 292, CS 392, and CS 492) may be repeated for a total of up to 12 credits.

CS 497 Special Topics **1-6 credits**

CS 499 Internship or Field Experience in Computer Science **1-12 credits**

Students participate in a supervised internship or field experience with a cooperating university or corporation, in the computer science field. A summary paper is written or public presentation of the field experience is made before the CS faculty and students, and a review from the supervisor is prepared. Prerequisite: 18 credits of Computer Science course work, including nine upper-division credits, and instructor permission.

ECONOMICS (ECON)

The general goals of the Economics Program are to prepare graduates to:

- use their knowledge of economics to better understand the world around them, enabling them to make more informed decisions in their personal as well as their professional lives;
- develop skills such as critical analysis, statistical analysis, and reasoning and competency in written and oral communication; and
- apply their knowledge of economics in private enterprise or business firms, the the public sector (i.e., policy making), or graduate study in economics or a related field.

Students majoring in Economics may choose the Standard Program or the Comprehensive Program Secondary Licensure Emphasis. To graduate, all economics majors must have a grade point average of 2.500 or above in all courses for the major.

FACULTY

Professors Sally R.E. Hays, Scott A. Lazerus, and David J. Plante.

DESCRIPTION OF THE PROGRAMS

All Economics Majors require completion of the 24-credit Economics Nucleus and completion of MATH 140 College Algebra, MATH 141 Precalculus, or MATH 151 Calculus I with a minimum grade of "C-."

Economics Nucleus

ECON 201 Macroeconomics	3 cr
ECON 202 Microeconomics	3 cr
ECON 301 Intermediate Macroeconomics	3 cr
ECON 302 Intermediate Microeconomics	3 cr
ECON 303 International Economics and Globalization	3 cr
ECON 316 Econometrics	3 cr
ECON 498 Income Distribution, Poverty, and Wealth	3 cr
One of the following:	
ECON 216 Statistics for Business and Economics	3 cr
MATH 213 Probability and Statistics	3 cr

Economics Major: Standard Program

A minimum of 36 credits is required, including the 24-credit Nucleus and nine credits of upper-division Economics electives.

Economics Major: Comprehensive Program

SECONDARY LICENSURE EMPHASIS

This Emphasis qualifies students for the State of Colorado License in Social Science Education. A minimum of 72 credits is required including the 24-credit Economics Nucleus, and the following 48 credits. In addition, students must fulfill the requirements of the Secondary Licensure Option described under Education:

ECON 476 American Economic Development	3 cr
GEOG 110 World Regional Geography	3 cr
GEOG 120 Human Geography	3 cr
GEOG 250 Geography of North America	3 cr
GEOL 101 Physical Geology	3 cr
HIST 101 World History to 1500	3 cr
HIST 102 World History Since 1500	3 cr
HIST 126 U.S. History to 1865	3 cr
HIST 127 U.S. History Since 1865	3 cr
HIST 327 Colorado History	3 cr
POLS 180 Introduction American Government	3 cr
POLS 255 Introduction to Comparative Government	3 cr
POLS 282 Issues in State and Local Government	3 cr
POLS 476 American Political Thought II	3 cr
One of the following:	
ECON 317 Economics and Public Policy (recommended)	3 cr
Economics upper-division elective	3 cr
One of the following:	
POLS 260 Introduction to World Politics	3 cr
POLS 360 American Foreign Policy	3 cr

Economics Minor

A minimum of 18 credits is required including the following:

ECON 201 Macroeconomics	3 cr
ECON 202 Microeconomics	3 cr
One of the following:	
ECON 301 Intermediate Macroeconomics	3 cr
ECON 302 Intermediate Microeconomics	3 cr
Nine credits from the following:	
ECON 216 Statistics for Business and Economics	3 cr
Economics upper-division electives	6-9 cr

Capstone Course Requirement. The following courses in the Economics Major fulfill the Capstone Course Requirement: ECON 498 Income Distribution, Poverty and Wealth. Students completing the Secondary Licensure Emphasis may use student teaching to fulfill this requirement.

ECONOMICS COURSES

ECON 197 Special Topics **1-6 credits**

ECON 201 Macroeconomics **3 credits**

An introduction to the methods, models, and approaches used by economists to analyze and interpret events and policies related to the overall operation of the economy. The course endeavors to make sense of unemployment, inflation, recessions, debt and deficits, economic growth, the expanding role of the Federal Reserve, and policies to provide stability to the economy. Additional attention is given to the making of economic policy in an era of globalization. Finally, students are exposed to multiple schools of thought regarding macroeconomic reasoning. Prerequisite: ACT math score of 19 or above; SAT math score of 500 or above; pass MATH 099; or Accuplacer Elementary Algebra test score of 85 or higher, or university-level math requirement with a minimum grade of "C-." Prerequisite or corequisite: ENG 102. GT-SS1

ECON 202 Microeconomics **3 credits**

The theory of microeconomics makes use of the tools of marginal cost-benefit analysis to provide a framework for the economic analysis of decision-making. The focus is on the choices of individual firms and consumers, and the resultant outcomes in individual markets. The social implications of the functioning of competitive markets are examined, as well as the causes of market failure and the potential roles of government in correcting them. Prerequisite: ACT math score of 19 or above; SAT math score of 500 or above; pass MATH 099; or Accuplacer Elementary Algebra test score of 85 or higher, or university-level math requirement with a minimum grade of "C-."

ECON 215 Environmental Economics **3 credits**

A presentation of the analytical tools and approaches used by economists to examine and assess environmental issues, conflicts, and policies. Students are asked to use market analysis, externality analysis, cost-benefit analysis, instrument choice models, and market and non-market valuation techniques to investigate issues such as air and water quality, global warming, toxic substances, wilderness designation, and sustainable development plans. Prerequisites: MATH 105, MATH 113, MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-."

ECON 216 Statistics for Business and Economics **3 credits**

An introduction to descriptive statistics and statistical inference, with application in business, including hypothesis testing, confidence intervals, and simple regression analysis. Prerequisite: MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-."

ECON 297 Special Topics **1-6 credits**

ECON 301 Intermediate Macroeconomics **3 credits**

An analysis of competing theories about the overall functioning of economies including both growth and stabilization policies. Alternative models are examined at the levels of assumptions, mechanics, dynamics, and policy implications. Theories are examined within their historical context and the sets of problems faced by the theorists. Students are asked to engage, analyze, interpret and provide a course of action for real-world cases. Prerequisites: ECON 201; ECON 202; and MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-."

ECON 302 Intermediate Microeconomics **3 credits**

Intermediate Microeconomics extends the analysis of individual economic behavior and the functioning of markets learned in ECON 202 by incorporating the more sophisticated microeconomic models used in more advanced economic analysis. Topics include the theories of the consumer and the firm, the functioning of market, and the impact of market structure on price formation. Prerequisites: ECON 202; MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-"; ECON 201 recommended.

ECON 303 International Economics and Globalization **3 credits**

An exploration of economic, political, and social effects of globalization. This is examined from the perspectives of trade, development, finance, and the environment. The first half of the course focuses on the impacts of international trade. This includes preferential trading relations, protectionism, global trade agreements, competitiveness, and possible conflicts between trade and social objectives. The second half of the course focuses on international monetary relations and regimes. This includes understanding the balance of payments, exchange rate determination, currency crises, and international debt. Prerequisites: ECON 201; MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-"; ECON 202 recommended.

ECON 315 Labor Economics **3 credits**

The central questions in the field of labor economics are how wages are determined, and why a market economy provides such a vast range of possible rewards to human labor. To answer them, this course examines the role of market forces (the supply of and demand for labor) as well as that of social, political, and economic institutions. Prerequisites: ECON 202; MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-"; ECON 201 recommended.

ECON 316 Econometrics **3 credits**

The application of advanced statistical methods and modeling to an empirical understanding of economic issues. Combines elements of statistical reasoning with economic theory and provides an excellent opportunity to combine concepts learned in previous economics courses. Topics covered include multiple regression analysis, model specification, dummy variables, multicollinearity, heteroscedasticity, autocorrelation, limited dependent variables, simultaneity, time series, forecasting, and methodological issues. Prerequisites: ECON 201or ECON 202; and ECON 216 or MATH 213.

ECON 317 Economics and Public Policy **3 credits**

An examination of the field of public economics, the branch of economics concerned with the reasons for market failure (monopoly, public goods, externalities, information asymmetry) and the potential for government policies to correct them. The application of the tools of economic analysis to understanding the causes of and potential solutions to social problems of current interest are emphasized. Prerequisites: ECON 202; MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-"; ECON 201 recommended.

ECON 319 Industrial Organization **3 credits**

A study of the branch of economics that analyzes the performance of industries in their role as producers of goods and services. Provides tools for analyzing and evaluating interactions between market structure (the number and size of firms in an industry), firm conduct, and industry performance. The role of government, through antitrust and other regulation, in improving the efficiency of industries and thus the economic system as a whole, is also considered. In addition, the theoretical tools of industrial analysis are used to perform case studies of actual industries. Prerequisites: ECON 202; MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-."

ECON 350 History of Economic Thought **3 credits**

An examination of the development of economic thought and economic methodology from the pre-capitalist era to the present, with emphasis on placing the development of economic theory into its historical and political context. Major topics include the early classical school (Smith, Ricardo, Marx), the rise of modern neoclassical economics, and critical responses to mainstream theory. Prerequisites: ECON 201; ECON 202; MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-."

ECON 361 Money, Banking, and Financial Markets **3 credits**

A survey of the core topics relating to the monetary sector of the economy. This includes an examination of the role and nature of money, financial institutions and markets, banking structure and regulation, determinants of interest rates, central bank policy, exchange rates, and the international monetary system. Attention is also given to particular monetary episodes such as the Great Depression, the Latin American debt crisis, the collapse of the Mexican Peso, and the Asian monetary collapse. Prerequisites: ECON 201; MATH140, MATH 141, or MATH 151 with a minimum grade of "C-."

ECON 370 Natural Resource Economics **3 credits**

A study of the efficient and equitable use of society's scarce natural resources. This course discusses the application of economic theory to natural resource problems, such as externalities and resource extraction. Particular attention will be placed on Western United States issues, including water, energy, mineral extraction, forestry and public land use. Prerequisites: ECON 202 or ECON 215; MATH 140, MATH 141, or MATH 151 with a minimum grade of "C-."

ECON 397 Special Topics **1-6 credits**

ECON 476 American Economic Development **3 credits**

An inquiry into sources and character of American economic development. A survey is provided of several key moments in American political economy such as the market revolution, reconstruction, populism, progressivism, the Great Depression, the New Deal, and globalization. Students are asked to engage the ideas, social movements, and institutions that have shaped the modern American economy. Prerequisite: instructor permission.

ECON 492 Independent Study **1-4 credits**

ECON 497 Special Topics **1-6 credits**

ECON 498 Income Distribution, Poverty and Wealth **3 credits**

A seminar-style examination of the causes and consequences of historical trends in income and wealth distribution in the United States, concentrating especially on the trend toward increasing inequality that began in the 1970s. Topics include: empirical analysis of distributional data; causal analysis based on both microeconomic and macro-economic analysis; the roles of institutional change, social attitudes, and government policy; and both positive and normative evaluations of the economic and social consequences. This course fulfills the Economics Capstone Requirement.

ECON 499 Internship in Economics **1-6 credits**

The Economics Internship gives Economics majors who have completed 18 credits of economics the opportunity to apply their analytical skills in the service of businesses, government, and the community. Prerequisites: 18 credits of Economics courses including ECON 201; ECON 202; ECON 216 or MATH 213; and instructor permission.

EDUCATION (EDUC)

The Education Department at Western State Colorado University is accredited by the Colorado Department of Education and the Colorado Commission on Higher Education. The Education Department currently maintains a 100 percent pass rate for licensing assessments for Colorado educators, as reported to Title II for those who complete the program. The faculty of the Education Department is committed to creating a community of teachers who are competent in their subject matter, pedagogical content knowledge, pedagogical knowledge, and teaching skills. Students develop a professional knowledge base and research and reflect upon the implications of educational best practices that extend well beyond traditional educational goals of individual achievement. It is necessary for pre-service teachers to understand and accept the responsibility for creating a community that recognizes and appreciates diversity, and for which individual members possess the content knowledge, skills, and abilities needed to think critically, solve problems, and make responsible decisions.

Criteria for admission to the Teacher Licensure program:
Education students must be accepted into the Teacher Licensure program prior to taking EDUC 340 and before becoming eligible for placement in their teaching residency. All applicants receive a holistic application review by the admissions committee in the content area for which the application is received. Applicants are evaluated according to criteria established for the specific licensure track. Details, including application deadlines, are listed on the undergraduate Education program's website: Link to Education Programs page.

FACULTY

Associate Professor Gaye R. Jenkins;
Assistant Professors Brian Coppess and Ian P. Renga;
Senior Lecturer Brooke M. Hanks;
Lecturers Caroline Forrest, Jeffery Hulbert, and Cori Woytek.

DESCRIPTION OF THE PROGRAMS

Elementary Education Major with emphasis in Culturally and Linguistically Diverse Education: Comprehensive Major. The Elementary Education Major prepares students to be effective K-6 educators and is aligned with the Colorado P-12 Academic Standards, the Educator Licensure Act of 1991, Senate Bill 10-191 of 2013, and the Colorado Educator Effectiveness Rubric. The depth and breadth of the Elementary Education Major curriculum is designed to prepare students to successfully teach in a Colorado standards-based classroom and offers preparation for entry into other education and job training opportunities. In addition to a Colorado Initial Elementary Education License, students completing the Elementary Education Major may be eligible to earn an added endorsement in Culturally and Linguistically Diverse (CLD) Education, dependent on his/her student teaching placement. All CLD endorsement standard requirements are met in the Education coursework and the successful completion of at least one semester of EDUC 459 Elementary Culturally and Linguistically Diverse Student Teaching. This student teaching course requires the student to demonstrate a minimum of 135 hours' instruction with English Language Learning students. In cases where the K-6 residency placement precludes meeting the 135 hour minimum, a candidate would graduate with a BA in Elementary Education with emphasis in Culturally and Linguistically Diverse Education, and be eligible to apply for initial Elementary licensure. The Elementary Education Major requires students to complete all requirements of the Licensure Program, including 36 credits of Education (EDUC) coursework. The major requires students to successfully complete 87 credits of interdisciplinary content coursework, which includes the University's General Education requirements (nine credits of essential skills and 26 credits of Liberal Arts coursework).

Comprehensive Program

Elementary Education Content Core

ART 105 Introduction to Art	3 cr
COM 202 Academic Writing and Inquiry	3 cr
ECON 201 Macroeconomics	3 cr
ENG 102 Academic Writing	3 cr
ENG 205 Introduction to Creative Writing	3 cr
ENG 220 Grammar and the English Language	3 cr
ESS 353 Coordinated School Health and Activity Programs	2 cr
GEOG 120 Introduction to Human Geography	3 cr
GEOG 250 Geography of North America	3 cr
HIST 126 US History to 1865	3 cr
HIST 260 History of Latin America	3 cr
HIST 327 Colorado History	3 cr
MATH 113 Statistical Thinking	3 cr
MATH 140 College Algebra	3 cr
MATH 209 Mathematics for Elementary Teachers I	3 cr
MATH 210 Mathematics for Elementary Teachers I	3 cr
MUSIC 100 Fundamentals of Music	3 cr

POLS 117 Introduction to Political Ideas	3 cr
POLS 180 Introduction to American Politics	3 cr
POLS 282 Issues in State and Local Government	3 cr
SCI 110 Habitable Planet (with Laboratories)	4 cr
SCI 111 Nature of Science	1 cr
SCI 120 Living Planet (with Laboratories)	4 cr
SCI 210 Dynamic Planet (with Laboratories)	4 cr

Elementary Education Supporting Courses

One of the following:

COM 235 Fundamentals of Acting	3 cr
COM 274 Public Relations Communication	3 cr
COM 371 Small Group and Conflict Management	3 cr

One of the following:

SPAN 101 Elementary Spanish I	3 cr
SPAN 102 Elementary Spanish II	3 cr

One of the following:

PSY 270 Developmental Psychology	3 cr
ESS 275 Motor Development and Learning	3 cr

Two of the following. One course must be at the 300 level or above:

ECON 202 Microeconomics	3 cr
ENG 250 Critical Approaches to Literature	3 cr
ENG 370 Myth and Culture	3 cr
GEOG 351 Geography of Latin America and the Caribbean	3 cr
POLS 360 American Foreign Policy	3 cr
ROE 235 Foundations of Teaching Environmental Education	3 cr
ROE 391 Experiential Education Theory and Pedagogy	3 cr
SOC 101 Introduction to Sociology	3 cr

Elementary Licensure

Students seeking Elementary Licensure (grades K-6) must complete the interdisciplinary requirements of the Elementary Education Major, all other University requirements, and the Elementary Licensure requirements set forth by the Colorado Department of Education. Students pursuing Elementary Licensure must meet all requirements for admission to the Teacher Licensure Program before taking EDUC 340 and being eligible to enter the residency year. Students must complete all coursework required within the academic major prior to beginning the clinical residency and complementary Education coursework, or have documented content and education advisor permission. The clinical residency experience begins each fall for one full year, and students may be placed in more than one K-6 classroom. Students have both in-state and out-of-state placement options. After attending the summer session orientation to the residency program on campus, students are highly encouraged to follow the K-6 school year calendar for the school in which they are placed, not the Western academic calendar (i.e. beginning on the day the mentor teacher reports for duty, take K-6 school holidays, participate in K-6 school professional development and in-service opportunities, end the final day teachers are required to report, etc.). Master mentor teachers are selected carefully to ensure that Western students completing their clinical residencies have strong professional role models. The potential mentor teacher will self-assess his or her knowledge of the education standards and standard elements. Students accepting these placements are expected to successfully complete the year-long clinical residency, in order to be recommended for Initial Licensure. Students who do not successfully complete the year-long residency will be withdrawn from the Teacher Licensure Program and must appeal to the Performance Review Committee for readmission. The other education courses in the program are offered online throughout the year.

Students who are placed in a classroom where there is no CLD population or who choose not to complete at least one semester of EDUC 459 Elementary Culturally and Linguistically Diverse Student Teaching, which requires the student to demonstrate a minimum of 135 hours' instruction with English Language Learning students, will be required to take EDUC 458: Elementary Student Teaching for a total of 6 student teaching credits.

The residency for Elementary Licensure must be completed in a K-6 classroom and students are expected to work cooperatively 24 hours per week with qualified mentor teachers. During this year-long clinical residency, the student is applying and extending the pedagogical knowledge that he or she is learning in the Education courses. To be recommended for an Initial Elementary License, the student resident must perform at "3, Proficiency" level in all relevant standard elements in the elementary (K-6) classroom. Student residents must demonstrate the ability to apply the standard/standard element in an elementary classroom setting, assess K-6 student learning, and evaluate their own teaching performance. The level expected of well prepared, first year teachers is "3, Proficiency."

The Elementary Licensure Program requires 36 credits of Education coursework and the Gateway course (including 6 credits of EDUC 458 or 3 credits each of EDUC 458 and 459):

EDUC 000 Education Gateway Course	0 cr
EDUC 102 Issues and Trends in American Education	3 cr

EDUC 316	Introduction to Language Acquisition for Linguistically Diverse Students	3 cr
EDUC 340	Application of Pedagogy and Practice	3 cr
EDUC 400	Foundations of Literacy: Phonology and Linguistics	3 cr
EDUC 401	Assessment for Prevention and Intervention	3 cr
EDUC 402	Reading Comprehension, Vocabulary, and Fluency	3 cr
EDUC 404	Creating Positive Learning Environments	3 cr
EDUC 405	Data-driven Instructional Practices	3 cr
EDUC 413	Mathematical Investigations	3 cr
EDUC 417	Teaching and Assessing Writing with the Linguistically Diverse Student in Mind	3 cr
EDUC 458	Elementary Student Teaching (may be taken twice)	3 cr
EDUC 459	Elementary Culturally and Linguistically Diverse Student Teaching	3 cr

Secondary and K-12 Licensure

A student seeking licensure as a Secondary teacher (grades 7-12) or K-12 teacher must complete an appropriate academic major, all other University requirements, and the appropriate Secondary or K-12 Licensure requirements. The Secondary academic major may be: Biology, Chemistry, Economics, English, Geology, History, or Politics and Government. The K-12 Academic Major may be: Art, Exercise and Sport Science, Music, or Spanish. Students must complete all coursework required within the academic major prior to beginning the year of Education coursework and complementary residency, or have content advisor and Education advisor permission. Students have their Degree Works or Unofficial transcripts signed by the content advisor, indicating all coursework will be completed before residency begins. Students pursuing the Secondary or K-12 Licensure option must meet all of the requirements for admission to the Teacher Licensure Program before taking EDUC 340 and being eligible to enter the residency year. The clinical residency experience begins each fall for one full year, and students may be placed in more than one Secondary or K-12 classroom. Students have both in-state and out-of-state placement options. After attending the summer session orientation to the residency program on campus, students are highly encouraged follow the Secondary or K-12 school year calendar for the school in which they are placed, not the Western academic calendar (i.e. beginning on the day the mentor teacher reports for duty, take Secondary or K-12 school holidays, participate in Secondary or K-12 school professional development and in-service opportunities, end the final day teachers are required to report, etc.). Master mentor teachers are selected carefully to ensure that Western students completing their clinical residencies have strong professional role models. The potential mentor teacher's principal will assess the mentor teacher's knowledge of the education standards and standard elements. Students accepting these placements are expected to successfully complete the year-long clinical residency, in order to be recommended for Initial Licensure. Students who do not successfully complete the year-long residency will be withdrawn from the Education Program and must appeal to the Performance Review Committee for readmission. The other education courses in the program are offered online throughout the residency year. The residency for Secondary or K-12 Licensure must be completed in a Secondary or K-12 classroom and students are expected to work cooperatively 24 hours per week with qualified mentor teachers. During this year-long clinical residency, the student is applying and extending the pedagogical knowledge that he or she is learning in the Education courses. To be recommended for an Initial Secondary or K-12 License, the student resident must perform at "3, Proficiency" level in all relevant standard elements in the Secondary or K-12 classroom. Student residents must demonstrate the ability to apply the standard/standard element in an elementary classroom setting, assess Secondary or K-12 student learning, and evaluate their own teaching performance. The level expected of well prepared, first year teachers is "3, Proficiency."

The Secondary (with the exception of students seeking Secondary English Licensure) and K-12 Licensure Program requires 30 credits of Education coursework:

EDUC 000	Education Gateway Course	0 cr
EDUC 340	Application of Pedagogy and Practice	3 cr
EDUC 403	Instruction and Assessment in the Content Area	3 cr
EDUC 404	Creating Positive Learning Environments	3 cr
EDUC 405	Data-driven Instructional Practices	3 cr
EDUC 406	Content Area Literacy	3 cr
EDUC 407	Maximizing Learning Through 21st Century Skills	3 cr
EDUC 420	Application of Classroom Strategies to Engage All Learners	3 cr
EDUC 424	Differentiation: Applying Learner-Centered Instruction	3 cr
Appropriate Student Teaching Course:		
EDUC 409	Secondary Student Teaching (*taken twice)*	3 cr
EDUC 410	K-12 Student Teaching (*taken twice*)	3 cr

The Secondary English Licensure Program requires 30 credits of Education coursework:

EDUC 000	Education Gateway Course	0 cr
EDUC 340	Application of Pedagogy and Practice	3 cr
EDUC 401	Assessment for Prevention and Intervention	3 cr
EDUC 402	Reading Comprehension, Vocabulary, and Fluency	3 cr
EDUC 403	Instruction and Assessment in the Content Area	3 cr
EDUC 404	Creating Positive Learning Environments	3 cr
EDUC 405	Data-driven Instructional Practices	3 cr
EDUC 407	Maximizing Learning Through 21st Century Skills	3 cr

EDUC 408 Teaching Writing with the Brain in Mind	3 cr
EDUC 409 Secondary Student Teaching (*taken twice*)	3 cr

Student Disposition and Performance Assessment.
During the semester in which students are enrolled in EDUC 000 Education Gateway Course, EDUC 340 Application of Pedagogy and Practice, and the clinical residency (Student Teaching), students are evaluated by the Education faculty and K-12 teacher mentor(s) in terms of their potential for becoming effective educators. This process of evaluating professional teaching dispositions is used for screening Education students for support needs and/or continuation in the Teacher Licensure Program.

Recommendation for Initial Licensure.
Students must meet the following requirements during the last semester of their clinical residency year:

1. Successfully complete all Education coursework and the responsibilities of a clinical resident according to the Education Department's Professionalism Standards and Guidelines;
2. Perform at a minimum "3, Proficiency" on each relevant standard element as evaluated by mentor teachers, clinical residency supervisors, and/or course instructors.

Upon satisfactory completion of program requirements, the graduate must apply for licensure from the Colorado Department of Education within five years immediately following program completion.

Education Department Performance Review Committee and Process.
Throughout the time a student spends in the Teacher Licensure Program, he or she is evaluated and assessed by Education Department faculty, Clinical Coaches, Regional Coordinators and Mentor Teachers, in respect to performance, disposition, motivation, and demonstrated potential as a teacher. If issues surface concerning behaviors or dispositions, the Performance Review Committee begins a review process. This process has three purposes: 1) to act as a screening and counseling review, 2) to resolve a problematic situation, and 3) to provide an opportunity for faculty and students to develop a professional growth plan. Evidence of unsatisfactory performance, disposition, motivation, or demonstrated potential may result in withdrawal from the Program. A student who does not pass each Education course with at least a "C-" has one semester (or until the next time the semester course is offered) to remove the "D" or "F" with a grade of "C-" or above; or be withdrawn from the Program. Before admission to the Teacher Licensure Program, students must complete all prerequisite Education courses required for Licensure with a "C-" or above, and have an overall GPA of 2.75 or above. Anyone who fails two or more courses in the Education Department is withdrawn from the Program.

Performance Review Committee and Process.
Students who appeal Program policies and procedures must abide by the Performance Review Committee process. This process involves submitting materials to the Performance Review Committee for review. These materials include:

1. Statement of the problem, and a plan for correcting the problem;
2. Copy of the student's transcript(s) and current course schedule;
3. Additional materials supporting the student's appeal; and
4. Additional materials requested by the Performance Review Committee.

EDUCATION COURSES

EDUC 000 Education Gateway Course **0 credits**
Students explore the professional opportunities and practices of the teaching discipline. Designed to provide participants a variety of designated experiences with K-12 students so they are able to make informed decisions about becoming teachers. Students facilitate field experiences with school-age students both at the elementary and secondary levels. Students attend two one-hour long seminars and participate in 10 hours of subsequent field experiences. This course is required for admission to the Teacher Licensure Program. Graded Satisfactory/Unsatisfactory only.

EDUC 102 Issues and Trends in American Education **3 credits**
An introduction to the philosophical and historical foundations of American public education, as well as current conceptions of and issues facing the teaching profession. Students reflect upon their own experiences in K-12 schools, explore current trends in teaching and learning, and investigate socio-political and economic issues facing 21st Century American education.

EDUC 197 Special Topics in Education **1-6 credits**

EDUC 297 Special Topics in Education **1-6 credits**

EDUC 316 Introduction to Language Acquisition for Linguistically Diverse Students **3 credits**
An introduction to theory and understanding of first and second language acquisition for teaching K-12 students from linguistically diverse cultures and backgrounds. Students develop an awareness of the historical, legal, social and educational background surrounding linguistically diverse education. The primary focus is on research based oral language assessment and development to provide meaningful instruction. Methods include those appropriate for the beginning English language learner, as well as those at other levels on the language acquisition continuum. Prerequisites: EDUC 000 and EDUC 102.

EDUC 340 Application of Pedagogy and Practice **3 credits**
A foundation course in educational pedagogy based on current research and widely accepted teaching strategies. Includes an integrated variety of research-based approaches to teaching and learning, such as cooperative learning and differentiated instruction, which are framed within professionalism standards for teachers. A major component of the course is a rigorous and structured field experience in local schools as preparation for residency. Prerequisite: Admission to the Teacher Licensure Program.

EDUC 392 Independent Study **1-3 credits**
A course for qualified, upper-level students with specialized interests in a particular area of advanced study in Education.

EDUC 397 Special Topics in Education **1-6 credits**

EDUC 400 Foundations for Literacy: Phonology and Linguistics **3 credits**
A study and application of scientifically-based methods of teaching and reinforcing fundamental reading skills. Cognitive processes of literacy, including phonology, morphology, orthography and etymology. Focus placed on English language structure as it affects decoding and encoding. Additionally, methods for diverse groups of students, including students with disabilities, students from culturally and linguistically diverse populations, and high-achieving students are covered.

EDUC 401 Assessment for Prevention and Intervention **3 credits**
This is an in-depth application of assessment techniques and instruments in coordination with state standards, No Child Left Behind and Individuals with Disability Education Act, 2004. Includes standardized testing and knowledge of literacy including five essential components of reading: phonemic awareness, phonics, vocabulary, fluency, and comprehension. Analysis of data to design and monitor instruction and intervention for universal, targeted, and intensive needs of diverse groups of students, including students with disabilities, students from culturally and linguistically diverse populations, and high-achieving students.

EDUC 402 Reading Comprehension, Vocabulary, and Fluency **3 credits**
A study and application of scientifically based methods of teaching and reinforcing reading comprehension, vocabulary fluency, oral and written language skills. Cognitive processes of literacy, including phonology, morphology, orthography, etymology, semantics, syntax, discourse, pragmatics and English language structure as it affects meaning. Additionally, methods for diverse groups of students, including students with disabilities, students from culturally and linguistically diverse populations, and high- achieving students are covered.

EDUC 403 Instruction and Assessment in the Content Area **3 credits**
An introduction to the concepts, methods, techniques, and assessment practices used to effectively teach secondary and K-12 students. Emphasis is placed on structures for lesson and unit planning, implementation of the Colorado State Standards, literacy and math integration, research based instructional strategies, content specific technologies, and management techniques.

EDUC 404 Creating Positive Learning Environments **3 credits**
An investigation into the rationales and practices for developing a classroom community that is inclusive, respectful, and conducive to learning for all students. Invites nuanced consideration of diversity within school contexts and the teacher's role in nurturing positive and productive relationships with students, families, and the broader community.

EDUC 405 Data-driven Instructional Practices **3 credits**
An in-depth application of standards-based instruction and assessment practices. Students design curriculum maps and plan standards-based lessons and units for diverse student populations. Students are taught to integrate literacy, math, and technology into their standards-based instructional plans, to use assessment data to drive standards-based curriculum that measure student knowledge, understanding, and skills, and to reflect on and evaluate their own performance.

EDUC 406 Content Area Literacy **3 credits**
An application of current research on brain-based learning, reading and writing and its integration in the content area. Students implement the essential components of reading: phonemic awareness, phonics, vocabulary, fluency, comprehension, motivation, and engagement within the content area. In addition, there is a focus on content area study and test taking skills.

EDUC 407 Maximizing Learning Through 21st Century Skills **3 credits**
An inquiry into the 21st century environment schools need to cultivate in order to maximize learning. This course prepares teachers to create technology-rich learning environment that enhance student growth and achievement.

EDUC 408 Teaching Writing with the Brain in Mind **3 credits**
An application of cognitive processes associated with various kinds of learning. Within the context of writing assessment and instruction, students learn to employ a wide range of teaching techniques to match the intellectual, emotional and social level of each class-room student. Students apply expert content knowledge to enrich and extend student learning and apply individual educational plans.

EDUC 409 Secondary Student Teaching **3 credits**
Student teaching in a 7-12 school setting on the average of 24 hours per week, over the course of the academic year, in collaboration with mentor teachers. This course must be repeated twice for credit. Additional course fee applies.

EDUC 410 K-12 Student Teaching **3 credits**
Student teaching in a K-12 school setting on the average of 24 hours per week, over the course of the academic year, in collaboration with mentor teachers. This course must be repeated twice for credit. Additional course fee applies.

EDUC 413 Mathematical Investigations **3 credits**
An application of the research-based practices for instruction in math. Focus is placed on the foundations for assessing and teaching math by addressing basic skills, critical thinking skills, conceptual understanding, real life applications, and diverse learner needs. Students implement and review specific assessment practices, teaching structures, intervention strategies, and technology applications within a standards- based framework of instruction.

EDUC 417 Teaching and Assessing Writing with the Linguistically Diverse Student in Mind **3 credits**
An application of cognitive processes associated with various kinds of learning. Within the context of writing assessment and instruction, students learn to employ a wide range of teaching techniques to match the cultural, academic, social and language-proficiency level of each classroom student. Students apply expert content knowledge and knowledge of cognitive academic language proficiency to enrich and extend student learning.

EDUC 420 Application of Classroom Strategies to Engage All Learners **3 credits**
Study and apply effective research-based strategies for high levels of attention and engagement for all learners

EDUC 424 Differentiation: Applying Learner-Centered Instruction **3 credits**
This course provides participants with an understanding of the components of differentiated instruction (content, process, and product). Participants explore skills and resources needed to effectively manage a differentiated classroom and extend their learning into the application of strategies, assessments, and management systems within the context of teaching academic content.

EDUC 458 Elementary Student Teaching **3 credits**
Student teaching in an elementary school setting (grades K-6) on the average of 24 hours per week, over the course of the academic year, supervised by a mentor teacher. This course may be taken twice for credit.

EDUC 459 Elementary Culturally and Linguistically Diverse Student Teaching **3 credits**
Student teaching in an elementary school setting, with special attention given to work with linguistically diverse students. The student teaching experience averages 24 hours per week over the course of the academic year and is supervised by a mentor teacher. Additional course fee applies.

EDUC 492 Independent Study **1-3 credits**
A course for qualified, upper-level students with specialized interests in a particular area of advanced study in Education.

EDUC 493 Research Problems **1-4 credits**

EDUC 497 Special Topics in Education **1-6 credits**

ENGLISH (ENG)

The English program at Western State Colorado University provides its majors an opportunity to study language, literature, writing, and secondary teaching. Upon graduation, English majors can:

- employ multiple perspectives in producing and analyzing texts;
- employ a critical, historical, and cultural sense of the traditions of English, American, and world literatures;
- generate and develop an effective writing project in at least one genre. Those in the Comprehensive Program with the writing emphasis can also:
- generate and develop effective writing projects in a variety of genres for a variety of writing occasions;
- locate appropriate venues for their writing and submit compatible work for publication.

Those in the Comprehensive Program with secondary education licensure can also be licensed to teach literature and writing in secondary schools in Colorado.

FACULTY

Professors T. Christine Jespersen, Alina M. Luna, and Mark D. Todd;
Assistant Professor Elizabyth Hiscox;
Senior Lecturers Michiko Jo Arai;
Lecturer Liz Smith, and William Tyson Hausdoerffer.

DESCRIPTION OF THE PROGRAMS

English majors and minors must complete the required course ENG 250 Critical Approaches to Literature with a minimum grade of "C" before registering for upper-division courses in English.

English Major: Standard Program

A minimum of 39 credits is required, including a three-credit, upper-division literature elective, and the following:

ENG 205 Introduction to Creative Writing	3 cr
ENG 250 Critical Approaches to Literature	3 cr
ENG 358 Global Literatures	3 cr
ENG 371 Literary Theory and Criticism	3 cr
ENG 394 Junior Seminar	3 cr
ENG 494 Senior Seminar	3 cr
One of the following:	
ENG 230 Environmental Literature	3 cr
ENG 232 Borderlands: Race, Class, and Gender	3 cr
ENG 237 Women and Literature	3 cr
ENG 238 Literary Culture of the American West	3 cr
ENG 255 Ancient World Literature	3 cr
ENG 331 Literature and Ethnicity	3 cr
ENG 337 Women Writers	3 cr
ENG 370 Myth and Culture	3 cr
One of the following:	
ENG 300 Creative Writing: Fiction	3 cr
ENG 301 Creative Writing: Poetry	3 cr
ENG 303 Environmental Writing	3 cr
ENG 305 Creative Writing: Non-fiction	3 cr
Two of the following:	
ENG 372 British Literature: Medieval and Renaissance Texts	3 cr
ENG 373 British Literature: Milton Through the Romantics	3 cr
ENG 374 British Literature: The Victorians to the Present Day	3 cr
ENG 463 Major British Authors	3 cr
Two of the following:	
ENG 384 American Literature—Early to Civil War	3 cr
ENG 385 American Literature—Civil War to Present	3 cr
ENG 464 Major American Authors	3 cr

English Major: Comprehensive Program

CREATIVE WRITING EMPHASIS

A minimum of 54 credits is required, including three credits of an upper-division literature elective, and the following:

COM 241 Media Writing	3 cr
ENG 205 Introduction to Creative Writing	3 cr
ENG 220 Grammar	3 cr
ENG 250 Critical Approaches to Literature	3 cr
ENG 358 Global Literatures	3 cr
ENG 371 Literary Theory and Criticism	3 cr
ENG 394 Junior Seminar	3 cr
ENG 405 Advanced Writing	3 cr
ENG 445 Literary Magazine Submission and Production	3 cr
ENG 494 Senior Seminar	3 cr
Three of the following, at least two of which must have an ENG prefix:	
COM 306 Scriptwriting	3 cr
COM 310 Intro to Performance Studies	3 cr
ENG 300 Creative Writing: Fiction	3 cr
ENG 301 Creative Writing: Poetry	3 cr
ENG 303 Environmental Writing	3 cr
ENG 305 Creative Writing: Non-fiction	3 cr
Two of the following:	
ENG 372 British Literature: Medieval and Renaissance Texts	3 cr
ENG 373 British Literature: Milton Through the Romantics	3 cr
ENG 374 British Literature: The Victorians to the Present Day	3 cr
ENG 463 Major British Authors	3 cr
Two of the following:	
ENG 384 American Literature—Early to Civil War	3 cr
ENG 385 American Literature—Civil War to Present	3 cr
ENG 464 Major American Authors	3 cr

SECONDARY LICENSURE EMPHASIS

The Secondary Licensure Emphasis requires 51 credits, including three credits of upper-division English electives. English 352 Children's Literature and English 499 Internship in English may not be used as electives in English. In addition, students must fulfill the requirements of the Secondary Licensure Option (see description under Education). The following courses are required:

COM 216 Dramatic Literature and Script Analysis	3 cr
COM 241 Media Writing	3 cr
ENG 205 Introduction to Creative Writing	3 cr
ENG 220 Grammar and the English Language	3 cr
ENG 250 Critical Approaches to Literature	3 cr
ENG 358 Global Literatures	3 cr
ENG 370 Myth and Culture	3 cr
ENG 371 Literary Theory and Criticism	3 cr
ENG 384 American Literature—Early to Civil War	3 cr
ENG 394 Junior Seminar	3 cr
One of the following:	
COM 306 Scriptwriting	3 cr
ENG 300 Creative Writing: Fiction	3 cr
ENG 301 Creative Writing: Poetry	3 cr
ENG 303 Environmental Writing	3 cr
ENG 305 Creative Writing: Non-fiction	3 cr
T*wo of the following:*	
ENG 230 Environmental Literature	3 cr
ENG 232 Borderlands: Race, Class, and Gender	3 cr
ENG 237 Women and Literature	3 cr
ENG 238 Literary Culture of the American West	3 cr
ENG 248 Film Arts: Film as Literature/Literature as Film	3 cr
ENG 255 Ancient World Literature	3 cr
ENG 331 Literature and Ethnicity	3 cr
ENG 337 Women Writers	3 cr

Two of the following:	
ENG 372 British Literature: Medieval and Renaissance Texts	3 cr
ENG 373 British Literature: Milton through the Romantics	3 cr
ENG 374 British Literature: The Victorians to the Present Day	3 cr
ENG 463 Major British Authors	3 cr
Two of the following:	
ENG 384 American Literature – Early to Civil War	3 cr
ENG 385 American Literature—Civil War to Present	3 cr
ENG 464 Major American Authors	3 cr

English Minor

A minimum of 18 credits is required for a Minor in English including:

ENG 205 Introduction to Creative Writing	3 cr
ENG 250 Critical Approaches to Literature	3 cr
English electives at the 150 level or above (excluding ENG 499)	12 cr

Capstone Course Requirement. The following course in the English Major fulfills the capstone course requirement: ENG 494 Senior Seminar. Students completing the Secondary Licensure Emphasis may use student teaching to fulfill this requirement. English majors must pass three credits of course work in ENG 494 with a minimum grade of "C."

English Assessment Program. All English majors and minors are required to participate in and successfully pass skills/knowledge assessment testing in English. Assessment tests are conducted thus: 1) as a component of the required course ENG 250 Critical Approaches to Literature; 2) as a designated semester project in the Junior Seminar, or a designated project in ENG 405 Advanced Writing (writing emphasis); and 3) a final graduation requirement incorporated into ENG 494 Senior Seminar.

ENGLISH COURSES

ENG 099 Basic Writing **3 credits**

Provides students with practice in generating and developing writing about academic topics and preparation for ENG 102 Academic Writing. For students who do not meet the University Level Entry Standards set by the Colorado Commission on Higher Education. Offered through Extended Studies for an additional fee. Credit does not count toward graduation. Graded Satisfactory/Unsatisfactory only.

ENG 100 Supplemental Academic Writing **1 credit**

Provides co-requisite, supplemental instruction for students enrolled in ENG 102. Students will practice employing rhetorical knowledge; using writing processes; developing critical reading and writing strategies; and using effective written communication to demonstrate comprehension of content knowledge. Prerequisites: an assessment equivalent to ACT English score between 15-17; a SAT Evidence-Based Reading and Writing score between 430-469; or an Accuplacer Reading score between 53-79 and Accuplacer Sentence Skills score between 66-94; and a high school GPA of 2.75 or higher. Co-requisite ENG 102. Note: this course is intended for those qualified students wanting to complete the Supplemental Academic Instruction (SAI) program in English.

ENG 102 Academic Writing **3 credits**

Provides students the opportunity to practice strategies for developing writing projects on unfamiliar topics in unfamiliar formats to become more effective and efficient writers. Writers learn to practice strategies for making writing more comprehensible for readers and to use a wide range of writing processes for getting started, developing, organizing, and polishing writing projects. Prerequisites (one of the following): ENG 099; ACT English score of 18 or higher to demonstrate writing proficiency and ACT Reading score of 17 or higher to demonstrate reading proficiency; SAT Evidence-Based Reading and Writing score of 470 or higher to demonstrate writing proficiency; Accuplacer Sentence Skills test score of 95 or higher and Accuplacer Reading Comprehension test score of 80 or higher; or combination of ACT, SAT, and Accuplacer scores to fulfill both reading and writing proficiencies; or co-requisite ENG 100 (SAI). GT-CO1

ENG 150 Introduction to Literature **3 credits**

An introduction to literature with focus on a specific theme, form, or topic. Prerequisites (one of the following): ENG 099; ACT English score of 18 or higher to demonstrate writing proficiency and ACT reading score of 17 or higher to demonstrate reading proficiency; SAT Evidence-Based Reading and Writing score of 470 or higher to demonstrate writing proficiency; Accuplacer Sentence Skills test score of 95 or higher and Accuplacer Reading Comprehension test score of 80 or higher; or combination of ACT, SAT and Accuplacer scores to fulfill both reading and writing proficiencies; open only to first and second-year students who have completed fewer than 60 credits. GT-AH2

ENG 197 Special Topics **1-6 credits**

A study of a particular topic of interest to students of English to be announced each time the course is offered.

ENG 205 Introduction to Creative Writing **3 credits**

An introduction to the basic techniques of writing fiction and poetry. Models of each are studied, and students write and share pieces in both of these literary forms. Prerequisite: ENG 102 with a minimum grade of "C-."

ENG 220 Grammar and the English Language **3 credits**
A study of English grammar focusing on Standard English. Students are also introduced to the history of the English language. Prerequisite: ENG 102 with a minimum grade of "C-."

ENG 230 Environmental Literature: Studies in: **3 credits**
A study of environmental literature. Students analyze the formal and thematic characteristics of the literature. To inform critical interpretations, students read relevant cultural and environmental theory. The theme or topic is announced each semester. Prerequisite: ENG 102 with a minimum grade of "C-." GT-AH2

ENG 232 Borderlands: Race, Class, and Gender **3 credits**
A focus on multicultural literature representing literal and metaphoric borders and crossings. Students examine how culture and ideology inform representations of the interconnections among race, class, and gender. Examples include literatures of migration, mixed identities, and racial and gender crossings. Prerequisite: ENG 102 with a minimum grade of "C-."

ENG 237 Women and Literature **3 credits**
Critical study of selected topics, themes, or issues about women as they are interpreted in popular and classic literary works. Specific titles to be announced each time the course is offered. Prerequisite: ENG 102 with a minimum grade of "C-."

ENG 238 Literary Culture of the American West **3 credits**
A study of traditional and nontraditional forms of Western literature, including the multicultural diversity of the region. Prerequisite: ENG 102 with a minimum grade of C-.

ENG 240 Writing Center Workshop **2 credits**
Students investigate methods of the writing process and study personal communications of tutoring. Strategies include studying the learning styles of all students. Prerequisite: instructor permission.

ENG 248 Film Arts: Film as Literature/Literature as Film **3 credits**
A focus on the development of film and its cultural impact, with special emphasis on the relationship between film as a visual medium and literature as a verbal medium. After examining a selection of short stories and novels and the film adaptations based upon them, students are given the opportunity to write some film criticism of their own. Prerequisite: ENG 102 with a minimum grade of "C-."

ENG 250 Critical Approaches to Literature **3 credits**
Students study a variety of genres as a basis of learning to write literary analysis. Focus is on an understanding of the varied perspectives from which a text can be approached, and how readers construct meaning based not only upon the text itself, but also the context in which it is studied. The critical approach as well as theme or topic may vary. Prerequisite: ENG 102 with a minimum grade of "C-."

ENG 254 Popular Genre Fiction **3 credits**
A focus on works that adhere to a specific popular genre announced on a rotating basis and selected from such sub-genres as science fiction, fantasy, mysteries, romance, westerns, or horror. Readings explore the relationship of genre topics to the craft of storytelling. Course may be repeated for credit when taken with a different emphasis. Prerequisite: ENG 102 with a minimum grade of "C-."

ENG 255 Ancient World Literature **3 credits**
A study of ancient texts and their relation to their own time, and to ours. Since an understanding of these writings is important for reading English literature, the focus of the course is on Western texts central to that tradition. However, students may also read selected works from non-Western cultures in order to give them a taste of the diversity of the ancient world. Works studied may include selections from the Bible (Hebrew Scriptures and New Testament), Homer's writings, poetry and theatre of Classical Greece, Chinese poetry from the Book of Songs, a selection from the Mahabharata, and Roman poetry, particularly Virgil and Ovid. Prerequisite: ENG 102 with a minimum grade of "C-." GT-AH2

ENG 270 Folklore **3 credits**
A study of one or more areas of folklore with a focus on American folklore. Possible areas include folksong, folk tales and legends, customs and festivals, dance and drama, proverbs, traditions, beliefs, recipes, and games. Prerequisite: ENG 102 with a minimum grade of "C-."

ENG 297 Special Topics **1-6 credits**
A study of a particular topic of interest to students of English to be announced each time the course is offered.

ENG 300 Creative Writing: Fiction **3 credits**
Models are studied, and students read and respond to one another's writing. This course may incorporate narrative theory. Prerequisite: ENG 205 with a minimum grade of "C."

ENG 301 Creative Writing: Poetry **3 credits**
Instruction is given on the techniques and terminology of poetry writing. Models are studied, and students read and respond to one another's writing. Prerequisite: ENG 205 with a minimum grade of "C."

ENG 303 Environmental Writing **3 credits**
A workshop approach to help writers develop a portfolio of essays suitable for publication in outdoor, environmental, and other appropriate magazines. To enhance their essays, writers read and analyze theoretical and published environmental texts. Prerequisite: ENG 205 with a minimum grade of "C."

ENG 305 Creative Writing: Non-fiction **3 credits**
Models are studied, and students read and respond to one another's writing. Prerequisite: ENG 205 with a minimum grade of "C."

ENG 331 Literature and Ethnicity: Studies in: **3 credits**
A focus on United States literatures reflective of specific identities and cultures. Students examine format and thematic characteristics of a particular literature. To enhance critical understanding, students read and analyze relevant theoretical approaches to race, ethnicity, and culture. A specific focus is announced each time the course is taught. Examples include Native American, African American, and Borderlands literature. Course may be repeated once for credit with a different title, but may be counted only once toward the major. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 334 Poetry: Studies in: **3 credits**
An in-depth study of poetry as a genre through selections of British, American, and world literature. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 335 Drama: Studies in: **3 credits**
An in-depth study of drama as a genre through selections of British, American, and world literature. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 336 Prose: Studies in: **3 credits**
A focus on prose fiction, including such genres as short stories, novellas, and novels. Depending upon the instructor's specific emphasis, examples of any one or more of these genres may be selected for the term. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 337 Women Writers **3 credits**
Analysis of the poetry, drama, or fiction of women writers. Emphasis is on 19th century, 20th century, or contemporary writers. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 352 Children's Literature **2 credits**
A survey of traditional and modern literature providing an opportunity to discuss topics such as reader-response theories, critical literacy, objective and subjective criticism, censorship, and the use—or misuse—of literature in primary and middle-level education.

ENG 358 Global Literatures: Studies in: **3 credits**
A study of literatures from around the globe that considers the artistry, culture, and diverse social conditions of various countries. A specific focus is announced each time the course is offered. Possible topics may include "Colonialism and Globalization," "The Sacred Texts," and "War and Revolution." Course may be repeated once for credit with a different title, but may be counted only once toward the major. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 370 Myth and Culture **3 credits**
An introduction to the role of myth in literature and in our contemporary world. Examining myth from various perspectives, including the archetypal, the course focuses upon myth as a means for understanding aspects of our society's cultures. Offered in alternate years. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 371 Literary Theory and Criticism **3 credits**
An introduction to some of the primary conversations structuring debates in literary theory and criticism. Students learn to identify central questions, assumptions, and conflicts in theoretical and critical texts. Students also gain an understanding of the ways that theory and criticism influence their immediate experiences in English courses. Prerequisites: ENG 250 with a minimum grade of "C" and at least one 300-level literature course, or instructor permission.

ENG 372 British Literature: Medieval and Renaissance Texts **3 credits**
A study of British Literature focusing on the major genres for the Anglo-Saxon, Middle English, and Renaissance periods, ending with the Metaphysical poets (800 A.D. to early 1600s). Prerequisite: ENG 250 with a minimum grade of "C."

ENG 373 British Literature: Milton through the Romantics **3 credits**
A study of British works of poetry, fiction, drama, and essay produced from 1660 to 1830. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 374 British Literature: The Victorians to the Present Day **3 credits**
A study of British works of poetry, fiction, drama, and essay produced from 1830 to the present day. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 384 American Literature–Early to Civil War **3 credits**
An exploration of authors and texts in American literature up to 1865. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 385 American Literature–Civil War to Present **3 credits**
An exploration of authors and texts in American literature from 1865 to the present. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 394 Junior Seminar: Studies in: **3 credits**
Students comprehensively engage a given topic and the critical conversations pertaining to it. The research component of the course allows students to participate in and extend scholarly dialogue. A specific focus is announced each time the course is offered. Prerequisites: ENG 250 with a minimum grade of "C" and ENG 371.

ENG 396 Writing Center Assistantship **1-3 credits**
Students apply knowledge obtained in ENG 240 in directed field experiences in Writing Center tutoring. Prerequisite: ENG 240.

ENG 397 Special Topics **1-6 credits**
A study of a particular topic of interest to students of English to be announced each time the course is offered. Course may be repeated once for credit with a different title, but may be counted only once toward the major. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 405 Advanced Writing **3 credits**

An opportunity to deepen writing practiced at the junior level, with increased attention to voice and style. This course seeks to develop an awareness of the broader community of writers that includes those with not only similar but also differing writing goals. Prerequisites: ENG 250 with a minimum grade of "C" and at least two 300-level writing courses.

ENG 445 Literary Magazine Submission and Production **3 credits**

Focus alternates between literary magazine submissions and literary magazine production. Submission discussion includes aesthetics and techniques for revising and polishing work for submission. During the production focus students participate in the editorial production of a fiction anthology including acquisition and proofreading of manuscripts. Course may be repeated for up to six credits, only three credits of which may count as an elective in the major. Prerequisite: ENG 250 with a minimum grade of "C"; ENG 300, ENG 301, ENG 303, or ENG 305 with a minimum grade of "C"; or instructor permission.

ENG 463 Major British Authors: **3 credits**

An in-depth study of selected, significant authors that approaches works from similar or cross-historical periods of British literature. Course may be repeated once for credit when taken with a different emphasis. Prerequisites: ENG 250 with a minimum grade of "C" and minimum junior standing.

ENG 464 Major American Authors: **3 credits**

An in-depth study of selected, significant authors that approaches works from similar or cross-historical periods of American literature. Course may be repeated once for credit when taken with a different emphasis. Prerequisites: ENG 250 with a minimum grade of "C" and minimum junior standing.

ENG 475 Theories of Reading and Writing Discourse **3 credits**

A focus on composition and writing center theory and its practical applications. In addition to taking the course, students work with a faculty member in a lower-division English course or in the writing center in order to implement theoretical material in teaching situations. The course may be repeated twice for credit. Only three credits may count toward a major or minor in English. Graded Satisfactory/Unsatisfactory only. Prerequisite: instructor permission.

ENG 492 Independent Study **1-6 credits**

An opportunity for individual study about topics in English, to be selected by the students, in cooperation with their advisors and with the permission of the regular faculty member supervising the study. A maximum of six credits may count toward a major in English. The course is repeatable until that maximum credit is met. Prerequisites: 12 credits of English; ENG 250 with a minimum grade of "C."

ENG 494 Senior Seminar: Studies in: **3 credits**

The Senior Seminar serves as the Standard Major's capstone experience and focuses on announced thematic topics that allow students to demonstrate competencies developed in the major. The theme or topic is announced for each spring. Prerequisite: ENG 394 and senior standing; or instructor permission.

ENG 497 Special Topics **1-6 credits**

A study of a particular topic of interest to students of English to be announced each time the course is offered. Course may be repeated once for credit with a different title, but may be counted only once toward the major. Prerequisite: ENG 250 with a minimum grade of "C."

ENG 499 Internship in English **1-6 credits**

Supervised practical experiences in English for advanced students. Prerequisite: junior or senior standing and instructor permission.

ENVIRONMENT AND SUSTAINABILITY (ENVS)

The Environment and Sustainability Program focuses on the interactions of humans and the natural environment. Specifically, the Program studies the structure and function of natural systems, examines how social, political, and economic activity impacts those systems, and experiments with resilient solutions to unsustainable human impacts.

Goals of the Environment and Sustainability Program include:

- Applying the knowledge and methods of natural sciences to understand and analyze environmental problems and solutions.
- Implementing social science findings and frameworks to develop local, national, and global sustainable solutions.
- Using the insights of environmental history, literature, and ethics to inform current decision making.
- Developing interdisciplinary critical thinking, communication, and problem-solving skills to foster community and ecological resilience.
- Fostering leadership in sustainability, effective environmental citizenship, and career and advanced study opportunities in environmental fields.

FACULTY

MEM in Integrative & Public Land Management Coordinator and Assistant Professor of ENVS, Melanie Armstrong;
MEM in Sustainable & Resilient Communities Coordinator, Resilient Studies Consortium Coordinator, and Lecturer of ENVS, Scott Borden;
Dean of the School of Graduate Studies and Assistant Professor of ENVS, Abel Chavez;
Director of Undergraduate ENVS and Lecturer of ENVS, Kate Clark,;
Associate Professor of ENVS and Biology, Jonathan Coop;
;Executive Director of Coldharbour Institute and Lecturer of ENVS, Suzanne Ewy;
Dean of the School of ENVS, Director of MEM, and Professor of ENVS and Philosophy John C. Hausdoerffer;
Assistant Professor of ENVS, Corrie Knapp;
Director of the Colorado Water Workshop and Professor of ENVS; Jeffrey Sellen;
MEM in Global Sustainaibility Coordinator and Professor of ENVS, Jessica Young;
Lecturer of ENVS and Honors Karen Hausdoerffer;
Lecturer of ENVS; Loren Ahonen, Luke Danielson, Jennie DeMarco, Dave Ellerbroek, Sally Thode, Tayrn Mead,

ENVIRONMENT AND SUSTAINABILITY COUNCIL

ENVS Director, Jeffrey Sellen;
Biology, Kevin D. Alexander;
ENVS, Biology, Jonathan D. Coop;
Business Administration, Christopher W. Greene;
ENVS, Philosophy, John C. Hausdoerffer;
Communication, Jack F. Lucido;
Physics, John Mason;
Recreation and Outdoor Education, M. Brooke Moran; Matthew H. Ebbott;
Anthropology, Lynn L. Sikkink;
History, Heather Thiessen-Reily.

DESCRIPTION OF THE PROGRAMS

Environment and Sustainability Major: Standard Program

A minimum of 39 credits is required.

ENVS 100 Introduction to Environment and Sustainability	3 cr
ENVS 200 Writing the Environment	3 cr
ENVS 301 Science of Sustainability and Resilience	3 cr
ENVS 350 U.S. and Western Environmental Politics	3 cr
ENVS 390 Environmental Monitoring	4 cr
ENVS 400 Applied Sustainability	3 cr
ENVS 410 Environmental Ethics	3 cr
One of the following:	
ENVS 360 Global Environmental Policy	3 cr
ENVS 370 Water Policy and Politics	3 cr
ENVS 375 Seminar in Water Topics	3 cr
Required supporting courses:	
BIOL 130 Environmental Biology	3 cr

BIOL 135 Environmental Biology Lab	1 cr
PHYS 125 Energy and the Environment	3 cr
ECON 215 Environmental Economics	3 cr
One of the following:	
HWTR 200 This Is the Headwaters	1 cr
HWTR 398 Headwaters Conference	1 cr
And one of the following:	
ECON 216 Statistics for Business and Economics	3 cr
MATH 113 Statistical Thinking	3 cr
MATH 213 Probability and Statistics	3 cr
SOC 211 Quantitative Research Methods	3 cr

Environment and Sustainability Major: Comprehensive Program

Students have two options for a comprehensive major: a 62-credit Water Emphasis or the 57-credit Individualized Contract.

WATER EMPHASIS

A minimum of 62 credits is required.

ENVS 100 Introduction to Environment and Sustainability	3 cr
PHYS 125 Energy and the Environment	3 cr
BIOL 130 Environmental Biology	3 cr
BIOL 135 Environmental Biology Lab	1 cr
GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Lab	1 cr
ENVS 200 Writing the Environment	3 cr
ECON 215 Environmental Economics	3 cr
ENVS 301 Science of Sustainability and Resilience	3 cr
GEOG 340 Introduction to Geographic Information Systems	3 cr
ENVS 350 U.S. & Western Environmental Politics	3 cr
ENVS 370 Water Policy and Politics	3 cr
ENVS 373 The Water Planet	3 cr
ENVS 375 Seminar in Water Topics	1-3 cr
ENVS 376 The Colorado Water Workshop	1 cr
ENVS 390 Environmental Monitoring	4 cr
ENVS 400 Applied Sustainability	3 cr
ENVS 410 Environmental Ethics	3 cr
One of the following:	
HWTR 200 This Is the Headwaters	1 cr
HWTR 398 Headwaters Conference	1 cr
One of the following:	
ECON 216 Statistics for Business and Economics	3 cr
MATH 113 Statistical Thinking	3 cr
MATH 213 Probability and Statistics	3 cr
SOC 211 Quantitative Research Methods	3 cr
Two of the following:	
ROE 293 Outdoor Pursuits Education—Water Based	3 cr
ECON 370 Natural Resource Economics	3 cr
ENVS 360 Global Environmental Policy	3 cr
BUAD 410 Water and Environmental Law	3 cr
BIOL 476 Aquatic Ecology (with Lab)	4 cr
One of the following:	
ENVS 420 Natural History of the Gunnison Basin	3 cr
ENVS 430 Watersheds of the World	3 cr
ENVS 499 Environmental Studies Internship	3-6 cr

*Admission to Recreation and Outdoor Education courses for declared Water Emphasis students is based on instructor permission and available seats.

INDIVIDUALIZED CONTRACT EMPHASIS

This Emphasis allows students to design a curriculum in consultation with an Environment and Sustainability advisor and with the approval of the Environment and Sustainability Council. A minimum of 57 credits is required including the 39-credit Standard Major. Proposals for an Individualized Contract should be developed before the second semester of the junior year, and applicants must have a minimum of a 3.200 GPA in the major and a 3.000 overall GPA. Consult an Environment and Sustainability advisor for details.

Environment and Sustainability and Business Administration Coordinated Double Major:
If a student elects to complete an Environment and Sustainability Major: Standard Program and the coordinated Business Administration Major: Standard Program, the student must take ECON 202 Microeconomics instead of ECON 215 Environmental Economics; and ENVS 360 Global Environmental Policy must be elected. ECON 216 must be elected, with MATH 140 as its prerequisite.

Environmental Management Emphasis (with a 3+2 Master in Environmental Management)

The Environmental Management emphasis allows students to complete the B.A. in Environment and Sustainability (ENVS) and the Master in Environmental Management (MEM) at Western in five years. To remain qualified for the 3+2, upon earning 66 credits each student must have:

- maintained a 3.0 cumulative GPA and a 3.25 GPA within the major;
- earned a B or above in two social science, two natural science (one with lab), and one statistics course;
- fulfilled the 3-credit Internship requirement with a B or above and positive letter from the project sponsor;
- provided three letters of recommendation, at least one of which is to be a professional reference and at least one of which is to be an academic reference from the student's major at Western;
- written a Statement of Purpose to the MEM program, detailing early career ambitions and ideas and connections for the eventual master's Project.

At this point, if any aspect of a student's performance is found to be insufficient, the MEM Director may reject a 3+2 student from the MEM program, in which case the student will need to find a new emphasis or minor in order to complete the undergraduate degree. Upon meeting the requirements above, and after Junior Year (reaching 91 credits in this plan—see "MAJOR MAP" at western.edu/3_2) holding to the same GPA and general performance standards outlined above, the School of Graduate Studies will designate students as "MEM candidates with provisional acceptance." Upon completion of the final 29 credits of the Western B.A. in Year Four of this plan, the School of Graduate Studies will designate students as "MEM degree seeking students." Students who have completed all other requirements of the 3+2 program and all Western undergraduate requirements, yet choose to leave the MEM program before Year 5, will still have completed the undergraduate emphasis in Environmental Management and have earned the 120 credits necessary for a Western undergraduate degree.

ENVIRONMENTAL MANAGEMENT EMPHASIS (WITH A 3+2 MEM)
A minimum of 65 credits is required for the B.A. components of the emphasis.

ENVS 100 Introduction to Environment & Sustainability	3 cr
ENVS 200 Writing the Environment	3 cr
ENVS 301 Science of Sustainability and Resilience	3 cr
ENVS 350 U.S. and Western Environmental Politics	3 cr
ENVS 390 Environmental Monitoring	4 cr
ENVS 400 Applied Sustainability	3 cr
ENVS 410 Environmental Ethics	3 cr
ENVS 499 Internship in Environment & Sustainability	3 cr
Required supporting courses:	
BIOL 130 Environmental Biology	3 cr
BIOL 135 Environmental Biology Lab	1 cr
ECON 215 Environmental Economics	3 cr
PHYS 125 Energy and the Environment	3 cr
One of the following:	
ENVS 360 Global Environmental Policy	3 cr
ENVS 370 Water Policy and Politics	3 cr
GEOG 340 Introduction to Geographic Information Systems	3 cr
One of the following:	
HWTR 200 This Is the Headwaters	1 cr
HWTR 398 Headwaters Conference	1 cr
One of the following:	
ECON 216 Statistics for Business and Economics	3 cr
MATH 113 Statistical Thinking	3 cr
MATH 213 Probability and Statistics	3 cr
SOC 211 Quantitative Research Methods	3 cr

Core MEM Courses

ENVS 601 Introduction to Environmental Management	5 cr
ENVS 605 Science of Environmental Management	3 cr
ENVS 608 Environmental Politics and Policy	3 cr
ENVS 611 Integrative Skills for Environmental Management	3 cr

ENVS 612 Quantitative Skills for Environmental Management	3 cr
ENVS 615 Science of Climate Mitigation and Adaptation	3 cr
One of the following from the MEM Emphases:	
Sustainable and Resilient Communities Emphasis:	
ENVS 616 Environmental Organizational Development and Management	3 cr
Global Sustainability Emphasis:	
ENVS 617 Global Sustainability	3 cr
Integrative and Public Land Management Emphasis:	
ENVS 618 Public Lands Management	3 cr

Upon successful completion of the prescribed courses listed above, University defined General Education, and elective requirements totaling 120 credits (with 40 at the 300-level or higher), students are eligible for their B.A. conferral. Students electing to complete MEM must follow the balance of their declared emphasis curriculum:

MEM Sustainable and Resilient Communities Emphasis (beyond required Core courses)

Nine Credits of:

ENVS 623 Studies in Environmental Management	1-6 cr
and/or	
ENVS 620 Studies in Sustainable and Resilient Communities	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*****Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

MEM Integrative and Public Land Management Emphasis (beyond required Core courses)

Nine Credits of:

ENVS 623 Studies in Environmental Management	1-6 cr
and/or	
ENVS 625 Studies in Integrative and Public Land Management	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

MEM Global Sustainability Emphasis (beyond required Core courses)

Nine credits of (choose any combination with a global theme):

ENVS 620 Studies in Sustainable and Resilient Communities	3 cr
ENVS 623 Studies in Environmental Management	1-6 cr
ENVS 625 Studies in Integrative and Public Land Management	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

Environment and Sustainability Minor

A minimum of 18 credits is required for a Minor in Environment and Sustainability including twelve credits of ENVS or HWTR electives, and the following:

ENVS 100 Intro to Environment and Sustainability	3 cr
ENVS 200 Writing the Environment	3 cr

Capstone Course Requirement. The following course in the Environment and Sustainability Major fulfills the capstone course requirement: Applied Sustainability.

ENVIRONMENT AND SUSTAINABILITY COURSES

ENVS 100 Introduction to Environment and Sustainability **3 credits**
An interdisciplinary, historical analysis of the development of environmental problems, movements, and philosophies. Students apply historical lessons to critically examine sustainable solutions locally and globally. GT-SS2

ENVS 197 Special Topics **1-6 credits**

ENVS 200 Writing the Environment **3 credits**
Students develop communication skills through presentations and writing on a variety of environmental issues appropriate to a wide variety of audiences. Through environmental essays, writing for nonprofit websites, grant proposals, and other forms of environmental writing, students are introduced to a broad range of skills needed for effective communication. Focus throughout the course on the analysis of arguments and texts further develops students' analytical and communication skills. Prerequisite: ENVS 100; COM 202 is recommended.

ENVS 292 Independent Study **1-3 credits**

ENVS 297 Special Topics **1-6 credits**

ENVS 301 Science of Sustainability and Resilience **3 credits**
A holistic inquiry into how humans might live the next chapter of our history, guided by the ecological principles of sustainability and resilience. Environmental problems and their possible solutions are analyzed critically and quantitatively; field experiences on campus and in the community involve students directly in the application of these principles. Themes include sustainable agriculture, green building, renewable energy, and conservation and restoration. Prerequisites: BIOL 130, BIOL 135, PHYS 125.

ENVS 350 U.S. and Western Environmental Politics **3 credits**
An historical and contemporary investigation of U.S. environmental policies with an applied focus on the impact of national policy on the ecosystems and cultures of the American West. Reciprocally, this course traces how public lands agencies, social movements, historical land uses, and diverse cultures in the West shape U.S. environmental policy. Students combine analysis and discussion of major U.S. policies, prominent theories and issues, and student-led environmental service projects to better understand environmental challenges. Prerequisites: ENVS 100, ENVS 200 or COM 202, ECON 370.

ENVS 360 Global Environmental Policy **3 credits**
A critical examination of key perspectives, economic and political processes, policy actors, and institutions involved in global environmental issues. Students analyze ecological, cultural, and social dimensions of international environmental concerns and governance as they have emerged in response to increased recognition of global environmental threats, globalization, and international contributions to understanding of these issues. The focus of the course encourages students to engage and evaluate texts within the broad policy discourse on globalization, justice, and the environment. Prerequisites: ENVS 100; ENVS 200, ECON 201 or SCI 202; junior standing or instructor approval.

ENVS 370 Water Policy and Politics **3 credits**
Study of the history, politics and institutions related to water policy and administration with comparative reference to different regions of the United States and internationally. Attention is given to the industrial development of the East and the created water resources of the arid West as a way to understand changing social sentiments toward water and water policy. The course also examines water pollution laws and water management. Prerequisites: ENVS 100; ECON 201 or ENVS 200 or SCI 202; junior standing or instructor approval.

ENVS 373 The Water Planet **3 credits**
An advanced water science course specifically designed for students interested in water related environmental science and policy. Topics include the physical and chemical properties of natural fresh waters and the movement and reservoirs of fresh water within the water cycle. The course includes several hands-on exercises and field experiences where students investigate and analyze natural waters in the Gunnison Basin. Prerequisites: GEOL 101; GEOL 105, and one of the following: CHEM 101 or CHEM 111.

ENVS 375 Seminar in Water Topics **1-3 credits**
An occasional offering that may include water topics in politics and policy, ethics and philosophy, or science. Prerequisite: ENVS 200 and ENVS 301, or instructor permission.

ENVS 376 The Colorado Water Workshop **1 credit**
A three-day annual conference bringing students together with a variety of water users, managers, ranchers, environmentalists, regulators and others involved in water issues for presentations and discussion on matters ranging from specific municipal or water district projects to major basin-wide planning for the great rivers of the West to global issues of water use and protection. Topics vary from year to year. Prerequisite: ENVS 350 and ENVS 370, or instructor permission.

ENVS 390 Environmental Monitoring **4 credits**
A field-work based study of local (Gunnison Basin) environmental problems. Numerous monitoring techniques are implemented based on principles of biology, chemistry, and geology. The emphasis is on collaborative and integrative group projects dealing directly with real-world environmental problems. Prerequisites: ENVS 301 and one of the following: ECON 216, MATH 213, or SOC 211.

ENVS 392 Independent Study **1-6 credits**

ENVS 397 Special Topics **1-6 credits**

ENVS 400 Applied Sustainability **3 credits**
A field-based, collaborative, problem-solving experience that addresses a current issue in environmental sustainability. Implementing frameworks such as resilient and systems thinking, students collect information, analyze results, write a report, publicly present their findings, and begin to implement solutions informed by their analysis. Students learn basic skills for transforming their ENVS education into compelling environmental professional career possibilities. Prerequisites: ENVS 350 and ENVS 390.

ENVS 410 Environmental Ethics **3 credits**

A seminar on the complexities of environmental issues from a philosophical perspective. The course also offers a survey of the evolution of environmental moral philosophy as well as in-depth analysis of major thinkers in the field. Students confront ethical concerns from both historical and personal perspectives, with an emphasis on the ability to critically evaluate and apply these perspectives to their work in environmental fields. Prerequisite: ENVS 301 and 350; or PHIL 335.

ENVS 420 Natural History of the Gunnison Basin **3 credits**

An overview of place-based natural history, current ecological research, and current environmental issues facing the region. Prerequisites: ENVS 100 and instructor permission.

ENVS 430 Watersheds of the World **3 credits**

This field course is designed to provide students with an introduction to important science and policy issues in selected watersheds throughout the world. Students receive an overview of place-based natural history, current ecological research, and current environmental issues and policy facing the region. Examples include the local and global effects of resource extraction, tourism, air and water pollution, land use changes, and global climate change. This is an expedition course (approximately 3 weeks) and is experiential in nature. Prerequisites: ENVS 100 and instructor permission.

ENVS 497 Special Topics **1-6 credits**

ENVS 499 Internship in Environmental Studies **1-6 credits**

An opportunity to apply skills and knowledge from course work to an employment setting. Prerequisite: approval from an Environment and Sustainability advisor and the Program Director.

ENVIRONMENTAL SCIENCE

Environmental science, by its broad scope, includes a diverse range of disciplines in the natural and physical sciences, and mathematics. The multidisciplinary Environmental Science minor is intended to complement many majors. The minor will encourage students to better understand environmental issues and concepts from a scientific perspective. This will broaden their perception of the natural world and society by allowing them to recognize and address the challenges of the future. The minor enhances both career and graduate school opportunities for students who complete it.

DESCRIPTION OF THE PROGRAM

Environmental Science Minor

A minimum of 23 credits is required including:

One of the following:	
MATH 213 Probability and Statistics	3 cr
MATH 151 Calculus 1	4 cr
At least 13 credits chosen from at least three disciplines (including two labs) from the following:	
BIOL 130 Environmental Biology	3 cr
BIOL 135 Environmental Biology Laboratory	1 cr
BIOL 150 Biological Principles with Laboratory	4 cr
BIOL 151 Diversity & Patterns of Life with Laboratory	4 cr
CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry I Laboratory	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry II Laboratory	1 cr
GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr
PHYS 120 Meteorology	3 cr
PHYS 125 Energy and the Environment	3 cr
And at least six credits chosen from the following but cannot count toward another minor or another major:	
BIOL 301 General Ecology	3 cr
BIOL 302 General Ecology Laboratory and Recitation	2 cr
BIOL 440 Conservation Biology	3 cr
CHEM 231 Introduction to Organic Chemistry and Biochemistry	3 cr
CHEM 234 Introduction to Organic Chemistry and Biochemistry Laboratory	1 cr
CHEM 306 Analytical Chemistry with Laboratory	4 cr
ENVS 373 Water Planet	3 cr
ENVS 390 Environmental Monitoring	4 cr
GEOL 240 Intro to Petroleum Geology	3 cr
GEOL 320 Geomorphology with Laboratory	4 cr
And:	
SCI 400 Environmental Science Seminar	1 cr

EXERCISE AND SPORT SCIENCE (ESS)

The mission of the Exercise and Sport Science Program is to prepare students for careers focused on promoting healthy lifestyles and enhancing performance in exercise, sport, and physical activity settings. Students with a major or minor in Exercise and Sport Science can pursue entry-level careers in teaching, fitness, sport, and wellness in both private and public sectors. The Exercise and Sport Science Program also provides students with the background necessary to complete professional certifications and pursue a graduate degree in physical therapy and other allied health fields, exercise physiology, cardiac rehabilitation, or sport studies.

To graduate, all exercise and sport science majors must complete ESS 181 Foundations of Exercise and Sport Science and ESS 185 Lifetime Wellness with a minimum grade of "C":

FACULTY

Professor Kathleen M. Kinkema;
Associate Professors Christina A. Buchanan and Lance Dalleck;
Assistant Professors Peter Kadushin and Crystal Southall;
Lecturers Angela Dalleck, Brett Miramon.

DESCRIPTION OF THE PROGRAMS

Exercise and Sport Science Nucleus:

ESS 181 Foundations of Exercise and Sport Science	3 cr
ESS 185 Lifetime Wellness	3 cr
ESS 320 Psychology of Sport and Physical Activity	3 cr
ESS 490 Sociology of Sport and Physical Activity	3 cr
ESS Capstone*: ESS 495, EDUC 410, or ESS 498	3 cr

*EDUC 410 is a capstone option for K-12 Physical Education majors seeking Colorado licensure; ESS 498 is a capstone option for the ESS Standard Emphasis.

Exercise and Sport Science Major: Standard Program

EXERCISE AND SPORT SCIENCE EMPHASIS

A minimum of 38 credits is required, including the 15-credit Exercise and Sport Science Nucleus, First Aid/CPR competency, and the following:

ESS 201 Essentials of Human Anatomy and Physiology (with laboratory)	4 cr
ESS 275 Motor Development and Learning	3 cr
ESS 330 Exercise Physiology	3 cr
ESS 331 Exercise Physiology Lab	1 cr
ESS 380 Biomechanics	3 cr
Three of the following:	
ESS 282 Principles of Sport and Fitness Management	3 cr
ESS 290 Curriculum Development and the Learning Environment	3 cr
ESS 340 Mental Training for Peak Performance	3 cr
ESS 346 Psychology of Coaching	3 cr
ESS 355 Psychology of Injury	3 cr
ESS 360 Nutrition for Wellness and Performance	3 cr
ESS 363 Adapted Physical Activity	3 cr
ESS 365 Topics in Physical Activity	3 cr
ESS 370 Essentials of Strength Training and Conditioning	3 cr
ESS 382 Management of Sport and Fitness Facilities	3 cr
ESS 385 Program Design for Physical Activity Settings	3 cr
ESS 392 Methods of Secondary Activities	3 cr
ESS 395 Methods of Elementary Activities	3 cr
ESS 396 Methods of Alternative Physical Education	3 cr
ESS 410 Assessment and Exercise Prescription	3 cr
ESS 430 Topics in Clinical Exercise Physiology	3 cr
ESS 450 Risk Management in Physical Activity Settings	3 cr

Exercise and Sport Science Major: Comprehensive Program

CLINICAL EXERCISE SCIENCE EMPHASIS

A minimum of 73 credits is required, including the 15-credit Exercise and Sport Science Nucleus, First Aid/CPR competency and the following:

BIOL 150 Biological Principles (with laboratory)	4 cr
BIOL 372 Human Anatomy and Physiology I (with laboratory)	4 cr
BIOL 373 Human Anatomy and Physiology II (with laboratory)	4 cr
CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
ESS 275 Motor Development and Learning____	3 cr
ESS 298 Fitness Instruction__	3 cr
ESS 330 Exercise Physiology	3 cr
ESS 331 Exercise Physiology Lab	1 cr
ESS 380 Biomechanics	3 cr
ESS 390 Exercise Biochemistry	3 cr
ESS 410 Assessment and Exercise Prescription	3 cr
ESS 411 Wellness Elevated I	3 cr
ESS 430 Topics in Clinical Exercise Physiology	3 cr
ESS 431 Wellness Elevated II	3 cr
MATH 140 College Algebra	3 cr
PHYS 140 Introductory Physics (with laboratory)	3 cr
One of the following:	
BIOL 300 Basic Nutrition	3 cr
ESS 360 Nutrition for Wellness and Performance	3 cr

Chiropractic Education. Western has a 3+1 agreement with Palmer College of Chiropractic. Students must complete 90 credits at Western, including General Education and the Clinical Exercise Science Emphasis. Students who meet Palmer's entrance requirements may enroll at one of the three Palmer campuses, and after successful completion of the first year of the D.C. program, receive credit for completion of their fourth year at Western, transferring Palmer credits back to Western in order to complete their undergraduate degree. Appropriate coursework should be taken in consultation with an academic advisor.

HEALTH AND FITNESS EMPHASIS

A minimum of 62 credits is required, including the 15-credit Exercise and Sport Science Nucleus, First Aid/CPR Competency and the following:

ESS 201 Essentials of Anatomy and Physiology (with laboratory)	3 cr
ESS 275 Motor Development and Learning	3 cr
ESS 298 Fitness Instruction	3 cr
ESS 330 Exercise Physiology	3 cr
ESS 331 Exercise Physiology Lab	1 cr
ESS 370 Essentials of Strength Training and conditioning	3 cr
ESS 380 Biomechanics	3 cr
ESS 385 Program Design for Physical Activity Settings	3 cr
ESS 410 Assessment and Exercise Prescription	3 cr
ESS 411 Wellness Elevated I	3 cr
ESS 450 Risk Management in Physical Activity Settings	3 cr
One of the following:	
BIOL 300 Basic Nutrition	3 cr
ESS 360 Nutrition for Wellness and Performance	3 cr
One of the following:	
ESS 382 Sport and Fitness Facility Management	3 cr
ROE 466 Facilities Management	3 cr
Three of the following:	
ESS 340 Mental Training for Peak Performance	3 cr
ESS 355 Psychology of Injury	3 cr
ESS 363 Adapted Physical Activity	3 cr
ESS 365 Topics in Physical Activity	3 cr

K-12 PHYSICAL EDUCATION EMPHASIS

A minimum of 54 credits is required, including the 15-credit Exercise and Sport Science Nucleus, First Aid/CPR competency and the following:

ESS 201 Essentials of Human Anatomy and Physiology (with laboratory)	4 cr
ESS 275 Motor Development and Learning	3 cr
ESS 290 Curriculum Development and the Learning Environment	3 cr
ESS 330 Exercise Physiology	3 cr
ESS 331 Exercise Physiology Lab	1 cr
ESS 350 Assessment and Technology in Physical Education	2 cr
ESS 353 Coordinated School Health and Physical Activity Programs	2 cr
ESS 363 Inclusive Physical Activity	3 cr
ESS 380 Biomechanics	3 cr
ESS 392 Methods of Secondary Activities	3 cr
ESS 395 Methods of Elementary Activities	3 cr
ESS 396 Methods of Alternative Physical Education	3 cr
One of the following:	
ROE 189 Principles of Outdoor Education	3 cr
ESS 298 Fitness Instruction	3 cr
Three of the following:	
ESS 210 Skill Development and Analysis: Net/Wall Games	1 cr
ESS 211 Skill Development and Analysis: Invasion Games	1 cr
ESS 212 Skill Development and Analysis: Target/Fielding Games	1 cr
ESS 213 Skill Development and Analysis: Dance	1 cr

*Students seeking Colorado licensure must fulfill the requirements for K-12 Physical Education Licensure (see description under Education).

SPORT AND FITNESS MANAGAEMENT EMPHASIS

A minimum of 55 credits is required, including the 15-credit Exercise and Sport Science Nucleus, First Aid/CPR competency and the following:

ACC 201 Introduction to Financial Accounting	3 cr
ACC 202 Introduction to Managerial Accounting	3 cr
ECON 202 Microeconomics	3 cr
ESS 282 Principles of Sport and Fitness Management	3 cr
ESS 385 Program Design for Physical Activity Settings	3 cr
ESS 405 Practicum in Exercise and Sport Science	1 cr
ESS 440 Topics in Sport Management (must be taken twice)	6 cr
ESS 450 Risk Management in Physical Activity Settings	3 cr
ESS 498 Internship in Exercise and Sport Science	3 cr
MATH 140 College Algebra	3 cr
ROE 333 Recreation and Sport Marketing	3 cr
One of the following:	
BUAD 220 Computer Applications in Business	3 cr
CS 120 Professional Computer Skills	3 cr
One of the following:	
ESS 382 Sport and Fitness Facility Management	3 cr
ROE 466 Facilities Management	3 cr

CLINICAL EXERCISE PHYSIOLOGY EMPHASIS (with HAEP 3+2)

The Clinical Exercise Physiology Emphasis allows students to complete the BS in ESS and the MS in High Altitude Exercise Physiology (HAEP) at Western in five years. Students in this emphasis must fulfill all the HAEP application requirements by the time they complete 97 credits. Admissions requirements for the HAEP program are listed below.

To remain qualified for the Clinical Exercise Physiology Emphasis, upon earning 65 credits by the end of the second year, the student must have:

- Maintained a 3.0 cumulative GPA and a 3.25 GPA within the major.
- Completed ESS 181, ESS 185, all 100 level major science courses, 21 credits of general education (not including AREA II: Natural Sciences), and the Biology Human Anatomy and Physiology sequence (BIOL 372/373).
- Written, submitted and discussed a Letter of Intent with the HAEP program Director and his or her advisor. The Letter of Intent should include preliminary research interests and career goals. This letter will be kept on file with the School of Graduate Studies in partial fulfillment of the application to the HAEP program.

Upon earning 97 credits by the end of the third year, the student must have:

- Completed all undergraduate course requirements for the Clinical Exercise Physiology track (except for ESS 410: Assessment and Exercise Prescription and ESS 412: Exercise Biochemistry, which will be taken in the fall and spring, respectively, of the fourth year). Please note: a student may elect to take ESS 498: Internship during the summer before his or her fourth year. See MAJOR MAP at western.edu/ess.
- Completed the GRE with a minimum of 150 for Verbal and Quantitative Reasoning and 4.5 for Analytical Writing. GRE scores will be kept on file with the School of Graduate Studies in partial fulfillment of the application to the HAEP program.
- Requested, and the School of Graduate Studies must have received, two letters of recommendation. At least one letter must be from a Western faculty member. Recommendation letters will be kept on file with the School of Graduate Studies in partial fulfillment of the application to the HAEP program.
- Submitted a current resume. The resume will be kept on file with the School of Graduate Studies in partial fulfillment of the application to the HAEP program.

Upon satisfying all the requirements listed above, the School of Graduate Studies will consider the student a "HAEP candidate with provisional acceptance."

Upon earning 121 credits by the end of the fourth year, the student must have:

- Completed ESS 410: Assessment and Exercise Prescription and ESS 412: Exercise Biochemistry.
- Maintained a 3.0 cumulative GPA and a 3.25 GPA within the major.
- Completed 18 graduate level ESS credits, with at least a 3.0 GPA.

At this time, the School of Graduate Studies will consider the student a "HAEP M.S. degree seeking student."

CLINICAL EXERCISE PHYSIOLOGY EMPHASIS (with HAEP 3+2)

A minimum of 81 credits is required for the BS. The following is required for the Comprehensive Program with Five-Year MS in High Altitude Exercise Physiology, in addition to First Aid/CPR competency, and the following:

ESS 181 Foundations of Exercise and Sport Science	3 cr
ESS 185 Lifetime Wellness	3 cr
ESS 298 Fitness Instruction	3 cr
ESS 330 Exercise Physiology	3 cr
ESS 331 Exercise Physiology Lab	1 cr
ESS 380 Biomechanics	3 cr
ESS 405 Practicum in Exercise and Sport Science	1 cr
ESS 410 Assessment and Exercise Prescription	3 cr
ESS 412 Exercise Biochemistry	3 cr
ESS 430 Topics in Clinical Exercise Physiology	3 cr
ESS 498 Internship in Exercise and Sport Science	3 cr
BIOL 150 Biological Principles (with laboratory)	4 cr
BIOL 372 Human Anatomy and Physiology I (with laboratory)	4 cr
BIOL 373 Human Anatomy and Physiology II (with laboratory)	4 cr
CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
MATH 141 Pre-calculus	4 cr
MATH 213 Probability and Statistics	3 cr
PHYS 140 Introductory Physics (with laboratory)	4 cr
One of the following:	
BIOL 300 Basic Nutrition	3 cr
ESS 360 Nutrition for Wellness and Performance	3 cr

Year Four HAEP requirements (18 credits)

ESS 600 Advanced Statistics	3 cr
ESS 601 Quantitative Research Methods	3 cr
ESS 605 Exercise and Sport Science Testing and Instrumentation – Lab	3 cr
ESS 606 Exercise and Sport Science Testing and Instrumentation – Field	3 cr
ESS 640 Environmental Exercise Physiology I	3 cr
ESS 675 Clinical Exercise Programming - Lab	3 cr

Year five HAEP requirements (18 credits)

ESS 641 Environmental Exercise Physiology II	3 cr

ESS 650 Thesis Proposal Development	3 cr
ESS 695 Thesis	6 cr
And a minimum of 6 credits from the following:	
ESS 630 Clinical Exercise Physiology	3 cr
ESS 660 Health Promotion	3 cr
ESS 685 Cardiopulmonary Physiology	3 cr
ESS 692 Independent Study	1-3 cr
ESS 698 Practicum/Internship	1-6 cr

Exercise and Sport Science Minor

This Minor consists of 18 credits including:

One of the following:	
ESS 181 Foundations of Exercise and Sport Science	3 cr
ESS 185 Lifetime Wellness	3 cr
And:	
ESS electives at the 200-level or above (excluding ESS 276 and ESS 221-229)	9 cr
ESS upper-division electives	6 cr

Exercise and Sport Science Minor: Sport Psychology Concentration

This minor consists of 18 credits including:

ESS 320 Psychology of Sport and Physical Activity	3 cr
ESS 340 Mental Training for Peak Performance	3 cr
ESS 346 Psychology of Coaching	3 cr
ESS 355 Psychology of Injury	3 cr
One of the following:	
ESS 275 Motor Development and Learning	3 cr
ESS 490 Sociology of Sport and Physical Activity	3 cr
One of the following:	
PSY 368 Abnormal Psychology	3 cr
PSY 369 Health Psychology	3 cr

Capstone Course Requirement. The following course in the Exercise and Sport Science Major fulfills the capstone course requirement: ESS 495 Senior Seminar in Exercise and Sport Science. Students completing the K-12 Physical Education Emphasis may use EDUC 410 to fulfill this requirement. Students completing the ESS Standard or the Sport and Fitness Management Standard Emphasis may use ESS 498 to fulfill this requirement. Students completing the ESS Clinical Exercise Physiology Emphasis must use ESS 498 to fulfill this requirement.

EXERCISE AND SPORT SCIENCE COURSES

All Exercise and Sport Science service courses (numbered 100-172) are beginner level unless otherwise designated.

ESS 100 Intercollegiate Athletics: Basketball **1 credit**
Open to members of the intercollegiate athletic basketball team. May be taken one time for credit. Prerequisite: coach/instructor permission.

ESS 101 Intercollegiate Athletics: Cross Country **1 credit**
Open to members of the intercollegiate athletic cross country team. May be taken one time for credit. Prerequisite: coach/instructor permission.

ESS 102 Intercollegiate Athletics: Football **1 credit**
Open to members of the intercollegiate athletic football team. May be taken one time for credit. Prerequisite: coach/instructor permission.

ESS 103 Intercollegiate Athletics: Indoor Track **1 credit**
Open to members of the intercollegiate athletic indoor track team. May be taken one time for credit. Prerequisite: coach/instructor permission.

ESS 104 Intercollegiate Athletics: Outdoor Track **1 credit**
Open to members of the intercollegiate athletic outdoor track team. May be taken one time for credit. Prerequisite: coach/instructor permission.

ESS 105 Intercollegiate Athletics: Volleyball **1 credit**
Open to members of the intercollegiate athletic volleyball team. May be taken one time for credit. Prerequisite: coach/instructor permission.

ESS 106 Intercollegiate Athletics: Wrestling **1 credit**
Open to members of the intercollegiate athletic wrestling team. May be taken one time for credit. Prerequisite: coach/instructor permission.

ESS 107 Intercollegiate Athletics: Soccer **1 credit**
Open to members of the intercollegiate athletic soccer team. May be taken one time for credit. Prerequisite: coach/instructor permission.

ESS 108 Intercollegiate Athletics: Swimming **1 credit**
Open to members of the intercollegiate athletic swimming team. May be taken one time for credit. Prerequisite: coach/instructor permission.

ESS 112 Select Activities in Recreation, Exercise and Sport Science **1 credit**
A specific activity is offered as student interest, facilities, faculty, and equipment are available.

ESS 131 Physical Conditioning **1 credit**
Off-season conditioning activities for intercollegiate athletes. Students develop the knowledge of how to improve and maintain fitness relevant to their sport during the off-season. Prerequisite: Instructor Permission

ESS 132 Weight Training **1 credit**
The theory and practice of weight training. Information is presented concerning physiological and bio-mechanical adaptations accompanying resistive training, reasonable methods of improving athletic performance, and methods of resistance training that can lead to improved quality of life.

ESS 135 Mountain Bike Riding **1 credit**
Students develop general knowledge of and proficiency in the activity, equipment, safety procedures, and terminology of the fundamental skills of mountain bike riding.

ESS 160 Swimming (Beginning) **1 credit**
An introduction to swimming designed to equip the students with the basic water- safety skills and knowledge needed to be reasonably safe while in, on, or about the water.

ESS 161 Swimming (Intermediate) **1 credit**
Satisfactory completion of these skills leads to the Red Cross Intermediate and Swimmer's Certificate.

ESS 170 Lifeguard Training **2 credits**
Provides the individual with the knowledge and skills designed to save one's own life or the life of another in the event of an emergency, with certification by the American Red Cross.

ESS 172 Water Safety Instruction **3 credits**
Satisfactory completion of these skills leads to the Red Cross WSI Certificate.

ESS 181 Foundations of Exercise and Sport Science **3 credits**
An introduction to the field of exercise and sport science. An overview of philosophical, historical, and scientific foundations, current trends and issues, professional opportunities, and skills and competencies required for careers in a wide variety of physical activity settings.

ESS 185 Lifetime Wellness **3 credits**
Provides conceptual and experiential components designed as a basis for developing a healthier lifestyle.

ESS 197 Special Topics **1-6 credits**

ESS 201 Essentials of Human Anatomy and Physiology (with Lab) **4 credits**
An introduction to basic anatomy and physiology of all human systems. Lab and lecture are integrated. Prerequisite: minimum sophomore standing

ESS 210 Skill Development and Analysis: Net and Wall Games **1 credit**
Skill development and analysis in net and wall games, including tennis, volleyball, pickleball, handball, and badminton. Learning and application of content in a developmental model, history, scoring, rules, terminology, equipment, and safety considerations are included.

ESS 211 Skill Development and Analysis: Invasion Games **1 credit**
Skill development and analysis for invasion games, including soccer, lacrosse, team hand-ball, speedball, basketball, ultimate Frisbee, and flagball. Learning and application of content in a developmental model, history, scoring, rules, terminology, equipment, and safety considerations are included.

ESS 212 Skill Development and Analysis: Target and Fielding Games **1 credit**
Skill development and analysis for target and fielding games including bowling, archery, golf (traditional and disc), softball, and bocce. Learning and application of content in a developmental model, history, scoring, rules, terminology, equipment, and safety considerations are included.

ESS 213 Skill Development and Analysis: Dance **1 credit**
Skill development and analysis for a variety of dance forms including fitness, folk, country, social, and ballroom. Learning and application of content in a developmental model, history, scoring, rules, terminology, equipment, and safety considerations are included.

ESS 221 Methods of Coaching Football **2 credits**
The fundamental principles and play of football, including a basic defensive and offensive game plan, the fundamentals and techniques involved in coaching football, a basic outline of coaching the quarterback, the moral and ethical responsibilities of the coach to game participants, administration, etc., as well as coaching philosophy and interpretation of the rules.

ESS 223 Methods of Coaching Basketball **2 credits**
A study of individual fundamentals and techniques, as well as team offensive and defensive patterns and strategies involved in coaching basketball.

ESS 225 Methods of Coaching Wrestling **2 credits**
An introduction to all phases of wrestling. Fundamental movements and techniques, rule interpretations, and approved coaching ethics are covered.

ESS 227 Methods of Coaching Track and Field **2 credits**
The techniques and fundamentals of each track and field event. The course also includes the important phase of practical track meet management.

ESS 229 Methods of Coaching Volleyball **2 credits**
Lecture and discussion with research assignments and practicum work. An understanding of basic offenses (6-0 and 4-2), basic defensive coverage and rotations, service reception, and serving sets are presented.

ESS 275 Motor Development and Learning **3 credits**
An application of the knowledge of motor development and learning to physical activity across the lifespan. This class introduces the physiological, perceptual, and cognitive, as well as the affective changes that occur in motor development and learning across the lifespan. Prerequisite: ENG 102 with a minimum grade of "C-".

ESS 276 Emergency Response **3 credits**
Students are provided essential knowledge and skills needed to develop CPR and advanced first-aid capabilities. For students who might be required to provide first aid frequently and for special interest groups. Exercise and Sport Science majors have first option for this course.

ESS 282 Principles of Sport and Fitness Management **3 credits**
A focus on the administration of programs within the sport and fitness industries. Topics include administrative theories and concepts, personnel, communication and problem-solving, fiscal management, budgeting, ethical considerations, and program evaluation. Prerequisite: ENG 102 with a minimum grade of "C-" ; ESS 181 or ROE 182; or instructor permission.

ESS 290 Curriculum Development and the Learning Environment **3 credits**
A comprehensive overview of materials, suggested teaching methods, procedures, techniques, well-directed and well-selected activities, and ways of evaluating physical education in K-12 schools.

ESS 297 Special Topics **1-6 credits**

ESS 298 Fitness Instruction **3 credits**
Students develop knowledge and skills to plan and implement group fitness classes as well as personal training sessions. Topics include: risk management, exercise plans, group fitness instruction, personal training, fitness pedagogy, training special populations, cardiovascular fitness, resistance training, flexibility training, and core stability. Prerequisite: ESS 201 or BIOL 372.

ESS 320 Psychology of Sport and Physical Activity **3 credits**
A variety of issues and research areas in the psychology of sport and physical activity are addressed. Topics covered include an overview of the development of sport and exercise psychology, personality theories, exercise and mood, exercise adherence, goal setting, motivation, psychological interventions for athletes, and cohesion theories. Prerequisite: minimum junior standing.

ESS 330 Exercise Physiology **3 credits**
An emphasis on the theory and principles of exercise physiology to health, physical fitness, and athletic performance in diverse populations. Prerequisites: ESS 201 or both BIOL 372 and BIOL 373; minimum junior standing.

ESS 331 Exercise Physiology Lab **1 credit**
Basic laboratory techniques of exercise physiology correlating with ESS 330. Laboratory experiences include aerobic and anaerobic exercise, body composition, strength, flexibility, and body composition and other indicators of exercise. Prerequisites: completion of the University Mathematics course requirement; corequisite: ESS 330.

ESS 340 Mental Training for Peak Performance **3 credits**
An application of theories and concepts of sport psychology. This course focuses on application of specific psychological skills necessary for high level performance and assisting students in teaching others those same skills. Prerequisite: ESS 320 or instructor permission.

ESS 346 Psychology of Coaching **3 credits**
An exploration of psychological factors involved in coaching and leadership. Relevant theory and research, as well as practical applications, are discussed. Topics include expert coaching characteristics and behaviors, leadership and motivational styles, the coach-athlete relationship, stresses of coaching, reinforcement strategies, ethics in coaching, and issues related to youth sport coaching. Prerequisites: ESS 320, minimum junior standing or instructor permission.

ESS 350 Assessment & Technology in Physical Education **2 credits**
Planning, administering, and evaluating standards-based accountability systems in physical education. Multiple assessment strategies for psychomotor, cognitive, and affective learning objectives, using current technologies, are presented. Students evaluate, select and/or construct assessment tools to match specific learning outcomes in the K-12 physical education curriculum. Prerequisites: ESS 181, ESS 290, and completion of the University Mathematics course requirement.

ESS 353 Coordinated School Health & Physical Activity Programs **2 credits**
Overview of coordinated school health programs with a heavy focus on local wellness policy, comprehensive school health education and the role of physical activity and physical education in schools. Includes 6-8 hours of required field experience. Prerequisites: EDUC 000 and junior standing

ESS 355 Psychology of Injury **3 credits**
An exploration of psychological factors involved in sport-related injuries and the rehabilitation process. Course content includes relevant theory and research as well as practical applications. Topics include: stress, responses to injury, mental skills used to manage injury (i.e., goal setting, motivation, and confidence), social support, potential psychological problems faced during rehabilitation, and returning to sport after injury. Prerequisites: ESS 320, minimum junior standing or instructor permission.

ESS 360 Nutrition for Wellness and Performance **3 credits**

A focus on concepts geared to promote peak performance based upon nutritional intake. An understanding of macronutrient ingestion along with other essential nutrients is gained and applied in detail to the healthy and chronic diseased populations. This includes and understanding of the metabolic effect of food. The pros and cons of select supplements are discussed and applied to real-life scenarios. Prerequisites or co-requisites: ESS 330 and ESS 331.

ESS 363 Inclusive Physical Activity **3 credits**

Students develop knowledge and skills necessary to work with diverse populations in physical activity settings. Content includes planning, instructional design & delivery, assessment, coordination of resources, and advocacy for inclusive physical activity programming. Prerequisites: ESS 275 and minimum junior standing.

ESS 365 Topics in Physical Activity: **3 credits**

An interdisciplinary study of the role of physical activity under a variety of conditions and settings, and for a variety of populations. Content focuses on current research and practice as it relates to the topic under consideration. Topics rotate annually. Can be repeated up to three times for credit if a different topic is selected. Prerequisites: ESS 181, ESS 185; ESS 201 or BIOL 372; minimum junior standing.

ESS 370 Essentials of Strength Training and Conditioning **3 credits**

An inquiry into exercise prescription and conditioning in the form of resistance training, including free and fixed weights, Olympic lifts, and plyometrics. Muscular adaptations to anaerobic and aerobic training, testing and evaluation, program design, and appropriate training routines and lifting technique for a variety of populations are included. Content aligns with certification exam requirements for the Certified Strength and Conditioning Specialist (CSCS) from the National Strength and Conditioning Association (NSCA). Prerequisite: ESS 330 or instructor permission.

ESS 380 Biomechanics **3 credits**

Investigation and analysis of human movement. Basic mechanical principles of force, motion, and aerodynamics as related to fundamental physical skills and their application to exercise, sport, and physical activity. Prerequisites: ESS 181, ESS 185, ESS 201 or BIOL 372, completion of the University Mathematics course requirement.

ESS 382 Management of Sport and Fitness Facilities **3 credits**

A study of the principles, guidelines and recommendations for planning, construction and the use and maintenance of indoor and outdoor sports, physical education, recreational and fitness facilities. Prerequisite: Junior Standing.

ESS 385 Program Design for Physical Activity Settings **3 credits**

A focus on the principles of behavior modification and how they apply to program design and implementation in physical activity settings. Comprehensive behavior modification programs within exercise, wellness or sport settings are designed. Prerequisite: ESS 185.

ESS 392 Methods of Secondary Activities **3 credits**

For students planning to obtain licensure in physical education. A variety of curriculum models (e.g., tactical, sport education, social responsibility) are used to present individual, dual and team sport activities. Lesson and unit plans are developed, implemented and assessed in keeping with Colorado and NASPE standards as they relate to secondary physical education. Prerequisites: two of the following: ESS 210, ESS 211, ESS 212, ESS 213; ESS 290; minimum junior standing. Prerequisite or corequisite: ESS 350.

ESS 395 Methods of Elementary Activities **3 credits**

Units covered may include apparatus and tumbling, dance, and games. Each unit breaks down into sub-units, and progressions are emphasized. Lesson and unit plans are developed, implemented, and assessed in keeping with national standards and as they relate to elementary physical education. Competencies in the basic skills of each unit are also tested. Prerequisites: ESS 290, minimum junior standing; admission to the major or instructor permission. Prerequisites: two of the following: ESS 210, 211, 212, 213; ESS 290; and minimum junior standing; Prerequisite or corequisite: ESS 350.

ESS 396 Methods of Alternative Physical Education **3 credits**

Units covered may be: Nordic skiing, rock climbing, orienteering, camping, mountain biking, and adventure activities. Lesson and unit plans are developed, implemented, and assessed in keeping with national standards as they relate to secondary physical education. Prerequisites: ESS 290 and minimum junior standing.

ESS 397 Special Topics **1-6 credits**

ESS 405 Practicum in Exercise and Sport Science **1 credit**

Pre-professional experience in a physical activity setting. Such experiences include observing and participating in the professional activities associated with the particular setting. Students work with an Exercise and Sport Science faculty member to select an approved practicum experience, and are required to develop an approved learning contract. May be repeated once for credit (in a different setting). Prerequisites: ESS 181, ESS 185, junior or senior standing.

ESS 410 Assessment and Exercise Prescription **3 credits**

Students work with assessment formats, appraisal techniques, and metabolic calculations to gain information needed to construct exercise prescriptions designed to meet individual needs for different segments of the population. Prerequisites: ESS 331 and ESS 298 or instructor permission.

ESS 411 Wellness Elevated I **3 credits**

An opportunity for students to further their knowledge, skills, and abilities in exercise assessment, prescription, programming, implementation and outcome evaluation. Students will develop professional skills of healthcare documentation, communication and program analysis. A commitment of 6 hours per week, clinic time, in addition to weekly class meetings is required. Prerequisite: ESS 410.

ESS 412 Exercise Biochemistry **3 credits**
Essential concepts of biochemistry – molecular biology, basic chemistry, metabolism, and transcription regulation – as applied to the human during exercise. Prerequisites: ESS 330 and ESS 331.

ESS 430 Topics in Clinical Exercise Physiology **3 credits**
A study of diseased populations, including, but not limited to, exercise therapy in cardiac and cancer patients. Course content focuses on the etiology and pathophysiology of disease, electrocardiogram and diagnostic stress test interpretation, specialized exercise prescription, and other topics at the discretion of the instructor. Prerequisites: ESS 330 and ESS 331.

ESS 431 Wellness Elevated II **3 credits**
An opportunity for students to further their expertise in clinical exercise physiology. Students will gain direct experience in exercise assessment, prescription, programming, implementation and outcome evaluation in special population groups. Students will need to commit to 6 hours per week of clinical time (i.e., Wellness Elevated) as well as weekly meeting times. Prerequisite or co-requisite: ESS 430.

ESS 450 Risk Management in Physical Activity Settings **3 credits**
A focus on risk assessment and management for physical activity professionals. Topics covered include risk assessment, standard of care, negligence, forms to limit liability, constitutional law as relevant for physical activity professionals, development of a risk management plan, and risk reduction strategies. Prerequisites: junior or senior

ESS 490 Sociology of Sport and Physical Activity **3 credits**
A focus on the social organization of sport and physical activity and their relationship to the institutional structure, cultural patterns, and dynamics of American society. Students use different sociological approaches/theories to analyze sport and physical activity and to analyze current issues and problems in sport and physical activity settings. Prerequisite: minimum junior standing.

ESS 492 Independent Study **1-4 credits**
For qualified upper-level students who have specialized interests in a particular area of advanced study in Exercise and Sport Science.

ESS 495 Senior Seminar in Exercise and Sport Science **3 credits**
A capstone course required for all ESS majors addressing issues, ethical considerations, problem-solving and decision-making, leadership and communication in the discipline. Students integrate content from their course of study, write and speak in discipline-specific formats, and complete a comprehensive self-assessment in preparation for graduate school, internship, or entry-level job. Prerequisite: ESS 181, ESS 185, senior standing. Students are encouraged to take this course during their final semester.

ESS 496 Field Experiences **1-6 credits**
Directed field experiences in teaching, coaching, and laboratory settings. Guidelines for the field experiences are provided and agreed upon at the beginning of the course.

ESS 497 Special Topics **1-6 credits**

ESS 498 Internship in Exercise and Sport Science **3-12 credits**
An opportunity for in-depth work at a professional site in an area of exercise and sport science. The internship must meet standards of the department and the University, including completion of a pre-internship checklist. Prerequisites: Satisfactory grade in ESS 405, overall GPA of 2.750, department advisor permission, and senior standing.

GEOGRAPHY AND GEOSPATIAL ANALYSIS (GEOG)

Geographers study places, natural and human-altered landscapes, and processes by which people make their livelihood and give their lives meaning, and in so doing, create and modify their environments. Geospatial analysis builds on the traditional tools of geography by applying specialized software to facilitate combination of data, maps, aerial and satellite images, and to analyze landscape processes and change over time, at multiple scales, and with attention to features not always visible from the ground.

The Geography and Geospatial Analysis minor provides a foundation in human geography and the fundamental skills and methods of the growing field of geospatial analysis, and complements studies in many other disciplines including Anthropology, Biology, Business Administration, Economics, English, Environment and Sustainability, Geology, History, Politics and Government, Psychology, and Sociology.

FACULTY

Professor Philip L. Crossley.

DESCRIPTION OF THE PROGRAM

Geography and Geospatial Analysis Minor

A minimum of 21 credits is required including:

GEOG 120 Introduction to Human Geography	3 cr
GEOG 222 Our Digital Earth	3 cr
One of the following:	
GEOG 110 World Regional Geography	3 cr
GEOG 250 Regional Geography of North America	3 cr
One of the following:	
BIOL 130 Environmental Biology	3 cr
BIOL 151 Diversity and Patterns of Life	4 cr
CIS 190 Computer Science I	3 cr
GEOL 101 Physical Geology	3 cr
PHYS 120 Meteorology	3 cr
BIOL 130 Environmental Biology	3 cr
Three of the following:	
ANTH 320 Cultural Ecology	3 cr
ENVS 360 Global Environmental Policy	3 cr
GEOG 340 Geographic Information Systems	3 cr
GEOG 351 Geography of Latin America and the Caribbean	3 cr
GEOG 360 'Natural' Disasters	3 cr
GEOG 460 Geospatial Analysis	3 cr
GEOG 499 Internship in Geography	3 cr

GEOGRAPHY COURSES

GEOG 110 World Regional Geography **3 credits**

A survey of the major regions of the contemporary world—defined according to a combination of biophysical, cartographic, cultural, religious, linguistic, political, and economic criteria. Emphasis is given to understanding regional characteristics and processes, and to relationships between events and processes occurring in different regions. Current events of major importance are incorporated where appropriate. GT- SS2

GEOG 120 Introduction to Human Geography **3 credits**

A thematic study of cultural landscapes and the processes by which people create and modify them. Topics of discussion range from ancient to modern, rural to urban, local to international, and include themes as diverse as the origins and spread of agriculture, migration and immigration, urban morphologies and social interactions, ethnicity, development and underdevelopment, and environmental concerns. GT-SS2

GEOG 197 Special Topics **1-6 credits**

GEOG 222 Our Digital Earth **3 credits**

Using primarily on-line data and sources of maps, aerial photographs and satellite images, students develop and apply understanding of basic principles and techniques of map interpretation, communication with maps, and the appropriate use and interpretation of aerial photographs and satellite images. The course emphasizes both the skilled use of these standard tools of geographic analysis and visualization and communication of data and analysis with free on-line mapping tools and location-enabled mobile phone applications.

GEOG 250 Geography of North America **3 credits**

A survey of the major biophysical, cultural, and economic regions of the United States and Canada. Major themes of human geography including demography, migration, land use change, and ecological concerns are addressed in appropriate regional contexts. Prerequisite: GEOG 120 or sophomore standing. GT-SS2

GEOG 297 Special Topics **1-6 credits**

GEOG 340 Introduction to Geographic Information Systems **3 credits**

An introduction to the concepts and techniques of Geographic Information Systems (GIS). Topics covered include fundamentals of mapping, data formats, data acquisition, and quantitative analysis of spatial data. The laboratory component emphasizes practical applications of GIS to contemporary problems including but not limited to watershed analysis, land-use planning, environmental assessment, and market analysis. Prerequisites: GEOG 222 or GEOL 105; university-level mathematics requirement with a minimum grade of "C-"; junior standing or instructor permission.

GEOG 351 Geography of Latin America and the Caribbean **3 credits**

A thematic study of the physiographic and cultural regions of Latin America and the major historical and contemporary geographic processes that characterize the region. Major topics of discussion include climate and physiography, environmental concerns and human rights, the nature of Latin American cities, pre-Hispanic and modern agriculture, and the nature of contemporary economic processes in the region. Prerequisite: GEOG 120 or sophomore standing.

GEOG 360 'Natural' Disasters **3 credits**

This course examines a variety of natural processes which have the potential to inflict dramatic damage and loss of life and a wide range of social, economic, political, and other factors that tend to increase exposure to those events and reduce the abilities of certain populations to respond to them—causing natural processes to become disasters. Prerequisite: GEOG 120 or instructor permission.

GEOG 392 Independent Study **1-6 credits**

An opportunity for detailed study and/or research by advanced students. Prerequisites: GEOG 110 and GEOG 120.

GEOG 397 Special Topics **1-6 credits**

GEOG 460 Geospatial Analysis **3 credits**

Students enhance their understanding of concepts, skills, and techniques learned in an earlier GIS course by applying additional training in advanced vector and raster analysis, utilization of satellite imagery, and geospatial analysis methods to inform analysis of landscape change processes such as wildfire, deforestation, urbanization, reforestation, drought, flooding, climate change, and agricultural intensification. Prerequisite: GEOG 340.

GEOG 497 Special Topics **1-6 credits**

GEOG 499 Internship in Geography **1-3 credits**

Provides the opportunity for advanced students to apply skills and knowledge gained from course work to an applied setting typical of those in which geographers are employed. Prerequisite: junior standing and completion of all other geography requirements.

GEOLOGY (GEOL)

Geology is the study of the Earth. This includes the study of rocks and minerals, topography, the tectonics of the Earth (earthquakes, volcanism, and mountain building), the physical history of the Earth, and the history of life on the Earth. In studying the Earth, the Geology student is closely involved with the related sciences of chemistry, physics, and mathematics. The interrelationship between Earth processes and humanity is stressed in many Geology classes. Western State Colorado University is a particularly wonderful place to study Geology because of the natural setting that enables field studies to be utilized in all Geology classes.

The Geology Major successfully prepares students for entry-level positions in the petroleum and mineral industries, in environmental science, or in various government agencies. Students are also well prepared to enter graduate programs in Geology. The program meets or exceeds American Geological Institute standards.

FACULTY

Professors Robert P. Fillmore, David W. Marchetti, and Allen L. Stork;
Rady Chair in Petroleum Geology and Associate Professor Brad Burton;
Moncrief Chair in Petroleum Geology and Assistant Professor Elizabeth Petrie;
Lecturer Holly Brunkal.

DESCRIPTION OF THE PROGRAMS

The Geology program provides a Comprehensive Major with an area of emphasis selected according to the interests and career goals of the student. These emphases are: environmental geology, geology, geoarchaeology, petroleum geology, and secondary licensure in earth-space science. The program requirements for the various emphases range from 60 to 73 credits.

The Secondary Licensure in Earth-Space Science Emphasis qualifies students for the State of Colorado License in Science Education. Other Geology emphases may also be used for secondary licensure but may require additional classes.

Geology Major: Comprehensive Program

ENVIRONMENTAL GEOLOGY EMPHASIS

GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr
GEOL 201 Historical Geology (with laboratory)	4 cr
GEOL 302 Geoscience Writing	2 cr
GEOL 305 Mineralogy (with laboratory)	4 cr
GEOL 310 Stratigraphy and Sedimentation (with laboratory)	4 cr
GEOL 311 Igneous and Metamorphic Petrology (with laboratory)	4 cr
GEOL 320 Geomorphology (with laboratory)	4 cr
GEOL 345 Structural Geology (with laboratory)	4 cr
GEOL 430 Hydrogeology (with laboratory)	3 cr
GEOL 450 Field Geology	4 cr
Two of the following:	
GEOL 335 Introduction to Engineering Geology	3 cr
GEOL 352 Applied Geophysics (with laboratory)	3 cr
GEOL 362 Environmental Geochemistry	3 cr
One of the following:	
GEOL 411 Research in Volcanology and Petrology (with laboratory)	3 cr
GEOL 420 Research in Geomorphology (with laboratory)	3 cr
GEOL 465 Research in Basin Analysis (with laboratory)	3 cr

Required supporting courses:

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
GEOG 340 Introduction to Geographic Information Systems	3 cr
MATH 151 Calculus I	4 cr
MATH 251 Calculus II	4 cr
Either both:	
PHYS 170 Principles of Physics I (with laboratory)	4 cr
PHYS 171 Principles of Physics II (with laboratory)	4 cr
or both:	
PHYS 200 General Physics I (with laboratory)	4 cr
PHYS 201 General Physics II (with laboratory)	4 cr

GEOLOGY EMPHASIS

The Standard Geology Emphasis requires a minimum of 66 credits:

GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr
GEOL 201 Historical Geology (with laboratory)	4 cr
GEOL 302 Geoscience Writing	2 cr
GEOL 305 Mineralogy (with laboratory)	4 cr
GEOL 310 Stratigraphy/Sedimentation (with laboratory)	4 cr
GEOL 311 Igneous/Metamorphic Petrology (with laboratory)	4 cr
GEOL 320 Geomorphology (with laboratory)	4 cr
GEOL 345 Structural Geology (with laboratory)	4 cr
GEOL 450 Field Geology	4 cr
GEOL 495 Geology Seminar (must be repeated for 2 credits)	2 cr
One of the following:	
GEOL 411 Research in Volcanology and Petrology (with laboratory)	3 cr
GEOL 420 Research in Geomorphology (with laboratory)	3 cr
GEOL 465 Research in Basin Analysis (with laboratory)	3 cr

Required supporting courses:

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
MATH 151 Calculus I	4 cr
MATH 251 Calculus II	4 cr
One of the following:	
CS 190 Computer Science I	3 cr
GEOG 340 Introduction to Geographic Information Systems	3 cr
MATH 213 Probability and Statistics	3 cr
MATH 252 Calculus III	4 cr
Either both:	
PHYS 170 Principles of Physics I (with laboratory)	4 cr
PHYS 171 Principles of Physics II (with laboratory)	4 cr
or both:	
PHYS 200 General Physics I (with laboratory)	4 cr
PHYS 201 General Physics II (with laboratory)	4 cr

GEOARCHAEOLOGY EMPHASIS

The Geoarchaeology Emphasis requires a minimum of 60 credits:

GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr
GEOL 201 Historical Geology (with laboratory)	4 cr
GEOL 302 Geoscience Writing	2 cr
GEOL 310 Stratigraphy/Sedimentation (with laboratory)	4 cr
GEOL 320 Geomorphology (with laboratory)	4 cr
GEOL 345 Structural Geology (with laboratory)	4 cr
GEOL 450 Field Geology	4 cr
One of the following:	
GEOL 420 Research in Geomorphology (with laboratory)	3 cr
GEOL 465 Research in Basin Analysis (with laboratory)	3 cr

Required supporting courses:

ANTH 107 Introduction to General Anthropology	3 cr
ANTH 218 Physical Anthropology (with laboratory)	4 cr
ANTH 219 Archaeology (with laboratory)	4 cr
ANTH 230 Cultural Anthropology (with laboratory)	4 cr
GEOG 340 Introduction to Geographic Information Systems	3 cr
Two of the following:	
ANTH 322 Analysis of Material Culture (with laboratory)	4 cr
ANTH 333 Archaeology of Colorado	3 cr
ANTH 469 Archaeology Field School	4 cr
Either:	

CHEM 101 Introduction to Inorganic Chemistry	3 cr
or both of the following:	
CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
One of the following:	
MATH 113 Statistical Thinking	3 cr
MATH 213 Probability and Statistics	3 cr

PETROLEUM GEOLOGY EMPHASIS

A minimum of 69 credits is required:

GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr
GEOL 201 Historical Geology (with laboratory)	4 cr
GEOL 302 Geoscience Writing	2 cr
GEOL 305 Mineralogy (with laboratory)	4 cr
GEOL 310 Stratigraphy/Sedimentation (with laboratory)	4 cr
GEOL 311 Igneous/Metamorphic Petrology (with laboratory)	4 cr
GEOL 343 Exploration Geophysics (with laboratory)	3 cr
GEOL 345 Structural Geology (with laboratory)	4 cr
GEOL 346 Subsurface Geology (with laboratory)	4 cr
GEOL 450 Field Geology	4 cr
GEOL 455 Petroleum Geology (with laboratory)	4 cr
GEOL 456 Petroleum Geology of Unconventional Resources (with laboratory)	4 cr
GEOL 465 Research in Basin Analysis (with laboratory)	3 cr

Required supporting courses:

CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr
CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
MATH 151 Calculus I	4 cr
MATH 251 Calculus II	4 cr
Either Both:	
PHYS 170 Principles of Physics I (with laboratory)	4 cr
PHYS 171 Principles of Physics II (with laboratory)	4 cr
Or both:	
PHYS 200 General Physics I (with laboratory)	4 cr
PHYS 201 General Physics II (with laboratory)	4 cr

SECONDARY LICENSURE IN EARTH-SPACE SCIENCE EMPHASIS

Students interested in pursuing this comprehensive program should consult with the Teacher Education Program advisor in addition to the advisor in their major as soon as possible. The Secondary Licensure in Earth-Space Science Emphasis requires a minimum of 68 credits, and the requirements of the Secondary Licensure Program (see description under Education).

Geology requirements:

GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr
GEOL 201 Historical Geology (with laboratory)	4 cr
GEOL 302 Geoscience Writing	2 cr
GEOL 305 Mineralogy (with laboratory)	4 cr
GEOL 310 Stratigraphy/Sedimentation (with laboratory)	4 cr
GEOL 320 Geomorphology (with laboratory)	4 cr
GEOL 345 Structural Geology (with laboratory)	4 cr
GEOL 450 Field Geology	4 cr
GEOL 495 Geology Seminar	1 cr

Required supporting courses:

BIOL 150 Biological Principles (with laboratory)	4 cr
BIOL 151 Diversity and Patterns of Life (with laboratory)	4 cr
BIOL 301 General Ecology	3 cr
CHEM 111 General Chemistry I	3 cr
CHEM 112 General Chemistry Laboratory I	1 cr

CHEM 113 General Chemistry II	3 cr
CHEM 114 General Chemistry Laboratory II	1 cr
PHYS 110 Introductory Astronomy	3 cr
PHYS 120 Meteorology	3 cr
Either both:	
PHYS 170 Principles of Physics I (with laboratory)	4 cr
PHYS 171 Principles of Physics II (with laboratory)	4 cr
Or both:	
PHYS 200 General Physics I (with laboratory)	4 cr
PHYS 201 General Physics II (with laboratory)	4 cr
One of the following:	
MATH 141 Precalculus	4 cr
MATH 151 Calculus I	4 cr

Geology Minor

A minimum of 18 credits including:

GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr
GEOL 201 Historical Geology (with laboratory)	4 cr
Ten credits from the following	
GEOL 220 Field Geology of Western North America	1 cr
Or Geology courses numbered 300 or above	

Capstone Course Requirement: One of the following: GEOL 411 Research in Volcanology and Petrology, GEOL 420 Research in Geomorphology, or GEOL 465 Research in Basin Analysis; EDUC 409 Secondary Student Teaching (Secondary Licensure in Earth-Space Science Emphasis).

GEOLOGY COURSES

GEOL 101 Physical Geology **3 credits**

An introductory class that emphasizes the environmental aspects of geology. The course covers the basic principles of physical geology, such as minerals, rocks, plate tectonics, earthquakes, volcanoes, and origin of landscapes by mass wasting, rivers, glaciers, ground water, and nearshore processes. Throughout this course, focus is on the effect of geology on human society through the study of geologic hazards, energy resources, and mineral resources. GT-SC2

GEOL 105 Physical Geology Laboratory **1 credit**

An introduction to identification of minerals and rocks and a discussion of their genesis followed by a study of landscapes formed by mass wasting, rivers, glaciers, ground water, and nearshore processes. Many of these principles are observed on local field trips. Additional course fee applies. Prerequisite or corequisite: GEOL 101. GT-SC1

GEOL 197 Special Topics **1-6 credits**

GEOL 201 Historical Geology (with laboratory) **4 credits**

A study of the interpretation of the geologic history, structure, and evolution of the Earth with emphasis on methods and concepts rather than factual information. Colorado geo-logic history and various principles are observed during three or four field trips. Topics and concepts such as geophysics, continental drift, and plate tectonics are integrated into discussions of Earth history. Additional course fee applies. Prerequisites: GEOL 101 and GEOL 105.

GEOL 220 Field Geology of Western North America **1 credit**

An illustration of basic geologic principles using field trips to classic localities through- out western North America. Field trips change each year depending on student interest. Past field trips have gone to the Grand Canyon as well as other locales. A student may earn a maximum of two credits under this course number. Prerequisite: GEOL 201 or instructor permission.

GEOL 240 Introduction to Petroleum and Mining Geology **3 credits**

A survey of the physical and chemical processes responsible for the distribution of hydro-carbon and mineral resources in the Earth's crust and techniques for hydrocarbon and mineral resource exploration, assessment, and development. Includes field trips to oil and gas and mining operations in Colorado and Utah. Prerequisites: GEOL 101 and GEOL 105.

GEOL 297 Special Topics **1-6 credits**

GEOL 300 Geology Field Trip **1-6 credits**

Provides students exposure to varied geologic terranes and settings. The course normally consists of preparatory lectures and the actual field trip, followed by a paper, talk, or examination. Students may earn a maximum of six credits under this course title. Prerequisite: GEOL 201.

GEOL 302 Geoscience Writing **2 credits**

An introduction to the proper methods and accepted formats of written, graphical, and oral communication in the geological sciences. These skills are addressed through critical evaluation and discussion of the geological literature, by writing reports, review papers and research proposals, and giving oral presentations. Prerequisites: ENG 102 with a grade of "C-" or above and GEOL 201. Corequisite: GEOL 310.

GEOL 305 Mineralogy (with laboratory) **4 credits**

An introduction to the study of minerals. Important topics include the crystallography, crystal chemistry, and optics of important rock and ore forming minerals. Emphasis is placed on the crystal chemistry and stability of major silicate mineral groups. The laboratory emphasizes the field identification of minerals and the application of optics to the identification of minerals in thin section. Additional course fee applies. Prerequisites: GEOL 101, GEOL 105, MATH 141. Prerequisite or corequisite: CHEM 111 and CHEM 112.

GEOL 310 Stratigraphy and Sedimentation (with laboratory) **4 credits**

A study of the basic principles and origins of sedimentary rock units. Topics studied include sub-division of the geologic column and geologic time, depositional systems, stratigraphic nomenclature and rules, principles of correlation—including a review of modern geophysical, geochemical, and chronostratigraphic methods, biostratigraphy, and event stratigraphy. Laboratory includes measurement of sections, examination of depositional systems in the field, and surface and subsurface stratigraphic techniques, including geophysical-log interpretation and computer mapping. Additional course fee applies. Prerequisites: GEOL 201 and ENG 102 with a minimum grade of "C-".

GEOL 311 Igneous and Metamorphic Petrology (with laboratory) **4 credits**

A study of igneous and metamorphic rocks, including their classification, field relations, tectonic setting, phase petrology, mineralogy, and geochemistry. The laboratory emphasizes both field identification of rocks and the use of petrographic microscopes. Several field trips are included. Additional course fee applies. Prerequisite or corequisite: CHEM 113 and CHEM 114, GEOL 305.

GEOL 320 Geomorphology (with laboratory) **4 credits**

A study of the processes that create the landforms we see at the Earth's surface. In particular, processes associated with modern and ice-age climate are studied including erosion and weathering, soil formation, flooding, glaciation, and mass wasting. The laboratory emphasizes field-observation and data-collection techniques, and the interpretation of aerial photographs. Additional course fee applies. Prerequisites: GEOL 101 and GEOL 105; CHEM 101 or CHEM 111.

GEOL 335 Introduction to Engineering Geology **3 credits**

An introduction to the fundamentals, methods, and techniques used in engineering geology. This course explores investigation methods, and characterization of the engineering properties of geological materials. We investigate the mechanics of soil and rock as engineering materials. This class introduces the specific field methods used in engineering geology for assessment of foundations, slopes, dams, tunnels, and other earth structures. Prerequisites: GEOL 345, and either PHYS 170 or PHYS 200.

GEOL 343 Exploration Geophysics (with laboratory) **3 credits**

Current geophysical techniques used in the exploration for, and development of, petroleum resources. Topics include: potential fields methods, thermochronology, refraction and reflection seismic theory and application, an introduction to quantitative geophysics, microseismic, and forward and reverse modeling. Laboratory projects use industry standard geophysical data and software to solve problems in petroleum exploration and development. Additional course fee applies. Prerequisite: GEOL 310, Prerequisites or Corequisites: GEOL 345; and either PHYS 170 or PHYS 200.

GEOL 345 Structural Geology (with laboratory) **4 credits**

A study of the deformation of the Earth's crust. The course begins with a study of the forces and movements within the crust which cause folding and faulting of rocks and a description of the resulting structures. These topics are followed by an analysis of the regional tectonic patterns of the Earth's surface and theories for their origin. Additional course fee applies. Prerequisite: GEOL 201 with a minimum grade of "C-"and MATH 141.

GEOL 346 Subsurface Geology (with laboratory) **4 credits**

An advanced undergraduate course in subsurface structural and stratigraphic methods pertinent to petroleum, groundwater, environmental, and tectonics investigations. Traditional and computer-assisted techniques are used. Students gain experience in integrating surface geology with subsurface well and geophysical data, understanding and managing subsurface data types, the principles and application of petrophysics, subsurface mapping methods, core and cuttings description and interpretation, and case studies of oil and gas fields. Field exercises emphasize the integration of surface and subsurface data. Additional course fee applies. Prerequisite: GEOL 343. Prerequisite or corequisite: GEOL 345.

GEOL 352 Applied Geophysics (with laboratory) **3 credits**

The theoretical and practical application of physics to geology with an emphasis on the shallow subsurface. Exercises emphasize the interpretation of real-world data and cover the topics of seismic, potential fields, heat flow, electrical, wireline, and ground penetrating radar methods. Students gain proficiency in the use of several advanced analysis and modeling software packages and the application of geophysics to solving problems in stratigraphy, structure, hydrology, environmental geology, mining, and oil and gas. Prerequisites: GEOL 345, and either PHYS 170 or PHYS 200

GEOL 360 Isotope Geochemistry **3 credits**

A study of the distribution and movement of chemical elements and isotopes in the geologic environment. Topics include nucleosynthetic processes and the isotopic abundances of the elements; geochronology using radioactive decay schemes, including U-Pb, Rb-Sr, Sm-Nd, K-Ar, U-series isotopes, and cosmogenic isotopes; trace element partitioning; and the use of stable isotopes in geothermometry and ore petrogenesis. Examples illustrate the use of radiogenic and stable isotopes in petrology and their application to study of the Earth and Solar system and the evolution of the crust and mantle. Additional course fee applies. Prerequisites: GEOL 305 with a "C-" or better and CHEM 113 and 114.

GEOL 362 Environmental Geochemistry **3 credits**
An advanced geology course covering the low-temperature chemistry of the near-surface geologic environment. Topics include equilibrium thermodynamics, natural- water geochemistry, the carbonate system, mineral weathering, basic organic geochemistry and the evolution of Earth's atmosphere. Students gain quantitative problem solving skills through comprehensive problem sets and the collection and analysis of real-world geochemical data. Prerequisite: GEOL 305 with a "C-" or better and CHEM 113 and 114.

GEOL 397 Special Topics **1-6 credits**

GEOL 411 Research in Volcanology and Petrology (with laboratory) **3 credits**
An examination of the physical volcanology, petrology, and petrogenesis of volcanic rocks. A strong emphasis is placed on fieldwork and the description of the volcanic rocks of the Gunnison Basin and adjacent regions. The course is topical in nature and emphasizes individual and/or group research projects through study of the geologic literature, the collection of geologic data, and the presentation of results. Prerequisite: GEOL 311.

GEOL 420 Research in Geomorphology (with laboratory) **3 credits**
An advanced study of geomorphology. Topics may include fluvial, glacial, mass movement, neotectonic, and eolian processes and landforms as well as weathering and soils. The course is topical in nature and emphasizes individual and/or group research projects through study of the geologic literature, the collection of geologic data, and the presentation of results. Prerequisites: GEOL 320, GEOL 345, and GEOG 340.

GEOL 430 Hydrogeology **3 credits**
A study of the occurrence, movement and chemical properties of surface water and groundwater. Topics include the hydrologic cycle, surface-water hydrology, principles of ground water flow, groundwater flow to wells and natural water chemistry. Laboratory assignments focus on quantitative analysis and modeling of surface and groundwater data. Prerequisites: GEOL 310, CHEM 111, and MATH 151. Additional course fee applies. Prerequisite or corequisite: PHYS 170 or PHYS 200.

GEOL 450 Field Geology **4 credits**
An emphasis on field observation, proper geologic mapping techniques—on both maps and aerial photos—and interpretation and synthesis of field data into a report. Different geologic terrains in Colorado or other states are examined. Ideally, this course should be taken during the summer semester, immediately prior to the senior year. Additional course fee applies. Prerequisites: GEOL 310 and GEOL 345; or instructor permission.

GEOL 455 Petroleum Geology (with laboratory) **4 credits**
The petroleum system and modern exploration techniques including detailed study of petroleum source rocks, their deposition, thermal maturation and the chemical and physical characteristics of hydrocarbons, hydrocarbon migration, accumulation and retention, reservoir types and properties. Current techniques used in hydrocarbon exploration and resource assessment are taught through laboratory projects using real-world data and industry standard software tools. Additional course fee applies. Prerequisite: GEOL 346.

GEOL 456 Petroleum Geology of Unconventional Resources (with laboratory) **4 credits**
The geology of unconventional resources, the identification and mapping of resource plays, a survey of current industry development and resource estimation techniques, and an introduction to play and project economics. Unconventional and emerging petroleum plays including shale reservoirs for oil and gas, heavy oil and bitumen deposits, coal bed methane, and hybrid reservoirs are emphasized. Projects include play mapping and analysis, rock mechanics, reservoir stimulation and EOR techniques, decline curve analysis and forecasting, and integrate sustainability and environment/stakeholder management best practices. Prerequisite: GEOL 346.

GEOL 465 Research in Basin Analysis (with laboratory) **3 credits**
A study of sedimentary processes and environments, including the tectonic origin of sedimentary basins. This includes the most common terrestrial and marine depositional systems and their relationships. A strong emphasis is placed on field relations and research on the sedimentary rocks of Western Colorado and the Colorado Plateau. The course is topical in nature and requires individual and/or group research projects through the study of the geologic literature, the collection of geologic data in the field, and the presentation of results. Additional course fee applies. Prerequisites: GEOL 310 and GEOL 345.

GEOL 493 Independent Study in Geology **1-4 credits**
Advanced undergraduates can engage in independent research projects under the direction of a faculty member. Topics may include any research specialty in geology or geophysics depending on the mutual interests of the student and faculty.

GEOL 495 Geology Seminar **1 credit**
A seminar where advanced undergraduate students can develop critical reading and thinking skill through discussion and presentation of research literature. Topics are chosen from the current research literature. A student may earn a maximum of four credits under this course title. Prerequisite: GEOL 305, GEOL 310, GEOL 320, or GEOL 345.

GEOL 497 Special Topics **1-6 credits**

HEADWATERS REGIONAL STUDIES (HWTR)

Western State Colorado University sits near the headwaters of the major rivers of the American Southwest and the lower Midwest—the South Platte and Arkansas Rivers that are part of the great Mississippi-Missouri Basin, the Rio Grande, and the central tributaries of the Colorado River. Surrounded by the geographically, ecologically, and culturally diverse "learning laboratories" of the Headwaters region, Western is uniquely situated for using "place" as a medium for integrated learning. These two Headwaters classes are designed to help students develop cross-disciplinary relationships with the qualities of the region that attract many students to the University.

HEADWATERS COURSES

HWTR 100 First Year Seminar **1 credit**

An introduction to Western's interactive educational experience and the diverse learning environments of the Gunnison Valley. Through a multidisciplinary study of the Headwaters region, this course provides students with skills for success in higher education and access to resources in the campus community. A discussion-based seminar, course may include regular convocations, community service projects, workshops, and field experiences. Academic themes include an introduction to the liberal arts, community sustainability, and the social, natural, and cultural surroundings of the region. First year students are required to attend Orientation and are expected to enroll in the first year seminar.

HWTR 200 Introduction to the Headwaters **1 credit**

A fall offering that gives students a broad cross-disciplinary overview of the Headwaters Region surrounding the University, with some field trips out into the region and an opportunity to look into some of the issues impacting the region.

HWTR 398 Headwaters Conference **1 credit**

An annual three-day gathering on campus each fall, bringing together writers and scholars, local community leaders and activists, artists, government officials, and other interested citizens from the colleges and communities of the Headwaters Region to consider challenges and opportunities confronting the region. Students attend and participate in the conference, complete applied research projects throughout the month following the conference, and write a paper about the experience in the context of their own

HISTORY (HIST)

In a world increasingly characterized by the ten-second soundbite, our understanding of world events is often limited to the superficial. Despite the speed and intensity of these events, the conflicts and achievements of our times emerge from long established influences and sequences of events. The study of history adds both breadth and depth to an individual's understanding of our fast-changing world. History provides the means to discover how the past shapes and affects the present and how seemingly unrelated events and forces connect to frame human endeavors. There is something profoundly enduring about the study of history, as it allows us to realize the complexity of human affairs from a multitude of perspectives. It is both an intellectually satisfying and eminently practical pursuit. History majors at Western acquire and sharpen skills that enrich educational experiences and increase employment opportunities in a number of fields. Such skills include: cause and effect analysis, critical evaluation and organization of evidence, document and data base research, development and understanding of analytical frameworks, and organization and synthesis of information—all skills essential to solving problems and presenting results.

The History League student club and the Iota Nu Chapter of Phi Alpha Theta, the national history Honor Society, are active on campus.

FACULTY

Professors Heather Thiessen-Reily and Duane L. Vandenbusche;

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DESCRIPTION OF THE PROGRAMS

History Major: Standard Program

A minimum of 42 credits is required including the following:

Two of the following 100 level courses:	
HIST 101 World History to 1500	3 cr
HIST 102 World History Since 1500	3 cr
HIST 126 U.S. History to 1865	3 cr
HIST 127 U.S. History Since 1865	3 cr
Two of the following courses in regional history:	
HIST 254 History of Africa	3 cr
HIST 257 History of East Asia	3 cr
HIST 258 History of Southeast Asia	3 cr
HIST 260 History of Latin America	3 cr
And the following:	
HIST 200 Historical Inquiry	3 cr
HIST 402 Engaging the Past	3 cr
History electives numbered 300 or above	21 cr

*No more than six credits in independent studies, internships or correspondence courses can be counted toward any History Major.

History Major: Comprehensive Programs

The comprehensive programs in History are the Public History Emphasis and the Secondary Licensure Emphasis. These emphases do not require a separate minor, and allow students to pursue a course of study in which History is integrated with other disciplines across campus.

PUBLIC HISTORY EMPHASIS

This emphasis prepares students for graduate work and employment in Public History fields. A minimum of 62 credits is required, including the required 33 credit History Core, 23 credits of required supporting courses and 6 credits of designated elective courses.

HIST 200 Historical Inquiry	3 cr
HIST 370 Public History	3 cr
HIST 371 Oral History Workshop	3 cr
HIST 372 Monuments and Museums	3 cr
HIST 373 History of NPS	3 cr
HIST 399 Internship in History	3 cr
HIST 402 Seminar in History	3 cr
Two of the following:	
HIST 101 World History to 1500	3 cr
HIST 102 World History Since 1500	3 cr
HIST 126 U.S. History to 1865	3 cr
HIST 127 U.S. History Since 1865	3 cr

Two of the following:	
HIST 330 Colonial America	3 cr
HIST 333 American Revolution and the Early Republic	3 cr
HIST 340 U.S. Civil War and Reconstruction	3 cr
HIST 343 Emergence of the Modern U.S.	3 cr
HIST 346 Recent American History	3 cr
HIST 348 History of the Trans-Mississippi West	3 cr
HIST 349 History of the Hispanic Southwest	3 cr
HIST 350 Environmental History of the Borderlands	3 cr
Required Supporting Courses:	
ANTH 107 Introduction to General Anthropology	3 cr
ANTH 219 Archaeology (with laboratory)	4 cr
ANTH 230 Cultural Anthropology (with laboratory)	4 cr
COM 231 Technical Production I	3 cr
COM 323 Media/Arts Management	3 cr
ENVS 100 Introduction to Environment and Sustainability	3 cr
ROE 230 Interpretation of Natural and Cultural History	3 cr
Two of the following:	
ACC 201 Introduction to Financial Accounting	3 cr
ANTH 344 Indians of North America	3 cr
ANTH 467 Ethnography Field School	3 cr
ART 222 Art History I	3 cr
ART 223 Art History II	3 cr
ART 321 American Art: Colonial to Modern	3 cr
ART 422 Native American Art of North America	3 cr
BUAD 210 Legal Environment of Business	3 cr
BUAD 270 Principles of Marketing	3 cr
BUAD 275 ICE Innovation, Creativity and Entrepreneurship	3 cr
BUAD 309 Business Communication	3 cr
BUAD 300 Business Ethics	3 cr
COM 205 Communication Arts I	3 cr
COM 305 Communication Arts II	3 cr
COM 346 Multimedia Communication	3 cr
CS 120 Professional Computer Skills	3 cr
CS 160 Introduction to Web Design	3 cr
GEOG 120 Introduction to Human Geography	3 cr
GEOG 222 Our Digital Earth	3 cr
POLS 282 Issues in State and Local Government	3 cr
ROE 255 Foundations of Teaching Environmental Education	3 cr

SECONDARY LICENSURE EMPHASIS

This emphasis qualifies students for the State of Colorado License in Social Science Education. A minimum of 66 credits is required, including:

HIST 101 World History To 1500	3 cr
HIST 102 World History from 1500	3 cr
HIST 126 US History to 1865	3 cr
HIST 127 US History from 1865	3 cr
HIST 200 Historical Inquiry	3 cr
Two upper division History electives	6 cr
HIST 402 Engaging the Past	3 cr
Three of the following:	
HIST 330 Colonial American	3 cr
HIST 333 American Revolution and the Early Republic	3 cr
HIST 336 U.S. Civil War and Reconstruction	3 cr
HIST 340 Emergence of the Modern U.S.	3 cr
HIST 346 Recent American History	3 cr
HIST 348 History of the Trans-Mississippi West	3 cr
HIST 349 History of the Hispanic Southwest	3 cr

Two of the following:	
HIST 309 Modern Germany	3 cr
HIST 311 The Medieval World	3 cr
HIST 312 Renaissance and Reformation	3 cr
HIST 313 Early Modern Europe: Topics	3 cr
HIST 315 France and the Revolution	3 cr
HIST 317 Modern Europe: Topics	3 cr
HIST 351 History of Russia	3 cr
HIST 355 African History: Topics	3 cr
HIST 360 Mexico	3 cr
HIST 365 Latin American Revolutions	3 cr
HIST 366 Modern Latin America	3 cr
HIST 367 Latin American History: Topics	3 cr
One of the following:	
HIST 254 History of Africa	3 cr
HIST 257 History of East Asia	3 cr
HSIT 258 History of Southeast Asia	3 cr
HIST 260 History of Latin America	3 cr

*In addition, the student must fulfill the requirements of the Secondary Licensure Program (see description under Education), and the following:

ECON 201 Macroeconomics	3 cr
ECON 202 Microeconomics	3 cr
ECON 303 International Economics and Globalization.	3 cr
GEOG 110 World Regional Geography	3 cr
GEOG 120 Introduction to Human Geography	3 cr
GEOG 250 Geography of North America	3 cr
POLS 180 Introduction to American Government	3 cr
POLS 282 Issues in State and Local Government	3 cr
POLS 255 Comparative Government	3 cr

*No more than six credits of independent study or correspondence can be counted toward any History Major.

History Minor

A minimum of 21 credits is required including 12 credits of upper-division History electives, and the following:

HIST 200 Historical Inquiry	3 cr
One of the following:	3 cr
HIST 101 World History to 1500	3 cr
HIST 102 World History Since 1500	3 cr
HIST 126 U.S. History to 1865	3 cr
HIST 127 U.S. History Since 1865	3 cr
One of the following:	
HIST 254 History of Africa	3 cr
HIST 257 History of East Asia	3 cr
HIST 258 History of Southeast Asia	3 cr
HIST 260 History of Latin America	3 cr

*No more than three credits of HIST 492 Independent Study or HIST 399 Internship may be used to satisfy the upper-division electives.

Capstone Course Requirement: The following course in the History Major fulfills the Capstone Course Requirement: HIST 402 Engaging the Past.

HISTORY COURSES

HIST 101 World History to 1500 **3 credits**
A survey of the cultural, political, religious, artistic, technological and philosophical journeys of human beings, from the prehistoric age, the birth of civilization and emergence of agriculture to the establishment of great empires and the impact of the great religious and philosophical revolutions of the ancient and medieval world. GT-HI1

HIST 102 World History Since 1500 **3 credits**
A continuation of HIST 101 and a survey of the transformation of human development as a result of modernization. Students consider the rise and fall of empires and shifting regional influences as a result of the emergence of the transatlantic region. Europe's revolutionary transformation and its impact on the world; the rise of global interaction and conflict; the colonial and post-colonial eras and the resulting tensions and achievements of these events are examined within the context of modernity. GT-HI1

HIST 126 U.S. History to 1865 **3 credits**
A survey of American history from its European beginnings to the Civil War, providing description and analysis of the historical development of politics, economics, society, and foreign policy. Attention is given to the people and forces that influenced these developments. GT-HI1

HIST 127 U.S. History Since 1865 **3 credits**
A survey of American history from the Civil War to modern times, providing description and analysis of the major developments and trends in politics, economics, society, and foreign policy. Attention is given to the people and forces that influenced and shaped the American experience. GT-HI1

HIST 197 Special Topics **1-6 credits**

HIST 200 Historical Inquiry **3 credits**
Students examine the ways scholars have studied, interpreted, debated and represented the past through time. This course introduces students to History as not only a discipline of study and scholarship but as an inquiry into human experience and a public pursuit. Students develop the research and writing skills required in the field of History across a variety of formats and topics. It is recommended students complete this course no later than sophomore year**.**

HIST 254 History of Africa **3 credits**
A survey of sub-Saharan African history from earliest times to the present, with particular emphasis on social, cultural, economic, and political responses to imperialist or other outside influences. GT-HI1

HIST 257 History of East Asia **3 credits**
A study of the civilization of China and Japan. The course offers a survey covering ancient, medieval, and modern developments, including cultural, religious, political, military, and economic factors.

HIST 258 History of Southeast Asia **3 credits**
A survey of the history of Southeast Asia, which includes the countries of Myanmar, Thailand, Singapore, Malaysia, Indonesia, the Philippines, Cambodia, Laos and Vietnam. Each regional discussion is organized by cultural, social, and political themes. This course stresses the influence of India and China on the region; cultural exchange in the region through warfare, trade, and religion; Western encroachment and colonialism; nationalistic movements in reaction to colonialism and oppression. The class ends with the effects of WWII.

HIST 260 History of Latin America **3 credits**
A survey of the major events and themes of Latin American History from pre-Columbian times through the modern era with special emphasis on the interaction of New and Old World cultures and the impact of colonization and the construction of national identity after independence into the modern era. GT-HI1

HIST 297 Special Topics **1-6 credits**

HIST 301 The Ancient World **3 credits**
Examines the cultural and political forces which led to the creation of Germany and then shaped its behavior through two world wars. Topics include the role of nationalism, the failure of liberalism, the causes of racism, and the nature of the Nazi regime. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 309 Modern Germany **3 credits**
Examines the cultural and political forces which led to the creation of Germany and then shaped its behavior through two world wars. Topics include the role of nationalism, the failure of liberalism, the causes of racism, and the nature of the Nazi regime. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 313 Early Modern Europe: Topics **3 credits**
An in-depth study into themes and or regions of early modern European history (15th-18th centuries). This course examines the political, cultural, military, social, environmental, and economic evolutions of the era. Class may be taken twice for credit. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 311 The Medieval World **3 credits**
Studies of the medieval world. This course is a rotating topic which may include studies of the Black Death and Europe, the Byzantines, Shogun Era in Japan, Irish and Scots, the 'Vikings' or specific African and Asian cultures. Class may be taken twice for credit. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 312 Renaissance and Reformation **3 credits**
A course which covers the Babylonian Captivity of the Roman Catholic Church; the artistic, literary, and political developments of Renaissance Italy and Northern Europe; the subsequent emergence of the Protestant Reformation; and the religious wars which engulfed Europe. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 317 Modern Europe: Topics **3 credits**
An in-depth study into themes of modern European history (19th-20th centuries). This course examines themes of political, cultural, military, social, environmental, and economic evolutions of the 20th century. Class may be taken twice for credit. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 315 France and the Revolution **3 credits**
A study of the origins, character, and significance of the French Revolution. This course begins with an examination of the relation of the Old Regime to the failure of absolutism and concludes with a discussion of the general nature of revolution and social change. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 327 Colorado History **3 credits**
A study of the history of Colorado from prehistoric times to the modern era, emphasizing the Native American and Spaniard, mining, cattle, transportation and farming frontiers, and problems of the 20th century involving water, energy, and growth. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 330 Colonial American **3 credits**
A study of the indigenous peoples of North America and European expansion into the region including the French in Canada, Spanish in Florida and the English establishment of the Thirteen Colonies. Topics include colonial development, westward expansion, and conflicts with the indigenous populations, the role of women in the colonies, and social, intellectual, political and military activities from 1607 to the French Indian War in 1754. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 333 American Revolution and the Early Republic **3 credits**
A study of the economic, social and political causes of the American Revolution. Focused attention is given to the Articles of Confederation, Hamiltonian and Jeffersonian America, the Constitutional Convention, Bill of Rights, Jeffersonian and Jacksonian Democracy, Louisiana Purchase and the Lewis and Clarke expedition and the early national era. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 355 African History: Topics **3 credits**
This course examines a particular topic, era or region in African History thus course content will vary. Rotating topics may include colonialism, conflict, or a country or regional study. Students may take this course twice for credit. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 336 U.S. Civil War and Reconstruction **3 credits**
A study of the causes of the Civil War with emphasis on the differing worlds of the North and the South and the social, intellectual and economic movements of the time. The military actions of the war are examined and the legacy of the war considered. The challenges and issues of the post war years of Reconstruction are explored. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 340 Emergence of the Modern U.S. **3 credits**
A study of U.S. history from the end of Reconstruction in 1877 to the Great Depression in 1929. Topics include industrialization, immigration, the Progressive movement, the causes and impact of World War I and the exciting but troubled 1920s all leading to the Great Depression. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 343 Depression and World War II **3 credits**
An exploration of the ramifications that the economic collapse had on America's social, economic, cultural, and political life. The United States' entrance into the World War II is also discussed, with major focus on the changes that took place, both internally and abroad, because of the conflict. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 346 Recent American History **3 credits**
A history of the United States since 1945 with emphasis on the Cold War, the Eisenhower years, the turbulent decade of the 1960s, and the transformations of the 1970s and 1980s. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 348 History of the Trans-Mississippi West **3 credits**
A history of the Trans-Mississippi West from 1800 to the present time, emphasizing the Native Americans, Spanish settlement, and Westward Expansion. Manifest Destiny, mining and cattle frontiers, settlement of the Great Plains and the Rocky Mountains, closing of the western frontier, and the "New West" of today. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 349 History of the Hispanic Southwest **3 credits**
Students examine the historical development of Hispanic settlement and culture in the American Southwest from its inception to the present day. Students study the interaction of Hispanic communities with nomadic and settled indigenous peoples and with Anglo ranchers, settler and commercial interests. From the 16th century settlements to the Mexican-American War and the territory's incorporation into the United States to the development of the Chicano identity in the 20th century, students analyze the American Southwest, as a patria chica of success and failure, achievement and potential. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 350 Environmental History of the Borderlands **3 credits**
Students examine the process of historical development of the Borderlands region between Mexico and the United States and consider its implications for the region's environment. Settlement patterns, a blending of cultural and ethnic identities, economic development and integration and emerging social tensions have resulted in an environmental transformation of the region with far-reaching implications for both nations south of the Rio Grande/Bravo. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 351 History of Russia **3 credits**
A study of Russia which may include topics such as the development of Kievan Rus, the invasion and occupation of the Golden Horde, the Romanov line, Revolutionary Russia and the Soviet Union. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 360 Mexico **3 credits**
A broad survey of Mexican history from pre-Columbian times to the present, with particular emphasis on social, cultural, political and economic issues. This course also examines Mexico's relations with Europe during the colonial and early national periods and with the United States during the 19th and 20th centuries. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 364 Women in Latin American History **3 credits**
A survey of the roles of women in Latin American history. This course examines indigenous, Hispanic and mestizo women in economic, cultural, social and political roles from the pre-Columbian era to the modern period. Prerequisite: minimum sophomore standing or instructor permission; HIST 260 is recommended.

HIST 366 Modern Latin America **3 credits**
This class examines the modern era of Latin America tracing the transition of the region from colonies into free and independent nations. Students follow the development of Latin America through the nineteenth and twentieth centuries and explore the political, social, economic, and cultural changes that occurred throughout the region. The course explores how and why this region has changed and how Latin America has dealt with the challenges of the last 200 years. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 367 Latin American History: Topics **3 credits**
This course examines a particular topic, theme or region in Latin American History thus course content will vary. Topics may rotate between women and gender, film and history, travel accounts, environmental history or a country or regional study. Students may take this course twice for credit. Prerequisites: minimum sophomore status or instructor permission. HIST 200 recommended.

HIST 370 Public History **3 credits**
This course explores the ways historians have engaged the public with the past. It provides an introduction to the theory and practice of interpreting history in institutions such as museums, archives, historical societies, and in historic preservation projects, digital projects, and oral histories. The course examines theoretical constructs including memory, heritage, community and commemoration and explores how academic history and public history complement and enrich one another. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 371 Oral History Workshop **3 credits**
An examination of the theory and practice of the field of oral history. Through the course of the semester, students will examine the field of oral history, learn how to conduct oral history interviews, and produce an oral history. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 372 Monuments and Museums **3 credits**
Students explore the interconnected concepts of memory, change and time through the examination of monuments, memorials and museums. Through readings, discussions and field experiences students consider the representation of past events in public spaces and the ways in which such places can both shape a shared sense of the past and become sites of contention and representations of power. Students trace the evolution of museums and the nature of preservation, interpretation and scholarship of collections and exhibits. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 373 History of the National Parks Service **3 credits**
Students study the history and development of the National Parks Service of the United States exploring the social, political and economic attitudes towards Wilderness, preservation and conservation. Students trace the development of the guiding principles of the NPS and the evolution of the National Parks system over time while examining the development of national parks systems outside of the United States. This seminar also includes a number of weekend field trips to regional National Parks and National Historic Sites during the semester. Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 397 Special Topics **1-6 credits**
Prerequisites: minimum sophomore standing or instructor permission. HIST 200 recommended.

HIST 399 Internship in History **1-3 credits**
History majors and minors obtain archival, museum and public history experience through direct, supervised contact with archivists, curators and professionals from related areas. Prerequisites: HIST 200 and junior standing or instructor permission. Graded Satisfactory/Unsatisfactory only. Maximum 6 credits can be applied to the major.

HIST 402 Engaging the Past **3 credits**
Students explore the myriad of ways human beings engage with the Past. Through examination of the development and role of historical inquiry to how we preserve, restore, remember, reenact, manipulate and silence the past, students develop an understanding of how we interpret and analyze the Past as individuals, as communities and as Historians. The role of the historian in society and the ethical considerations which guide the Historian's work are woven through the course content. History majors should take this course during or after their second semester of their junior year. Prerequisites: HIST 200 and junior standing or instructor permission.

HIST 492 Independent Study **1-4 credits**
A special study in areas of student interest. May be taken for a maximum of four credits. Prerequisites: HIST 200 and junior standing or instructor permission.

HONORS PROGRAM (HNRS)

The Western Honors Program provides enhanced and challenging academic programming to a carefully selected group of highly motivated and accomplished students from all disciplines. The Honors Program at Western seeks to promote the goals of a liberal arts education by providing students with the opportunity to become autonomous learners within a highly supportive and collaborative academic community. Honors students are encouraged and challenged to free themselves from not only external constraints on the acquisition of knowledge and understanding but also from internal limitations that can prevent critical thinking, reflective analysis, and responsible choice. The Honors Program and its courses enables students to develop the capacity for informed analysis and responsible evaluation and a willingness to submit discoveries and conclusions to an academic community of their peers and mentors to be mutually investigated and critiqued. Small class size, extensive interaction among peers and teachers, experiences outside the traditional classroom, and interdisciplinary and multidisciplinary approaches to education are all features of the program. Such opportunities allow students to explore avenues of intellectual inquiry within and beyond their selected majors and minors.

Program Benefits. Honors students have the opportunity to become a part of a scholarly community composed of faculty and students committed to the pursuit of intellectual inquiry, creativity, and academic excellence. Benefits of membership in the Western Honors Program also include automatic eligibility for Honors housing and Honors classes, use of the Honors Center, computer lab and classroom in Taylor Hall, participation in Honors Orientation and Honors social and intellectual activities beyond the classroom, priority registration, exclusive opportunity to apply yearly for the Presidential Honors Scholarship, and special recognition at graduation upon completion of the program. Students may also register for Honors Special Topics classes or develop independent and special Honors projects which offer challenging and accelerated learning experiences inside and outside the regular course offerings.

Admission Requirements. Invitations to the program are extended to high school students who have achieved a 3.50 cumulative grade point average or who have successfully completed International Baccalaureate programs. The test score requirements are an ACT composite score of 25 or higher or an SAT composite score of 1190. First or second-year Western students who have a minimum overall 3.3 grade point average may also apply. Upper-division students are considered on an individual basis. Transfer students with 29 or fewer credits are invited to join Honors if they have achieved a minimum overall 3.3 college grade point average as well as fulfilled the high school GPA and test score requirements. Transfer students with 29 or more credits and a minimum overall 3.3 college grade point average are considered on an individual basis.

Program Requirements. Continuation in the program is based on maintaining an overall grade point average of 3.0. Graduation from the program requires a grade point average of 3.3 and completion of program requirements.

HONORS COUNCIL

Kelsey L. Bennett, Honors Director;
Nicole Becwar, Library; Brian Bernhardt, Politics & Government;
Al Caniff, Art; David Marchetti, Geology;
Ex Officio: Heather Thiessen-Reily, History

DESCRIPTION OF THE PROGRAM

A minimum of 21 credits is required:

HNRS 100 The Gateway	3 cr
HNRS 200 Honors Forum (repeated twice for 2 credits)	1 cr
HNRS 304 Introduction to the Great Conversation	1 cr
HNRS 400 Oxford Tutorial	1 cr
Honors General Education courses*	6 cr
Eight credits from the following (at least six credits must be upper division):	
HNRS 101 Honors Colloquium	1 cr
HNRS 197 Special Topics	1-3 cr
HNRS 201 Honors Colloquium	1 cr
HNRS 202 Service Learning in Honors	1-2 cr
HNRS 297 Special Topics	1-3 cr
HNRS 301 Honors Colloquium	1 cr
HNRS 302 Service Learning in Honors	1-2 cr
HNRS 303 Honors Field Studies	1-2 cr
HNRS 305 Place as Text	2-3 cr
HNRS 397 Special Topics	1-3 cr
HNRS 402 Service Learning in Honors	1-2 cr
HNRS 401 Honors Colloquium	1 cr
HNRS 403 Honors Field Studies	1-2 cr

HNRS 492 Independent Study	1-3 cr
HNRS 494 Thesis Preparation	1 cr
HNRS 495 Thesis	2-3 cr
HNRS 497 Special Topics	1-3 cr

*The six Honors General Education credits will be redistributed to Honors Electives for students who enter the Honors program with completed General Education programs either through Western or gtPathways.

HONORS COURSES

HNRS 100 The Gateway **3 credits**

Through the Gateway students are introduced to different ways of knowing thereby laying the foundation for the further development of a liberal arts education. Students enhance their capacity for informed analysis, responsible evaluation and effective argument construction leading to the ability to base actions and decisions upon the former. The students are encouraged to recognize value in varying epistemologies and engage in an active and intellectual exchange of ideas as part of an academic community formed via students' and instructors' co-investigation of various topics and disciplines. The course culminates with student-chosen and directed group presentations. Prerequisites: admission to the Honors Program and participation in the Honors Orientation program.

HNRS 101 Honors Colloquium **1 credit**

A complement to courses offered outside of the Honors program. Through formal arrangement between a course instructor and the Honors Program, the instructor and student develop an additional course project(s) to allow the Honors student enrolled in the class deeper engagement with the course material. Honors students who successfully complete both the Colloquium and the course to which it is linked receive Honors credit for both. May be taken more than once. Prerequisite: Completion of the Honors Colloquium project form in consultation with supervising faculty and the Honors Director.

HNRS 197 Special Topics **1-3 credits**

HNRS 200 Honors Forum **1 credit**

An application of the core principles of the Honors Program including active learning, interpretation, integration and collaborative learning. Students engage in active investigation and intellectual exchange of ideas and information surrounding a theme or topic agreed upon by all students in the class. The entire class determines an appropriate vehicle for a public presentation of their work and must demonstrate coherent understanding of the selected issue or topic rather than presenting a collection of separate insights. Prerequisites: HNRS 100, and sophomore standing.

HNRS 201 Honors Colloquium **1 credit**

A complement to courses offered outside of the Honors program. Through formal arrangement between a course instructor and the Honors Program, the instructor and student develop an additional course project(s) to allow the Honors student enrolled in the class deeper engagement with the course material. Honors students who successfully complete both the Colloquium and the course to which it is linked receive Honors credit for both. May be taken more than once. Prerequisite: Completion of the Honors Colloquium project form in consultation with supervising faculty and the Honors Director.

HNRS 202 Service Learning in Honors **1-2 credits**

Service Learning in Honors complements university course offerings by adding a hands- on service learning component with a community organization or community project. Through formal arrangement between an instructor and the Honors Program, the instructor meets with Honors students enrolled in the class to help provide specific disciplinary insights on issues affecting local communities, providing students with an opportunity to apply concepts, theories, and methods to practical real-world issues. Students gain familiarity with social problems and social responses, learn about communities as informed citizens, and gain expertise about the relationship between their roles as students and citizens. Honors students who complete both the Service Learning and the course to which it is linked receive Honors credit for both. Service Learning may be taken more than once. Prerequisite: Completion of the Honors Service Learning project form in consultation with supervising faculty and the Honors Director.

HNRS 297 Special Topics **1-3 credits**

HNRS 301 Honors Colloquium **1 credit**

A complement to courses offered outside of the Honors program. Through formal arrangement between a course instructor and the Honors Program, the instructor and student develop an additional course project(s) to allow the Honors student enrolled in the class deeper engagement with the course material. Honors students who successfully complete. both the Colloquium and the course to which it is linked receive Honors credit for both. May be taken more than once. Prerequisite: Completion of the Honors Colloquium project form in consultation with supervising faculty and the Honors Director.

HNRS 302 Service Learning in Honors **1-2 credits**

Service Learning in Honors complements university course offerings by adding a hands-on service learning component with a community organization or community project. Through formal arrangement between an instructor and the Honors Program, the instructor meets with Honors students enrolled in the class to help provide specific disciplinary insights on issues affecting local communities, providing students with an opportunity to apply concepts, theories, and methods to practical real-world issues. Students gain familiarity with social problems and social responses, learn about communities as informed citizens, and gain expertise about the relationship between their roles as students and citizens. Honors students who complete both the Service Learning and the course to which it is linked receive Honors credit for both. Service Learning may be taken more than once. Prerequisite: Completion of the Honors Service Learning project form in consultation with supervising faculty and the Honors Director.

HNRS 303 Honors Field Experience **1-2 credits**

Honors students develop field experiences outside the classroom to complement courses with-out specified field experiences or to develop a more in-depth project for disciplinary-based field experiences. Through formal arrangement between the instructor and the Honors Program, the instructor meets with Honors students enrolled in the class to develop a specific field experience related to the course material. Honors students who successfully complete both the Field Experience and the course to which it is linked receive Honors credit for both. May be taken more than once. Prerequisite: Completion of the Honors Field Experience project form in consultation with supervising faculty and the Honors Director.

HNRS 304 Introduction to the Great Conversation **1 credit**

An introduction to the ongoing discussion of the timeless and universal ideas that are the foundation of Western Civilization. Students pursue the study of these ideas through guided reading of selections taken from the range of Western intellectual history. Prerequisites: HNRS 100, and junior standing, or instructor permission.

HNRS 305 Place as Text **2-3 credits**

Provides Honors students with opportunities to integrate experiences of theory and observation with place, time and self through a site-specific active learning experience. Students participate in a series of orientation sessions and complete associated assignments in preparation for a site visit. The class travels to a selected site and explores the concept of "extending text' and mapping the site from a variety of multi and inter-disciplinary perspectives. Modeled on the National Collegiate Honors Council City as Text program. Students may take this course twice for credit. Prerequisite: junior standing.

HNRS 397 Special Topics **1-3 credits**

HNRS 400 Oxford Tutorial **1 credit**

Honors students come together as autonomous learners in a supportive academic community to investigate a mutually decided upon theme or topic relating to a liberal arts education and constructive citizenship. Students are expected to illustrate a mastery of the goals promoted by the Honors Program and a liberal arts education including the rigorous application of analysis resulting in a coherent and integrated understanding of the selected theme or topic. Provides an opportunity to engage in larger philosophical inquiry and debate. Prerequisite: HNRS 200, HNRS 304 and senior standing or instructor permission.

HNRS 401 Honors Colloquium **1 credit**

A complement to courses offered outside of the Honors program. Through formal arrangement between a course instructor and the Honors Program, the instructor and student develop an additional course project(s) to allow the Honors student enrolled in the class deeper engagement with the course material. Honors students who successfully complete both the Colloquium and the course to which it is linked receive Honors credit for both. May be taken more than once. Prerequisite: Completion of the Honors Colloquium project form in consultation with supervising faculty and the Honors Director.

HNRS 402 Service Learning in Honors **1-2 credits**

Service Learning in Honors complements university course offerings by adding a hands-on service learning component with a community organization or community project. Through formal arrangement between an instructor and the Honors Program, the instructor meets with Honors students enrolled in the class to help provide specific disciplinary insights on issues affecting local communities, providing students with an opportunity to apply concepts, theories, and methods to practical real-world issues. Students gain familiarity with social problems and social responses, learn about communities as informed citizens, and gain expertise about the relationship between their roles as students and citizens. Honors students who complete both the Service Learning and the course to which it is linked receive Honors credit for both. Service Learning may be taken more than once. Prerequisite: Completion of the Honors Service Learning project form in consultation with supervising faculty and the Honors Director.

HNRS 403 Honors Field Experience **1-2 credits**

Honors students develop field experiences outside the classroom to complement courses without specified field experiences or to develop a more in-depth project for disciplinary-based field experiences. Through formal arrangement between the instructor and the Honors Program, the instructor meets with Honors students enrolled in the class to develop a specific field experience related to the course material. Honors students who successfully complete both the Field Experience and the course to which it is linked receive Honors credit for both. May be taken more than once. Prerequisite: Completion of the Honors Field Experience project form in consultation with supervising faculty and the Honors Director.

HNRS 492 Independent Study **1-3 credits**

An opportunity for Honors students to undertake detailed study and/or research into a unique topic or issue stemming from an interdisciplinary or multi-disciplinary approach under supervision of the Honors Director and appropriate regular faculty. May be taken for a maximum of three credits in one semester. Maximum credit toward Honors Program is six credits.

HNRS 494 Thesis Preparation **1 credit**

An introduction to the process of developing a thesis project. Students will undertake initial research on a potential thesis topic, develop a research plan and write a thesis proposal in preparation of writing an Honors thesis.

HNRS 495 Thesis **2-3 credits**

The student is required to complete a written thesis based on advanced study in a self-designed research project and present his/her findings to the Honors Council in a public forum. The project must be supervised by a faculty member from a field of study relevant to the student's thesis. Prerequisites: junior or senior standing; good standing in the Honors Program; and successful completion of at least nine hours in Honors, including HNRS 100 and HNRS 494.

HNRS 497 Special Topics **1-3 credits**

LATIN AMERICAN STUDIES

Latin America is a complex and diverse region that resulted from the encounter of indigenous societies, European colonizers, and African peoples. Latin America today is one of the most dynamic regions in the world in terms of economic growth, political interaction with the U.S., and the preservation of natural and cultural resources. The minor in Latin American Studies provides students an opportunity to study this region from a variety of disciplinary angles. By employing the tools of various disciplines, including Art and Art History, the Spanish language, History, Geography and others, students can begin the process of understanding the fascinating peoples and nations of Latin America. The increasing interdependence of the Americas demands that students gain as much exposure as possible to the issues and forces related to the constantly changing relationship between the United States and Latin America.

FACULTY

Phil Crossley, Heather Orr, Heather Thiessen-Reily, Lynn Sikkink

DESCRIPTION OF THE PROGRAM

Latin American Studies Minor:

The Latin American Studies minor consists of 21 credits: 15 credits of core courses and 6 credits of electives:

ART 421 Art of Mesoamerica and the Andean Region of South America	3 cr
GEOG 351 Geography of Latin America and the Caribbean	3 cr
HIST 260 History of Latin America	3 cr
SPAN 101 Beginning Spanish I*	3 cr
SPAN 102 Beginning Spanish II*	3 cr
LAS 400 Latin American Studies Senior Portfolio	0 cr
*Two of the following***:*	
ANTH 320 Cultural Ecology	3 cr
ECON 303 International Economics and Globalization	3 cr
HIST 360 Mexico	3 cr
HIST 366 Modern Latin America	3 cr
HIST 367 Latin American History: Topics	3 cr
POLS 255 Introduction to Comparative Politics	3 cr
SPAN 341 Latin American Civilization and Culture	3 cr

*Students may substitute SPAN 101 with SPAN 254 and substitute SPAN 102 with SPAN 255. Requests for substitute languages spoken in Latin America (e.g. Portuguese) may be submitted to the designated coordinators of the Latin American Studies minor for substitution consideration.

**Students may petition to have other courses that have at least 40% Latin American content count toward the minor. The student is required to submit written evidence of the Latin American content of such courses, including the instructor's signature, to the Coordinator for approval

LATIN AMERICAN STUDIES COURSES

LAS 400 Latin American Studies Senior Portfolio **0 credit**

A culminating experience to the minor in Latin American Studies in which students develop a portfolio of their best work from courses taken in the minor, and write a reflective essay indicating how those projects represent their learning in the program. The portfolio and essay will be assessed by the LAS Council members, and the Coordinator's signature is required as evidence of completion of the requirement. A grade of Satisfactory/Unsatisfactory will be reported to the Registrar once the portfolio has been evaluated by the Coordinator. Prerequisite: senior standing and prior completion of all, or co-enrollment in any remaining LAS requirements.

MATHEMATICS (MATH)

Mathematics is the language used to understand the universe, from atomic-level chemical reactions, to the motion of the planets around the sun, and everything in between. While many graduates continue on to masters- or doctoral-level studies it's no surprise that others use the critical thinking and reasoning skills learned at Western in a wide variety of fields including engineering, education, software programming, database management, research for business firms, and more. A degree in Mathematics can open the door to almost any career.

Western's Mathematics program provides several paths into these exciting professions. The standard major gives a sound foundation from which one can pursue advanced degrees or enter the business world with excellent quantitative skills. The secondary licensure emphasis is designed for people who want to teach in high schools or middle schools, where a shortage of well-qualified math teachers provides excellent job opportunities. The actuarial science emphasis trains students to analyze risk for the insurance and finance industries. Many actuarial science students are able to pass the first professional certification test before they graduate.

Regardless of one's major, the two mathematics minors will add quantitative skills critical to success and advancement in any profession. The standard minor provides a well-rounded set of problem solving skills and the ability to analyze complicated situations. The data analytics minor is designed to add the computational fluency which is driving nearly every profession now. This minor prepares students to analyze large data sets and extract valuable knowledge from data. These data are being produced in many fields and this minor allows students to work with professionals in other fields to derive appropriate solutions.

FACULTY

Professors Robert A. Cohen, Kimberly J. Fix, Jeremy Muskat, and Daniel L. Schuster;
Lecturers Erik Kjosness, and Zachary Treisman.

DESCRIPTION OF THE PROGRAMS

Each Mathematics Major requires the 25-credit Mathematics Core.

Mathematics Core

CS 190 Computer Science I	3 cr
MATH 151 Calculus I	4 cr
MATH 220 Introduction to Advanced Mathematics	3 cr
MATH 251 Calculus II	4 cr
MATH 260 Applied Linear Algebra	3 cr
MATH 451 Analysis I	3 cr
MATH 471 Abstract Algebra I	3 cr
MATH 495 Senior Seminar	2 cr

Mathematics Major: Standard Program

A minimum of 41 credits is required, including the 25-credit Mathematics Core and at least 16 credits from the following:

CS 191 Computer Science II	3 cr
MATH 213 Probability and Statistics	3 cr
MATH 252 Calculus III	4 cr
MATH 300 Introduction to Mathematical Modeling	3 cr
MATH 313 Statistical Modeling and Simulation	3 cr
MATH 314 Applied Probability	3 cr
MATH 317 Genome Analysis	3 cr
MATH 330 Topics in Geometry	3 cr
MATH 354 Differential Equations	3 cr
MATH 360 Linear Algebra	3 cr
MATH 370 History of Mathematics	3 cr
MATH 397 Special Topics	1-6 cr
MATH 414 Actuarial Mathematics	3 cr
MATH 456 Introduction to Complex Analysis	3 cr
MATH 497 Special Topics	1-6 cr

Mathematics Major: Comprehensive Programs

ACTUARIAL SCIENCE EMPHASIS

A minimum of 56 credits is required, including the 25-credit Mathematics Core and the following:

BUAD 311 Essential Excel Skills for the Workplace	1 cr
BUAD 312 Advanced Excel Applications	2 cr
ECON 201 Macroeconomics	3 cr
ECON 202 Microeconomics	3 cr
ECON 316 Econometrics	3 cr
ECON 361 Money, Banking, and Financial Markets	3 cr
MATH 213 Probability and Statistics	3 cr
MATH 252 Calculus III	4 cr
MATH 313 Statistical Modeling and Simulation	3 cr
MATH 314 Applied Probability	3 cr
MATH 414 Actuarial Mathematics	3 cr

SECONDARY LICENSURE EMPHASIS

This emphasis qualifies students for the State of Colorado License to teach Mathematics in junior high, middle school or high school. Students interested in pursuing this comprehensive program should consult with the Teacher Education Program advisor in addition to the advisor in their major as soon as possible. A minimum of 50 credits is required including the 25-credit Mathematics Core and the courses listed below. In addition, the student must fulfill the requirements of the Secondary Licensure Program (see description under Education).

MATH 213 Probability and Statistics	3 cr
MATH 252 Calculus III	4 cr
MATH 266 Secondary Mathematics from an Advanced Perspective	3 cr
MATH 330 Topics in Geometry	3 cr
MATH 360 Linear Algebra	3 cr
MATH 366 Methods of Teaching Secondary Mathematics	3 cr
MATH 370 History of Mathematics	3 cr
One of the following:	
MATH 300 Mathematical Modeling	3 cr
MATH 313 Statistical Modeling and Simulation	3 cr

Mathematics Minor

The Mathematics Minor requires a minimum of 18 credits:

MATH 151 Calculus I	4 cr
MATH 251 Calculus II	4 cr
MATH elective (300-level or above)	3 cr
At least seven credits from the following:	
MATH 213 Probability and Statistics	3 cr
MATH 220 Introduction to Advanced Mathematics	3 cr
MATH 252 Calculus III	4 cr
MATH 260 Applied Linear Algebra	3 cr
MATH 275 Scientific Programming Modeling and Simulation	3 cr
MATH 297 Special Topics	3 cr
or any upper-division Mathematics course	3 cr

Data Analytics Minor

The Data Analytics Minor consists of the following courses:

One of the following:	
MATH 213 Probability and Statistics	3 cr
ECON 216 Statistics for Business and Economics	3 cr
And:	
CS 190 Computer Science I	3 cr
ECON 202 Microeconomics	3 cr
MATH 260 Applied Linear Algebra	3 cr
MATH 313 Statistical Modeling and Simulation	3 cr
ECON 316 Econometrics	3 cr
CS 303 Machine Learning	3 cr

Capstone Course Requirement. The following course fulfills the capstone course requirement: MATH 495 Senior Seminar

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MATHEMATICS COURSES

MATH 098 Beginning Algebra **3 credits**
An introduction to algebra with a review of basic arithmetic. Includes decimals, fraction, percentage, ratio, proportion, signed numbers, algebraic expressions, factoring, exponents and radicals, linear equations, and graphs. Credit does not count toward graduation. Graded Satisfactory/Unsatisfactory only.

MATH 099 Intermediate Algebra **3 credits**
A review of the arithmetic of fractions and decimals, percentage problems, signed numbers, arithmetic, and topics of basic algebra, including simplifying algebraic expressions, solving and graphing linear equations, basic factoring, working with algebraic fractions, and solving rational and quadratic equations. This course is designed for students who need a review of the basic algebra skills necessary to complete the required mathematics course MATH 140. Credit does not count toward graduation. Graded Satisfactory/ Unsatisfactory only. Prerequisite: ACT math score of 16 or above; SAT math score of 440 or above, MATH 098; or Accuplacer Elementary Algebra test score of 60 or above.

MATH 102 College Algebra Skills **1 credits**
A review of the math skills necessary to succeed in MATH 140, College Algebra. Prerequisites: an assessment equivalent to ACT math score between 17-20; SAT Math score between 450-530; an Accuplacer Elementary Algebra score between 75-105; and a high school GPA of 2.75 or higher. Co-requisite MATH 140. Note: this course is intended for those qualified students wanting to complete the Supplemental Academic Instruction (SAI) program in Math.

MATH 103 Statistical Thinking Skills **1 credit**
A review of the math skills necessary to succeed in MATH 113, Statistical Thinking. Prerequisites: an assessment equivalent to ACT math score between 16-20; a SAT Math score between 440-530; an Accuplacer Elementary Algebra score between 60-105; and a high school GPA of 2.75 or higher; or MATH 098. Co-requisite MATH 113. Note: this course is intended for those qualified students wanting to complete the Supplemental Academic Instruction (SAI) program in Math.

MATH 105 Mathematics for the Liberal Arts **3 credits**
Topics may include practical applications such as personal finance and numbers in the media, along with aesthetic applications such as connections between mathematics and art or music. GT-MA1

Math 113 Statistical Thinking **3 credits**
A course introducing the ideas of statistical analysis. Topics include data visualization and summarization, parameter estimation, and hypothesis testing. This course emphasizes practical aspects of data analysis and makes extensive use of spreadsheets and real data. Prerequisite: ACT math score of 21 or above; SAT math score of 540 or above; MATH 099; or Accuplacer Elementary Algebra test score of 106 or above; or co-requisite MATH 103 (SAI). GT-MA1

MATH 140 College Algebra **3 credits**
An integration of the essential algebraic manipulations, solving equations and inequalities, polynomial functions, exponential and logarithmic functions, and techniques of graphing. Prerequisite: ACT math score of 21 or above; SAT math score of 540 or above; MATH 099; or Accuplacer Elementary Algebra test score of 106 or above; or co-requisite MATH 102 (SAI). GT-MA1

MATH 141 Precalculus **4 credits**
This course explores the theory and applications of trigonometry, and includes an introduction to vector and matrix analysis. Topics may include the unit circle, triangle trigonometry, trigonometric functions, polar coordinates, complex numbers, vector geometry, and applied matrix techniques. Prerequisite: ACT math score of 23 or above; SAT math score of 560 or above; MATH 140 with a minimum grade of "C-"; or Accuplacer university- level mathematics test with a score of 65 or above.

MATH 151 Calculus I **4 credits**
A study of differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. This course also introduces Integral calculus including anti-derivatives, definite integrals, and the Fundamental Theorem of Calculus. Prerequisite: ACT math score of 27 or above; SAT math score of 630 or above; MATH 141 with a minimum grade of "C-"; or Accuplacer university-level mathematics test with a score of 95 or above.

MATH 197 Special Topics **1-6 credits**

MATH 200 Discrete Mathematics **3 credits**
Designed to provide some of the mathematical background necessary for advanced work in computer science. Topics include logic, set theory, Boolean algebra, switching theory, counting and enumeration, number theory, mathematical induction, linear modeling, basic matrix algebra, and the graphical and simplex methods of linear programming. Applications of the topics covered are emphasized. Prerequisite: MATH 141 with a minimum grade of "C-."

MATH 209 Mathematics for Elementary School Teachers I **3 credits**
First of two courses designed for prospective elementary teachers. Emphasizes the real number system, arithmetic operations, and algebra. Explorations focus on representing, analyzing, generalizing, formalizing, and communicating patterns and structures. Content is presented using problem solving and exploration. Prerequisite: ACT math score of 23 or above; SAT math score of 560 or above; MATH 140 with a minimum grade of "C-"; or Accuplacer university-level mathematics test with a score of 65 or above.

MATH 210 Mathematics for Elementary School Teachers II **3 credits**
Second of two courses designed for prospective elementary teachers. Emphasizes probability, data analysis, and geometry. Explorations focus on representations of data and two-and three-dimensional shapes, their properties, measurements, constructions, and transformations. Prerequisite: MATH 209 with a minimum grade of "C-."

MATH 213 Probability and Statistics **3 credits**

A course in the use of statistical techniques to draw knowledge from data. Topics include exploratory data analysis, descriptive statistics, t-procedures, ANOVA, chi squared procedures, regression, and non-parametric tests. Statistical software is used extensively to analyze real data sets. Prerequisite: MATH 141 with a minimum grade of "C-," or Accuplacer university-level mathematics test score of 85 or above; or instructor permission.

MATH 220 Introduction to Advanced Mathematics **3 credits**

Students develop and use elementary logic and set theory to construct deductive proofs with relations, functions, and some algebraic structures. Topics include indexing, equivalence relation theory, and cardinality. Prerequisite: MATH 151 with a minimum grade of "C-."

MATH 232 Applied Calculus for the Managerial and Social Sciences **3 credits**

An introduction to differential and integral calculus for students majoring in business, accounting or the social sciences. The calculus is presented using a variety of real-world business and economic applications, stressing marginality, elasticity, and accumulation. Prerequisite: ACT math score of 23 or above; SAT math score of 560 or above; MATH 140 with a minimum grade of "C-"; or Accuplacer university- level mathematics test with a score of 65 or above.

MATH 251 Calculus II **4 credits**

Topics include techniques of integration, area computations, improper integrals, infinite series and various convergence tests, power series, Taylor's Formula, polar coordinates, and parametric curves. Prerequisite: MATH 151 with a minimum grade of "C-."

MATH 252 Calculus III **4 credits**

Topics include calculus of functions of several variables, differentiation and elementary integration, vectors in the plane and space. Prerequisite: MATH 251 with a minimum grade of "C-."

MATH 260 Applied Linear Algebra **3 credits**

A course in the techniques and applications of linear algebra. The core topics include solving systems of linear equations, eigenvalues and eigenvectors, matrix decomposition, the pseudoinverse and least squares approximations, and the singular value decomposition. The theory is supplemented with extensive applications and computer programming. Prerequisite: MATH 141.

MATH 266 Secondary Mathematics from an Advanced Perspective **3 credits**

A course designed to help Secondary Licensure Emphasis majors understand the core mathematical content of high school mathematics courses before calculus. These concepts are treated from an advanced standpoint, emphasizing connections and extensions. Topics include number systems, polynomial and transcendental functions, analytic geometry, theory of equations, and measurement. Prerequisite: MATH 151 with a minimum grade of "C-."

MATH 275 Scientific Programming, Modeling and Simulation **3 credits**

Designed to develop programming skills appropriate for scientific and industrial applications. Topics may include numerical solution of differential equations, singular value decomposition, and Fourier analysis. Emphasis is placed on problem modeling, algorithm development, and data visualization. Prerequisites: CS 190 and MATH 151 with minimum grades of "C-."

MATH 297 Special Topics **1-6 credits**

MATH 300 Introduction to Mathematical Modeling **3 credits**

Designed to teach the basic principles of mathematical modeling and applied mathematics. Techniques from calculus, statistics, and probability are utilized to model real-world problems. Analytic and numeric tools are used to implement the models, obtain predictions and investigate underlying mechanisms. Topics include dimensional analysis, curve fitting, simulations, differential and difference equations. Prerequisites: MATH 251 and MATH 213 with minimum grades of "C-."

MATH 313 Statistical Modeling and Simulation **3 credits**

A study of statistical techniques used to model and simulate stochastic processes. The core topics include linear and nonlinear multivariate models, generalized additive models, time series models with auto-correlated error, and mixed effects models. Emphasis is placed on computational techniques appropriate to large data sets and data visualization. Prerequisites: MATH 213 or ECON 216, MATH 260, CS190.

MATH 314 Applied Probability **3 credits**

A study of the basic principles of probability theory and their applications. Topics include combinational analysis, conditional probabilities, discrete and continuous random variables, and measures of centrality and variance. Emphasis is placed on applications using probability distributions (including binomial, geometric, Poisson, uniform, exponential, and normal distributions) to assess and manage risk in the fields of finance, insurance, medicine, and quality control. Prerequisite: MATH 251 with minimum grade of "C-."

MATH 317 Genome Analysis (with laboratory) **3 credits**

This course introduces students to the appropriate mathematical techniques to answer questions about information contained in genetic sequences. These techniques may include dynamic programming, motif similarity, Bayesian models, hidden Markov models, principal component analysis, and clustering. Students use standard genome query tools to annotate genomic DNA. MATH 317 and BIOL 317 cannot both be taken for credit. Prerequisite: MATH 213 and either MATH 151 or CS 190.

MATH 330 Topics in Geometry **3 credits**

An introduction to modern geometries. Topics include synthetic, analytic, vector, and transformational approaches to geometry. Classification of geometries, axiomatics, and the application of geometry may also be included. Prerequisite or corequisite: MATH 220.

MATH 354 Differential Equations **3 credits**

A study of the theory and methods for solving ordinary differential equations. Prerequisite: MATH 251 with a minimum grade of "C-."

MATH 360 Linear Algebra **3 credits**
A study of systems of linear equations, matrix operations, vector spaces, properties of determinants, eigenvalues, eigenvectors, orthogonality and least-squares. Emphasis is placed on theoretical aspects and general vector space properties with proof. Prerequisite: MATH 260 and MATH 220 with minimum grades of "C-."

MATH 366 Methods of Teaching Secondary Mathematics **3 credits**
Secondary Licensure Emphasis majors learn to use the latest teaching techniques and technologies, to prepare valid mathematics tests, to be able to effectively evaluate their students, to know the latest developments in secondary mathematics curriculum, and to become familiar with professional mathematics teaching organizations and their journals. Prerequisites: MATH 220 and MATH 266 with minimum grades of "C-."

MATH 370 History of Mathematics **3 credits**
Acquaints the student with the historical development of mathematics. Includes an introduction to the proper methods and accepted formats of written, graphical, and oral communication in mathematics. Prerequisites: MATH 220 and MATH 251 with minimum grades of "C-."

MATH 375 Numerical Methods **3 credits**
A study of techniques of computation for power-series calculation of functions; roots of equations; nonlinear simultaneous equations; matrices, determinants, and linear simultaneous equations; numerical integration; and differential equations. Prerequisites: MATH 251 and either CS 275 or CS 310 with minimum grades of "C-."

Math 380 Introduction to Cryptography **3 credits**
A presentation of the mathematical background to modern cryptography. Topics include symmetric and asymmetric cryptography, block ciphers, hashing, digital signatures, RSA and discrete-logarithm-based systems, and error correction. The course emphasizes rigorous mathematical formulations as well as programing algorithms. Prerequisite: MATH 151 or CS 191 with minimum grade of "C-".

MATH 390 Introduction to Peer Tutoring in Mathematics **1 credit**
Strategies for tutoring mathematics at the university level, with a focus on presenting mathematical concepts and procedures, reducing anxiety, and improving study skills. May be repeated for up to four credits. Graded Satisfactory/Unsatisfactory only. Prerequisite: MATH 151 with a minimum grade of "B-" and instructor permission.

MATH 391 Seminar in Mathematics **1 credit**
A selected topic from areas of mathematics not usually included in the regular curriculum. Student involvement through presentations is emphasized. May be taken under different topics for a total of two credits.

MATH 392 Independent Study in Mathematics **1-4 credits**

MATH 397 Special Topics **1-6 credits**

MATH 414 Actuarial Mathematics **3 credits**
A study of mathematical concepts useful in risk management, including multivariate probability and interest theory. Topics include the Central Limit Theorem, joint distributions, combinations of distributions, conditional and marginal probabilities, time value of money, annuities, and loans. Emphasis is placed on solving problems from the actuarial field, including applications to insurance and business. Prerequisites: MATH 252 and MATH 314 with minimum grades of "C-."

MATH 451 Analysis I **3 credits**
An introduction to the theory of calculus. Topics include the usual topology of the reals, sequences, limits, continuity, differentiation, and Riemann integration. Prerequisites: MATH 220 and MATH 251 with minimum grades of "C-."

MATH 456 Introduction to Complex Analysis **3 credits**
An introduction to the theory and applications of complex variables. Topics include analytic and elementary functions, integrals, series, residues, and conformal mapping. Prerequisites: MATH 220 and MATH 252 with minimum grades of "C-."

MATH 471 Abstract Algebra I **3 credits**
An introduction to the theory of groups and rings. The fundamental group properties and concepts including cyclic groups, subgroups, direct products, symmetric groups, cosets, normal subgroups, and the group homomorphism theorems are discussed. Prerequisite: MATH 220 with a minimum grade of "C-" and at least three upper-division mathematics credits.

MATH 490 Workshop **2 credits**
A study of a variety of mathematical topics generally dictated by student interest. The course may be taken for credit three times if the content of the workshop differs.

MATH 495 Senior Seminar **2 credits**
A capstone course for all mathematics majors. Each student selects an area of interest, researches the selected area, generates a reference list and research paper, and presents the paper to a seminar of faculty and students. Prerequisites: MATH 260 and either MATH 451 or MATH 471.

MATH 496 Senior Seminar Professional Experience **1 credit**
Provides students an opportunity to prepare their Senior Seminar research for the mathematics community outside of Western. Graded Satisfactory/Unsatisfactory only. Prerequisite: instructor permission. Co-requisite: MATH 495.

MATH 497 Special Topics **1-6 credits**

MATH 499 Internship in Mathematics **1-12 credits**
Students participate in supervised field experience with a cooperating firm in the mathematics field. The sponsoring faculty member provides evaluations after the field experience is complete. A formal paper is required of the student. Specific department requirements must be met to participate in this course. Prerequisite: 18 credits of Mathematics course work, including nine upper-division credits.

MUSIC (MUS)

The discipline of music and music making requires the integration of technical skills, creativity, analytical thinking, and understanding. Students electing to study music work with faculty musicians in classes, ensembles, and private lessons to acquire basic musicianship skills, develop performance abilities, learn about music's role in past and present cultures, and gain the enthusiasm and tools needed for lifelong teaching and learning in the field of music. A degree in music within a liberal arts curriculum provides a broad background, allowing students to enter many careers and to pursue further study and graduate work in many areas. Graduates of Western's Music Department are now involved in a variety of careers, including the recording industry, concert management, counseling, librarianship, music business, accompanying, coaching, church music, independent teaching, and performance. Many graduates have elected to take the additional music and education courses leading to licensure in Music Education and are pursuing careers in the public schools of Colorado and the nation, often pursuing graduate study in a variety of fields within the education profession.

The Music Department also provides opportunities for all members of the Western community to gain rewarding musical experience as participants in ensembles. Many courses are offered to all students of the University to provide an awareness of music and its importance to all cultures. Free concerts by faculty, students, and guests are performed for the University and the Gunnison community.

Three Comprehensive Program Emphases are available for students who wish to major in music: Music Emphasis, Music Education Emphasis, and Business Emphasis. All programs require study in all areas of music—theory, basic keyboard skills, history and literature, individual and group performance, conducting, and research methods. The Music Education Emphasis includes additional methods and techniques courses designed to qualify students for music-teacher licensure in Colorado. Additional Education courses for the K-12 licensure are administered by the Education Program.

The Music Minor consists of theory and history courses and electives chosen from the offerings of the Music Department.

Western State Colorado University is an accredited institutional member of the National Association of Schools of Music.

FACULTY

Professor Robert H. Barrett and Heather D. Roberson;
Assistant Professor Steven S. Siegel;
Emeritus Professor Martha W. Violett; Senior Lecturer Kenneth W. Todd;
Lecturer Justin Bunting.

DESCRIPTION OF THE PROGRAM

All Music majors require the 28-credit Musicianship Core, 14 or 21 credits from the Performance Curriculum (depending upon the emphasis), the six credits (or the equivalent) of foreign language (not required for the Music Education Emphasis), and Concert and Convocation Attendance Course (must be taken each semester of residence with a "Satisfactory" grade a minimum of six semesters). A minimum grade of "C" is required in all Music courses counted toward the major. To qualify for graduation all Music majors must meet performance requirements and piano proficiency.

Musicianship Core

MUS 128 Theory of Music Laboratory I	1 cr
MUS 129 Theory of Music I	3 cr
MUS 130 Theory of Music Laboratory II	1 cr
MUS 131 Theory of Music II	3 cr
MUS 140 Introduction to Music	3 cr
MUS 212 Introduction to Music Technology	1 cr
MUS 253 Theory of Music Laboratory III	1 cr
MUS 254 Theory of Music III	3 cr
MUS 255 Theory of Music Laboratory IV	1 cr
MUS 256 Theory of Music IV	3 cr
MUS 352 History of Music	3 cr
MUS 353 History of Music	3 cr
MUS 491 Seminar in Research	2 cr

Performance Curriculum. The Performance Curriculum consists of courses in Conducting, Major Performing Organizations, Small Ensembles, and Private Lessons.

Conducting:

MUS 250 Beginning Conducting: Choral and Instrumental	2 cr

Major Performance Organizations: (courses may be repeated) The specific major performing organization required is determined by major instrument or voice.

MUS 101 Orchestra	1 cr
MUS 102 Band	1 cr
MUS 104 Chorus	1 cr
MUS 301 Orchestra	1 cr
MUS 302 Band	1 cr
MUS 304 Chorus	1 cr

Small Ensembles: (courses may be repeated)

MUS 121	Instrumental and Vocal Chamber Music	.5-1 cr
MUS 321	Instrumental and Vocal Chamber Music	1 cr
MUS 105	Opera	1 cr
MUS 305	Opera	1 cr

Private Lessons: (courses may be repeated)

MUS 180	Piano	1-2 cr
MUS 181	Organ	1-2 cr
MUS 182	Voice	1-2 cr
MUS 183	Violin	1-2 cr
MUS 184	Viola	1-2 cr
MUS 185	Cello	1-2 cr
MUS 186	Contra Bass	1-2 cr
MUS 187	Flute	1-2 cr
MUS 188	Oboe	1-2 cr
MUS 189	Clarinet	1-2 cr
MUS 190	Bassoon	1-2 cr
MUS 191	Saxophone	1-2 cr
MUS 192	Trumpet	1-2 cr
MUS 193	French Horn	1-2 cr
MUS 194	Trombone	1-2 cr
MUS 195	Baritone	1-2 cr
MUS 196	Tuba	1-2 cr
MUS 198	Percussion	1-2 cr
MUS 380	Piano	1-2 cr
MUS 381	Organ	1-2 cr
MUS 382	Voice	1-2 cr
MUS 383	Violin	1-2 cr
MUS 384	Viola	1-2 cr
MUS 385	Cello	1-2 cr
MUS 386	Contra Bass	1-2 cr
MUS 387	Flute	1-2 cr
MUS 388	Oboe	1-2 cr
MUS 389	Clarinet	1-2 cr
MUS 390	Bassoon	1-2 cr
MUS 391	Saxophone	1-2 cr
MUS 392	Trumpet	1-2 cr
MUS 393	French Horn	1-2 cr
MUS 394	Trombone	1-2 cr
MUS 395	Baritone	1-2 cr
MUS 396	Tuba	1-2 cr
MUS 398	Percussion	1-2 cr

Foreign Language. Six credits of foreign language are required in the Music Emphasis and Business Emphasis. This requirement may be fulfilled by passing the appropriate CLEP test if sufficient skill has been attained.

Concert and Convocation Attendance. All Music majors must take MUS 000 Concert and Convocation Attendance each semester in residence. Six semesters of MUS 000 with a grade of "satisfactory" are required of all Music majors prior to graduation.

Performance Requirements for Majors. In order to qualify for graduation, all Music majors must pass specific levels of performance as judged by a jury of Music faculty. All Music Education majors must also present a senior recital (MUS 400 Senior Recital). Majors in the Music Emphasis and the Business Emphasis may elect MUS 400 Senior Recital/Senior Project, or MUS 499 Internship. Please contact the Music Department for exact requirements.

Piano Proficiency. All students with a Music Major or Minor must pass the piano proficiency examination by the end of the required theory sequence. MUS 173 Piano Class, MUS 174 Piano Class, MUS 275 Piano Class, and MUS 276 Piano Class, may be taken for elective credits to prepare for the exam. Please contact the Music Department for exact requirements.

Music Major: Comprehensive Programs

MUSIC EMPHASIS

A minimum of 58 credits is required, including the 28-credit Musicianship Core, 21 credits from the Performance Curriculum (seven credits in Major Performance Organizations, four credits in Small Ensembles, eight credits in Private Lessons, the two-credit MUS 250 Beginning Conducting: Choral and Instrumental, the one-credit MUS 212 Introduction to Music Technology; students must be registered for a major performing organization every semester in residence), three credits of Music electives, Concert and Convocation Attendance, six credits of foreign language, Performance Requirement (MUS 400 Senior Recital/Senior Project, or MUS 499 Internship), and Piano Proficiency.

K-12 MUSIC EDUCATION EMPHASIS

This program prepares students for the State of Colorado License in Music Education. A minimum of 64 credits is required, including the 28-credit Musicianship Core, 21 credits from the Performance Curriculum (seven credits in Major Performance Organizations, four credits in Small Ensembles, eight credits in Private Lessons, the two-credit MUS 250 Beginning Conducting: Choral and Instrumental, the one-credit MUS 212 Introduction to Music Technology; students must be registered for a major performing organization every semester in residence), Concert and Convocation Attendance, the Performance Requirement (MUS 400 Senior Recital/ Senior Project), Piano Proficiency, and the following:

MUS 120 Introduction to Music Education	1 cr
MUS 212 Introduction to Music Technology	1 cr
MUS 213 Woodwind Methods	1 cr
MUS 214 Brass Methods	1 cr
MUS 215 String Methods	1 cr
MUS 216 Percussion Methods	1 cr
MUS 217 Voice Methods	1 cr
MUS 290 Introduction to Improvisation	1 cr
MUS 350 Advanced Conducting: Choral and Instrumental	2 cr
MUS 360 Teaching General Music in Elementary Schools	2 cr
MUS 365 Methods and Philosophy of Teaching and Supervising Instrumental Music in the Public Schools: K-12	2 cr
MUS 370 Methods and Philosophy of Teaching and Supervising Vocal and General Music in the Public Schools: K-12	2 cr

The student must also fulfill the requirements of the K-12 Music Licensure Program (see description under Education) to qualify for the Colorado License in Music Education. Please contact the Chair of the Department of Music or the Director of the Teacher Education Program for exact required course work in Education.

BUSINESS EMPHASIS

A minimum of 66 credits is required including the 28-credit Musicianship Core, 14 credits in Musical Performance (seven credits from Major Performing Organizations or Small Ensembles and seven credits from Private Lessons), the one-credit MUS 312 Introduction to Music Technology, Performance Requirement (MUS 400 Senior Recital/ Senior Project, or MUS 499 Internship), Piano Proficiency, the six-credit foreign language requirement, Concert and Convocation Attendance, and the following:

ACC 201 Introduction to Financial Accounting	3 cr
BUAD 210 Legal Environment of Business	3 cr
MUS 212 Introduction to Music Technology	3 cr
BUAD 270 Principles of Marketing	3 cr
BUAD 333 Organizational Behavior	3 cr
One of the following:	
CS 120 Professional Computer Skills	3 cr
BUAD 220 Computer Applications in Business	3 cr
One of the following:	
ECON 201 Macroeconomics	3 cr
ECON 202 Microeconomics	3 cr

Music Minor

A minimum of 19 credits is required, including at least three hours of upper-division credit from private lessons or performing organizations. The Piano Proficiency is required of Music Minors. A minimum grade of "C" is required in all music courses counted toward the Music Minor.

Required courses:

MUS 128 Theory of Music Laboratory I	1 cr
MUS 129 Theory of Music I	3 cr
MUS 130 Theory of Music Laboratory II	1 cr
MUS 131 Theory of Music II	3 cr
MUS 140 Introduction to Music	3 cr

Private Lessons	4 cr
Major Performing Organizations or Small Ensembles	4 cr

Music Technology Minor

This program is designed to expose students to recording practices, electronic music composition, and other topics occurring at the intersection of music and technology. A minimum of 19 credits is required. A minimum grade of "C" is required in all courses counted toward the Music Technology Minor.

Required courses:

MUS 129 Theory of Music I	3 cr
MUS 131 Theory of Music II	3 cr
MUS 212 Introduction to Music Technology	1 cr
MUS 313 Music Production	1 cr
At least nine credits from the following:	
PHYS 115 Physics of Music	3 cr
MUS 135 Introduction to Algorithmic Music	3 cr
CS 190 Computer Science I	3 cr
CS 311 Embedded Systems	3 cr

Capstone Course Requirement. The following course in the Music Major fulfills the Capstone Course Requirement: MUS 491 Seminar in Research.

MUSIC COURSES

MUS 000 Concert and Convocation Attendance **0 credits**

Designed to encourage concert and convocation attendance as a means of learning about music literature and style, performance practice, and topics of interest to musicians. Attending 75 per cent of the posted events in each semester (as either listener or performer) qualifies as a "Satisfactory" grade. Graded Satisfactory/Unsatisfactory only.

MUS 100 Fundamentals of Music **3 credits**

An introduction to music literacy and theory. Students acquire basic skills of reading, writing, and performing music and gain an understanding of scales, intervals, chords, and transposition. The course is open to students with little or no musical background. GT-AH1

MUS 101 Orchestra **1 credit**

Open to all who play orchestral instruments and who wish to experience playing orchestral music. The course includes the study and performance of orchestral literature.

MUS 102 Band **1/2-1 credit**

Open to all who play band instruments. The course includes the study and performance of symphonic band literature. Membership is open to Music majors and non-Music majors by audition. Credit is determined by the type of ensemble and amount of rehearsal time.

MUS 104 Chorus **1/2-1 credit**

An opportunity for participation in a vocal ensemble. The Western Concert Choir per forms choral masterworks from all historical periods of music and also performs major works as part of the Western University-Community Choir. Membership is open to Music majors and non-Music majors by audition. Credit is determined by the type of ensemble and amount of rehearsal time.

MUS 105 Opera **1 credit**

Designed to provide experience in musical-dramatic activities. May be taken two times for credit. Prerequisite: admission by campus-wide audition.

MUS 120 Introduction to Music Education **1 credit**

An introductory course for the music major interested in music education K-12. This course provides students with an overview of the concepts, methods and techniques used in music education. Students learn the historical, philosophical, and practical conventions, of all areas of music education, including elementary music, choir orchestra, and band. Students examine different aspects involved in teaching music in public schools, goals of various music programs, and existing curricula including sample lesson plans. Included is an introduction to the Colorado standards for music education K-12 and technology used in music education. Prerequisite to the 300-level music education methods classes.

MUS 121 Instrumental and Vocal Chamber Music **1/2-1 credit**

Designed to give the student-musician rehearsal and performance experience in the area of ensemble and chamber music. Includes the Brass, Woodwind, Percussion, String, and Jazz Ensembles, as well as Chamber Singers, and additional small ensembles. Membership is open to Music majors and non-Music majors by audition. Credit is deter- mined by the type of ensemble and amount of rehearsal time.

MUS 128 Theory of Music Laboratory I **1 credit**

Development of musicianship skills related to MUS 129. Students will study, sight read, and perform rhythms, melodies in major and minor keys, intervals, scales, and diatonic chord progressions. Students will also learn to take melodic, harmonic, and rhythmic dictation. (Offered spring) Prerequisite: MUS 100 or the equivalent. Corequisite: MUS 129.

MUS 129 Theory of Music I **3 credits**
A study of musical analysis, notation, and composition. This course concentrates on fundamentals such as major and minor scales, meter, rhythm, pitch intervals, key signatures, triads and inversions, chord building, harmonic progressions, figured bass interpretation, and voice leading. (Offered spring) Prerequisite: MUS 100 or the equivalent.

MUS 130 Theory of Music Laboratory II **1 credit**
Designed to enhance and build on the musical skills and knowledge learned in MUS 128 and MUS 129 and develop those areas of musicianship through voice performance and dictation. This course builds on knowledge of diatonic triads with the inclusion of inversions, 4-part harmonic contexts, and diatonic seventh chords. Sight singing exercises feature greater melodic leaps and syncopation. (Offered fall) Prerequisite: MUS 128 and MUS 129 with minimum grades of "C." Corequisite: MUS 131.

MUS 131 Theory of Music II **3 credits**
A study of musical analysis, notation, and composition. This course builds on knowledge gained in MUS 128 and MUS 129 and introduces non-chord tones, diatonic seventh chords, small forms, and cadences. This course completes the comprehensive study of diatonic, common practice harmony. (Offered fall) Prerequisites: MUS 129 with minimum grade of "C."

MUS 135 Introduction to Algorithmic Music **3 credits**
An introduction to musical representation and creation using computer programming code. This class explores musical concepts using functional language programming techniques. Primary topics include representation of musical structures through abstraction and thematic code-based composition using generative structures. Significant focus is placed on modern compositional styles that can be expressed using algorithmic tools.

MUS 140 Introduction to Music **3 credits**
A study of the elements of musical structure designed to form a basis for intelligent listening. Music is selected to illustrate representative styles of music from different historical periods and world cultures. Required of Music majors and minors during their freshman year. GT-AH1

MUS 173 Piano Class **1 credit**
Beginning piano.

MUS 174 Piano Class **1 credit**
A continuation of MUS 173.

MUS 180 Piano **1-2 credits**
Private instruction.

MUS 181 Organ **1-2 credits**
Private instruction. Prerequisite: at least four years of private piano study.

MUS 182 Voice **1-2 credits**
Private instruction.

MUS 183 Violin **1-2 credits**
Private instruction.

MUS 184 Viola **1-2 credits**
Private instruction.

MUS 185 Cello **1-2 credits**
Private instruction.

MUS 186 Contra Bass **1-2 credits**
Private instruction.

MUS 187 Flute **1-2 credits**
Private instruction.

MUS 188 Oboe **1-2 credits**
Private instruction.

MUS 189 Clarinet **1-2 credits**
Private instruction.

MUS 190 Bassoon **1-2 credits**
Private instruction.

MUS 191 Saxophone **1-2 credits**
Private instruction.

MUS 192 Trumpet **1-2 credits**
Private instruction.

MUS 193 French Horn **1-2 credits**
Private instruction.

MUS 194 Trombone **1-2 credits**
Private instruction.

MUS 195 Baritone **1-2 credits**
Private instruction.

MUS 196 Tuba **1-2 credits**
Private instruction.

MUS 197 Special Topics **1-6 credits**

MUS 198 Percussion **1-2 credits**
Private instruction.

MUS 212 Introduction to Music Technology **1 credits**
Designed to acquaint students with music technology hardware (including MIDI-Musical
Instrument Digital Interface) and a variety of software programs to enhance learning, teaching, and performing situations at all ages and levels. Students have the opportunity to work with available equipment. Offered in alternate years (Fall 2018). Prerequisite: MUS 100 or MUS 129 with a minimum grade of "C" or instructor permission.

MUS 213 Woodwind Methods (with laboratory) **1 credit**
Designed to cover basic performing skills and teaching techniques for all woodwind instruments. Emphasis is on application in the elementary, middle, and secondary schools. Offered in alternate years (Spring 2020).

MUS 214 Brass Methods (with laboratory) **1 credit**
Designed to cover basic performing skills and teaching techniques for all brass instruments. Emphasis is on application in the elementary, middle, and secondary schools. Offered in alternate years (Fall 2019).

MUS 215 String Methods (with laboratory) **1 credit**
Instruction in violin, viola, violoncello and bass for the Music Education student. Emphasis is on application in the elementary, middle, and secondary schools. Offered in alternate years (Fall 2018).

MUS 216 Percussion Methods (with laboratory) **1 credit**
An introduction to the basic percussion instruments with special attention given to standard and contemporary performance techniques and sound production. Emphasis is on application in the elementary, middle, and secondary schools. Offered in alternate years (Spring 2019).

MUS 217 Voice Methods (with laboratory) **1 credit**
A study of tone production, breathing as applied to singing, attack and release, muscular control, posture, and vocal health. Special exercises adapted to individual needs of pupils and simple English songs are sung in the class. Emphasis is on basic skills and techniques for use with young voices in the elementary, middle, and secondary schools. Offered in alternate years (Fall 2019).

MUS 240 Perspectives in Music: Jazz History/Music in Media/Women in Music/other selected topics **3 credits**
A study of a specific perspective or repertory of music and its relationship to other aspects of musical culture. Historical, sociological, and multicultural influences and implications, are also considered. The course may be taken two times (with different titles) for credit.

MUS 245 History of Rock and Roll **3 credits**
An introductory course emphasizing the history and development of Rock and Roll music. The growth and development of major historical periods of rock music and related styles will be explored through the study of historical, social, political and cultural influences. Music is selected to illustrate representative styles of music from different historical periods of Rock music and culture.

MUS 250 Beginning Conducting: Choral and Instrumental **2 credits**
A study of the basic techniques of conducting, score reading, beat patterns, rehearsal procedures, and style in the instrumental and vocal media. Emphasis is placed on physical exercises, coordination, and the development of fundamental baton techniques. Students conduct in class and observe rehearsal situations with the University ensembles. Offered in alternate years (Fall 2018). Prerequisites: MUS 130 and MUS 131 with minimum grades of "C."

MUS 253 Theory of Music Laboratory III **1 credit**
Designed to enhance and build on the musical skills and knowledge learned in MUS 130 and MUS 131 and develop those areas of musicianship through voice performance and dictation. Studies incorporate modulation using diatonic chords, modal mixture, chromaticism, and secondary dominants. Chromatic solfege is featured in melodic sight singing. (Offered Spring) Prerequisites: MUS 130 and MUS 131 with minimum grades of "C." Corequisite: MUS 254.

MUS 254 Theory of Music III **3 credits**
A study of musical analysis, notation, and composition. This course builds on knowledge gained in MUS 130 and MUS 131 and introduces secondary dominants, modulation, chromaticism, extension of tertian harmony, and larger form structures. (Offered Spring) Prerequisites: MUS 130 and MUS 131 with minimum grades of "C." Corequisite: MUS 253.

MUS 255 Theory of Music Laboratory IV **1 credit**
Designed to enhance and build on the musical skills and knowledge learned in MUS 253 and MUS 254 and develop those areas of musicianship through voice performance and dictation. This course focuses on compositional practices of the twentieth century and includes modal melodic dictation, rhythmic dictation and sight singing with changing meters, and atonal sight singing. (Offered Fall) Prerequisites: MUS 253 and MUS 254 with minimum grades of "C." Corequisite: MUS 256.

MUS 256 Theory of Music IV **3 credits**
A study of musical analysis, notation, and composition. This course introduces styles and techniques associated with twentieth century composition. Studies include impressionism, set theory, serialism, post-1945 serialism, neotonality, minimalism, and transformational languages. (Offered Fall) Prerequisites: MUS 253 and MUS 254 with minimum grades of "C." Corequisite: MUS 255.

MUS 275 Piano Class **1 credit**
A continuation of MUS 174.

MUS 276 Piano Class **1 credit**
A continuation of MUS 275.

MUS 285 Pedagogy for the Applied Instrument or Voice **2 credits**
The student becomes acquainted with the methods and materials to be used in the teaching of music students, in both private and class situations.

MUS 290 Introduction to Improvisation **1 credit**
An introduction to improvisation for singers and instrumentalists including improvisational experiences in a variety of styles (jazz, classical, and other), integration of music theory with improvisation, and methods of teaching improvisation. Required of majors in the Music Education Emphasis. Offered in alternate years (Spring 2020). Prerequisites: MUS 130 and MUS 131 with a minimum grades of "C", or instructor permission.

MUS 292 Independent Study **1-3 credits**

MUS 297 Special Topics **1-6 credits**

MUS 301 Orchestra **1 credit**
Open to all who play orchestral instruments and who wish to experience playing orchestral music. The course includes the study and performance of orchestral literature. Prerequisites: junior or senior standing; minimum of one semester of MUS 101; instructor permission.

MUS 302 Band **1/2-1 credit**
Open to all who play band instruments. The course includes the study and performance
of marching and symphonic band literature. Membership is open to Music majors and non-Music majors by audition. Credit is determined by the type of ensemble and amount of rehearsal time. Prerequisites: junior or senior standing; minimum of one semester of MUS 102; instructor permission.

MUS 304 Chorus **1/2-1 credit**
An opportunity for participation in a vocal ensemble. The Western Concert Choir performs choral masterworks from all historical periods of music and also performs major works as part of the University-Community Choir. Membership is open to Music majors and non-Music majors by audition. Credit is determined by the type of ensemble and amount of rehearsal time. Prerequisites: junior or senior standing; minimum of one semester of MUS 104; instructor permission.

MUS 305 Opera **1 credit**
Designed to provide experience in musical-dramatic activities. May be taken two times for credit. Prerequisites: admission by campus-wide audition; junior or senior standing; minimum of one semester of MUS 105; instructor permission.

MUS 306 Piano Ensemble **1 credit**
Designed to acquaint the piano student with ensemble repertoire and performance traditions. Prerequisite: four credits of piano private study or equivalent performance background.

MUS 311 Principles and Techniques of Composition **3 credits**
A study of the basic principles of composition. Harmonic, contrapuntal, and formal structures of various stylistic periods are employed. Prerequisites: MUS 255 and MUS 256 with minimum grades of "C."

MUS 313 Music Production **3 credits**
An introduction to current production software designed to give students experience utilizing digital audio recording techniques and electronic sequencers. Students utilize sequencing and sound design software to create electronic music, demonstrate signal flow analysis using real and virtual hardware, understand and demonstrate a variety of microphone-based recording techniques, and create projects using a digital audio workstation. Prerequisite: MUS 131 with a minimum grade of "C."

MUS 320 Scoring **2 credits**
A study of techniques of arranging for instrumental and vocal ensembles. Prerequisite: MUS 256 with minimum grade of "C."

MUS 321 Instrumental and Vocal Chamber Music **1/2-1 credit**
Designed to give the student-musician rehearsal and performance experience in the area of ensemble and chamber music. Includes the Brass, Woodwind, Percussion, String, and Jazz Ensembles, as well as Chamber Singers and additional small ensembles. Membership is open to Music Majors and non-Music Majors by audition. Credit is determined by the type of ensemble and amount of rehearsal time. Prerequisites: junior or senior standing; minimum of one semester of MUS 121; instructor permission.

MUS 350 Advanced Conducting: Choral and Instrumental **2 credits**
A study of advanced techniques of conducting, score reading, musical style, materials, and repertoire in the instrumental and vocal media. Emphasis is placed on physical exercises and coordination of the mind and hands, as well as musical terms necessary for proper interpretation of musical scores. Students conduct in both class and laboratory situations with University ensembles. Offered in alternate years (Spring 2019). Prerequisites: MUS 250 with minimum grade of "C."

MUS 352 History of Music **3 credits**
A study of the development of music from Antiquity through the Renaissance and Baroque periods. Emphasis is placed on acquaintance with the music literature of successive periods. Offered in alternate years (Fall 2019). Prerequisites: Music major or minor status; MUS 140.

MUS 353 History of Music **3 credits**
A study of the development of music from the Classical and Romantic periods to the present. Emphasis is placed on acquaintance with the music literature of successive periods. Offered in alternate years (Spring 2020). Prerequisites: Music major or minor status; MUS 140.

MUS 355 Counterpoint **2 credits**
A study of contrapuntal techniques necessary to compose polyphonic music in two, three, four, or more parts. Prerequisites: MUS 255 and MUS 256 with minimum grades of "C."

MUS 360 Teaching General Music in Elementary Schools **2 credits**
A study of the teaching of general music in the elementary classroom. Acquaints Music Education majors with methods of teaching the elements of music, working with children's voices, using instruments, and developing listening skills. Current approaches such as Dalcroze, Orff, Kodaly, and Suzuki are also addressed. Students survey elementary music texts and learn how to develop and plan a music program. Offered in alternate years (Fall 2018). Prerequisites: MUS 120 and MUS 250 with a minimum grade of "C."

MUS 365 Methods and Philosophy of Teaching and Supervising Instrumental Music in the Public Schools: K-12 2 credits
A study of the supervision, organization, and administration of instrumental music in the public schools, K-12, providing background and experience with the philosophical, historical, and practical foundation of instrumental music in the public schools. Emphasis is placed upon contemporary methodology, all aspects of teaching and conducting activities in instrumental music, comprehensive musicianship through performance, and preparation for student teaching. Offered in alternate years (Fall 2018). Prerequisites: MUS 120 and MUS 250 with a minimum grade of "C."

MUS 370 Methods and Philosophy of Teaching and Supervising Vocal Music in the Public Schools: K-12 2 credits
An intensive study of materials and methods for teaching vocal and general music in the elementary and secondary school, plus objectives, organization, administration, curriculum content, guidance for student teachers, and background in contemporary trends in music education for all age levels, K-12. Offered in alternate years (Spring 2019). Prerequisites: MUS 120 and MUS 250 with a minimum grade of "C."

MUS 380 Piano 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 180; instructor permission.

MUS 381 Organ 1-2 credits
Private instruction. Prerequisite: at least four years of piano study; junior or senior standing; minimum of one semester of MUS 181; instructor permission.

MUS 382 Voice 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 182; instructor permission.

MUS 383 Violin 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 183; instructor permission.

MUS 384 Viola 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 184; instructor permission.

MUS 385 Cello 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 185; instructor permission.

MUS 386 Contra Bass 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 186; instructor permission.

MUS 387 Flute 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 187; instructor permission.

MUS 388 Oboe 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 188; instructor permission.

MUS 389 Clarinet 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 189; instructor permission.

MUS 390 Bassoon 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 190; instructor permission.

MUS 391 Saxophone 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 191; instructor permission.

MUS 392 Trumpet 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 192; instructor permission.

MUS 393 French Horn 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 193; instructor permission.

MUS 394 Trombone 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 194; instructor permission.

MUS 395 Baritone 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 195; instructor permission.

MUS 396 Tuba 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 196; instructor permission.

MUS 397 Special Topics 1-6 credits

MUS 398 Percussion 1-2 credits
Private instruction. Prerequisites: junior or senior standing; minimum of one semester of MUS 198; instructor permission.

MUS 400 Senior Recital / Senior Project 0 credits
Students demonstrate competency in an area of performance, research, composition, or music technology. Senior projects may include a research project, composition, music technology project, or non-credit internship. Graded Satisfactory/Unsatisfactory only. Prerequisite: senior standing and consent of faculty advisor.

MUS 424 Band Literature 2 credits
A study and analysis of the literature available to the concert band and the various types of large wind ensembles.

MUS 426 Literature for the Applied Instrument or Voice 2 credits
An historical study of the standard repertoire for the applied instrument or voice.

MUS 429 Diction for Singers 2 credits
A basic course in Italian, German, and French diction designed for voice students. Foreign language diction are studied in selected vocal repertoire.

MUS 488 Composition 3 credits
Students write original compositions for solo or ensemble performing media.

MUS 490 Workshop in Music **1-6 credits**
A study of topics related to music study suitable for workshop format. Includes discussion, practice, and demonstration.
MUS 491 Seminar in Research **2 credits**
Senior students research and write papers in the area of music appropriate to their courses of study. Offered in alternate years (spring 2012).
MUS 492 Independent Study **1-4 credits**
A special study in areas of student interest. May be taken for a maximum of four credits.
MUS 497 Special Topics **1-6 credits**
MUS 499 Internship in Music **1-12 credits**
An internship may be arranged in this course. Credit earned in this course may be applied to the major or minor with faculty approval. Consult advisor for details.

PHILOSOPHY (PHIL)

The Philosophy Minor provides students with an understanding of the history of philosophy, an exploration of diverse worldviews, and the tools to examine the complex, unexamined assumptions underlying contemporary society. The Philosophy Minor emphasizes development of logical and analytical skills, affording students the intellectual ability to theorize, articulate, and support sophisticated philosophical perspectives.

FACULTY

Professors John C. Hausdoerffer and Anthony Miccoli.

DESCRIPTION OF THE PROGRAM

Philosophy Minor

A minimum of 18 credits is required, including the following:

PHIL 101 Introduction to Philosophy	3 cr
PHIL 201 Logic and Epistemology	3 cr
PHIL 335 Ethics	3 cr
Two of the following:	
PHIL 315 Eastern Philosophy	3 cr
PHIL 325 Women and Gender in Philosophy	3 cr
PHIL 345 Philosophy of Religion	3 cr
PHIL 355 Philosophy of Science	3 cr
PHIL 401 Reality and Representation	3 cr
One of the following:	
ART 424 Modern Art History, Aesthetics, Theory, & Criticism	3 cr
ECON 350 History of Economic Thought	3 cr
ENG 371 Literary Theory and Criticism	3 cr
ENVS 410 Environmental Ethics	3 cr
POLS 309 Political Theory I–Ancient to Early Modern	3 cr
POLS 310 Political Theory II–Late Modern and Contemporary	3 cr
SOC 380 Social Inequality	3 cr

PHILOSOPHY COURSES

PHIL 101 Introduction to Philosophy **3 credits**

An introduction to the central philosophical questions that have historically spanned and conceptually founded Western civilization. The course surveys key thinkers, philosophical movements, and academic fields of the discipline. Questions regarding the meaning of existence, the freedom of the self, the nature of a just society, and the workings of human knowledge expose students to the pursuits of metaphysics, ontology, epistemology, philosophy of science, moral and political philosophy, and ethics. GT-AH3

PHIL 197 Special Topics **1-6 credits**

PHIL 201 Logic and Epistemology **3 credits**

An introduction to historical and contemporary approaches to epistemology, philosophical methodology, logic, systems of classification, and methods of validation. Emphasis is placed on critical inquiry into the complex relationship among logic, empiricism, and rationalism, while focusing on the real-world implications of the epistemological assumptions of logic itself. Prerequisite: PHIL 101.

PHIL 297 Special Topics **1-6 credits**

PHIL 315 Eastern Philosophy **3 credits**

An introduction to the central philosophical questions which have conceptually founded Eastern philosophy. This course surveys primary texts, intellectual movements, and cultural traditions that inform and influence Eastern philosophy while investigating the theoretical spaces that exist between philosophical assumptions of the East and West. Prerequisite: PHIL 101.

PHIL 325 Women and Gender in Philosophy **3 credits**

A discussion of the significance of women and gender in the development of philosophy. This course questions how the philosophical canon has appropriated, incorporated, and sometimes erased women's contributions. Drawing upon a variety of discourses, in and outside of philosophy itself (including feminist and queer theory), students assess how the philosophical endeavor changes in light of previously overlooked and currently influential gender studies work. Students use gender and sexuality as a framework that enriches and interrogates philosophical fields ranging from cultural theory to epistemology. Prerequisite: PHIL 101.

PHIL 335 Ethics **3 credits**

An examination of influential moral philosophers and contrasting theories concerning how one "ought" to live, from ancient Greek and Eastern philosophers to contemporary thinkers. Central questions of the course explore the "good life," critique ideologies that limit ethical options, and imagine how to expand individual choices in cultivating a just society. The course concludes with student applications of ethical theories to current global issues. Prerequisite: PHIL 101.

PHIL 345 Philosophy of Religion **3 credits**

An exploration of the significance of faith in our human worldview. Through a comparative approach to major world religions, students investigate the underlying assumptions behind the ways of "knowing" God and participating in the "divine," and how those assumptions diversely manifest themselves culturally, metaphorically, and psychologically. Prerequisite: PHIL 101.

PHIL 355 Philosophy of Science **3 credits**

An exploration of the ongoing relationship between philosophy and science, and an examination of how philosophical movements have informed some of the major shifts in scientific paradigms throughout history. The course concludes with an examination of how scientific revolutions potentially "de-center" humans and reorient the relationship between the self and the world. Prerequisite: PHIL 101.

PHIL 397 Special Topics **1-6 credits**

PHIL 401 Reality and Representation **3 credits**

The course analyzes, and provides students the opportunity to more deeply investigate, the philosophical foundations of spoken and written representation through a broad survey of theoretical readings in aesthetics, authorship, interpretation, realism, and subjectivity. Examining a diverse range of classic and contemporary thinkers in philosophy and cultural studies, the course explores the ways representation frames the experience of being in the world, and asks such questions as: 'How do ideas become the words we speak?'; 'Do the words we speak mean the same when writ-ten?'; and 'What makes the narrative possible?' The answers to these questions have broad philosophical, political, and cultural implication. Prerequisite: PHIL 201 or PHIL 335 or ENG 371.

PHIL 492 Independent Study **1-6 credits**

PHIL 497 Special Topics **1-6 credits**

PHYSICS (PHYS)

The word *physics* comes from the Greek word for nature, and we think of it today as the study of matter and energy. Physicists are concerned with understanding the way nature operates: the basic constituents of the universe and how they interact. The pursuit of that understanding leads to many practical applications. Physics is a rewarding area to study because it provides the basis for much of today's technology, and it helps us satisfy our intellectual curiosity. The fundamental character of physics makes it a discipline that is central to the liberal arts.

The Physics curriculum at Western provides opportunities for students to take course work that supports other scientific and technical disciplines, to complete an academic minor, or to prepare for physics or engineering programs at other institutions.

FACULTY

Associate Professors John D. Mason, M. Suzanne Taylor;
Lecturer Steve Griggs.

DESCRIPTION OF THE PROGRAM

Physics Minor

The Physics Minor consists of a minimum of 21 credits, including nine credits chosen from Physics courses numbered 320 or above and the following:

PHYS 170 Principals of Physics I (with laboratory)	4 cr
PHYS 171 Principals of Physics II (with laboratory)	4 cr
Or	
PHYS 200 General Physics I (with laboratory)	4 cr
PHYS 201 General Physics II (with laboratory)	4 cr
Required supporting courses:	
MATH 252 Calculus III	4 cr

PHYSICS COURSES

PHYS 110 Introductory Astronomy **3 credits**

An overview of the historical development of astronomy and the basic physical principles that are relevant to it. The overall structure of the Universe is studied and its various components examined. Includes limited observational activities. Prerequisite: completion of the general education essential skills mathematics requirement. GT-SC2

PHYS 115 Physics of Music **3 credits**

A practical introduction to the physics of sound, with emphasis on music. Students investigate the properties of sounds produced by musical instruments. Topics include periodic functions, waves, resonance, overtones, frequency spectra, digital sound production and basic acoustic principles. Prerequisite: ACT math score of 19 or above; SAT math score of 500 or above; MATH 099; or Accuplacer Elementary Algebra test score of 85 or above.

PHYS 120 Meteorology **3 credits**

A summary of the structure of the Earth's atmosphere, worldwide weather disturbances, weather forecasting, and snow avalanches. This course may not be taken for credit toward the Physics Minor. GT-SC2

PHYS 125 Energy and the Environment **3 credits**

A practical study of energy generation and its environmental impact, including the physics of energy fundamentals, fossil fuel use, alternative energy uses, and energy conservation. Primarily for non-science majors, this course qualitatively details basic physical principles behind the use of energy, including mechanics, electricity and magnetism, and thermodynamics. This course is designed to provide the student with a physicist's perspective on energy use and environmental issues. Prerequisite: completion of the general education essential skills mathematics requirement. GT-SC2

PHYS 140 Introductory Physics (with laboratory) **4 credits**

A semi-quantitative introduction to the fundamental concepts of physical science, particularly the laws of physics as they relate to the structure of matter. Laboratory experiences play an important role in the investigations. This course may not be taken for credit toward the Physics Minor. Additional course fee applies. Prerequisite: ACT math score of 19 or above; SAT math score of 500 or above; MATH 099; Accuplacer Elementary Algebra test score of 85 or above. GT-SC1

PHYS 170 Principles of Physics I (with laboratory) **4 credits**

A quantitative lecture and laboratory introduction to the basic principles of physics. Topics covered include the motions of particles, forces in nature, field concepts, energy, conservation laws, and many-particle systems. A mathematical proficiency at the level of university algebra is recommended. Additional course fee applies. Prerequisites: Accuplacer College-Level Mathematics test score of 95 or above, or MATH 141. GT-SC1

PHYS 171 Principles of Physics II (with laboratory) **4 credits**

A continuation of PHYS 170 dealing with electromagnetism, light, thermodynamics, and the atomic structure of matter. Additional course fee applies. Prerequisite: PHYS 170. GT-SC1

PHYS 197 Special Topics **1-6 credits**

PHYS 200 General Physics I (with laboratory) **4 credits**

A quantitative lecture and laboratory introduction to the basic principles of physics, using the concepts of calculus as a tool. Topics covered include the motions of particles, forces in nature, field concepts, energy, conservation laws, many-particle systems, and thermodynamics. A student may not receive credit for both PHYS 170 and PHYS 200. Additional course fee applies. Prerequisites: MATH 151. GT-SC1

PHYS 201 General Physics II (with laboratory) **4 credits**

A continuation of PHYS 200 dealing with electromagnetism, light, and the atomic structure of matter. A student cannot receive credit for both PHYS 171 and PHYS 201. Additional course fee applies. Prerequisite: PHYS 200. GT-SC1

PHYS 250 Statics **3 credits**

An investigation of systems in static equilibrium. Topics covered include force systems, 2d and 3d equilibrium, structural analysis, internal forces, friction, distributed forces and virtual work. Prerequisites: PHYS 171 or PHYS 201; MATH 251.

PHYS 251 Dynamics **3 credits**

An investigation of the kinematics and kinetics of particles and rigid bodies as well as modes of vibration and time response. Topics covered include coordinate systems, work-energy relations, momentum, relative motion and vibrations. Prerequisite: PHYS 250.

PHYS 297 Special Topics **1-6 credits**

PHYS 310 Astronomy I **2 credits**

A summary of the historical development of astronomy and the pertinent underlying physical principles, including descriptions of the objects comprising the solar system and their motions. Prerequisite: ACT math score of 19 or above; SAT math score of 500 or above; MATH 099; or Accuplacer Elementary Algebra test score of 85 or above.

PHYS 311 Astronomy II **2 credits**

A discussion of the techniques used to study and classify stars, energy production in stars, stellar structures, stellar evolution, galaxies, cosmological theories, and current developments in astronomy. Prerequisite: PHYS 310.

PHYS 320 Modern Physics **3 credits**

A consideration of the inadequacies of classical physics and some of the fundamental advances in physics since 1890, including the special theory of relativity and elementary particle physics. Prerequisites: PHYS 171 or PHYS 201; corequisite: MATH 252.

PHYS 330 Mechanics **3 credits**

A treatment of basic mathematical methods including vector analysis, coordinate systems and transformations, particle dynamics, energy, and gravitation. Prerequisites: PHYS 171 or PHYS 201; MATH 251.

PHYS 350 Electricity and Magnetism I **3 credits**

A study of electrostatic fields and potentials, the electrical properties of matter, magnetic phenomena and the magnetic properties of matter. Prerequisites: PHYS 171 or PHYS 201; MATH 252.

PHYS 351 Electricity and Magnetism II **3 credits**

A continuation of PHYS 350 treating direct and alternating currents, electromagnetic induction Maxwell's equations, and electromagnetic radiation. Prerequisite: PHYS 350.

PHYS 397 Special Topics **1-6 credits**

PHYS 452 Quantum Theory **3 credits**

An introduction to the mathematical formalism of quantum mechanics and its application to various types of natural systems, such as multi-electron atoms, molecules, and solids. Prerequisites: PHYS 171 or PHYS 201; corequisite: MATH 252.

PHYS 462 Astrophysics **3 credits**

A study of selected topics in astrophysics as they relate to the core areas of physics: mechanics, electromagnetism, quantum physics, and thermodynamics. Topics covered may include stellar formation and life cycles, galactic dynamics and dark matter, planetary systems, multiple star systems, interstellar medium, cosmology, and the nature of light. Prerequisites: PHYS 171 or PHYS 201; MATH 252.

PHYS 480 Observational Astronomy **4 credits**

A presentation of some of the fundamental concepts of astronomy through a series of observational activities and laboratory exercises supported by appropriate lecture presentations. Motions and intrinsic properties of various astronomical objects are investigated, and some of the tools and methods of modern astronomy are studied. Subjects include constellations, time reckoning, nature and analysis of light, optics, telescopes, photography, and properties of planets, satellites, stars, and galaxies. A student may not receive credit for both PHYS 310-311 and 480. This course may not be taken for credit towards the Physics Minor. Prerequisite: ACT math score of 19 or above; SAT math score of 500 or above; MATH 099; Accuplacer Elementary Algebra test score of 85 or above.

PHYS 490 Geophysics I (with laboratory) **4 credits**

Through lecture and field experiences, the seismic techniques of geophysical exploration are emphasized. Prerequisites: CS 190, GEOL 201, and PHYS 200; corequisite: MATH 252.

PHYS 491 Geophysics II (with laboratory) **4 credits**

Lecture and field experiences are used to introduce gravity, magnetic, and electrical methods of geophysical exploration. Prerequisites: CS 190, GEOL 201, MATH 252, and PHYS 201.

PHYS 493 Special Problems in Physics **1-4 credits**

An investigation which is tailored to the interests and background of the individual student. It may be of an experimental nature.

PHYS 497 Special Topics **1-6 credits**

POLITICS AND GOVERNMENT (POLS)

The Politics and Government curriculum presents different and often conflicting points of view on a variety of important political ideas in the Western political tradition (for example: democracy, freedom, equality, development, and power). Study of how different individuals have looked at these ideas, as well as how such ideas have been practiced in the contexts of real institutions and political controversies, enlarges the mind, develops the tools necessary for effective citizenship, and serves to cultivate critical reasoning. Students are encouraged to find ways to address problems, such as the loss of biodiversity, disparities between neighboring communities and personal responsibility, global gender and social inequalities, foreign policy decision making and international security, and the relationship between private and public life in a democracy. As political scientists we seek to understand the causes of wars, social injustices, economic disparities, and uneven technological growth for the purpose of alleviating suffering and providing sustainable solutions. Students study these questions through an engagement with historical texts as well as case studies and ongoing contemporary debates.

The faculty is committed to teaching students how to effect social change through active citizenship —whether in local, state, national or international communities. By learning from different people and situations in internships and service learning, Western students are prepared for graduate or professional school or to better understand and prepare for careers in business, journalism, government service, or public life. Such internships have ranged from working in local law offices or offices at the state capitol to interning in United States Senate offices in Washington, D.C. The Politics and Government Program offers a standard major, a global studies emphasis, a pre-law emphasis, a secondary licensure emphasis, an Environmental Management Emphasis (with a 3+2 Master in Environmental Management), a standard minor, and a pre-law minor.

FACULTY

Professors Maria B. Struble;
Assistant Professor Brian C. Bernhardt.

DESCRIPTION OF THE PROGRAMS

Politics and Government Major: Standard Program

A minimum of 36 credits is required including the following:

POLS 117 Introduction to Political Ideas	3 cr
POLS 180 Introduction to American Politics	3 cr
POLS 255 Introduction to Comparative Politics	3 cr
POLS 260 Introduction to World Politics	3 cr
POLS 309 Political Theory I–Ancient to Early Modern	3 cr
POLS 310 Political Theory II–Late Modern and Contemporary	3 cr
Five of the following:	
POLS 250 Politics of the Environment	3 cr
POLS 282 Issues in State and Local Government	3 cr
POLS 300 Constitutional Law I	3 cr
POLS 301 Constitutional Law II	3 cr
POLS 331 Politics of the Presidency	3 cr
POLS 340 Politics of Social Movements	3 cr
POLS 350 Human Rights	3 cr
POLS 355 Politics of Development	3 cr
POLS 360 American Foreign Policy	3 cr
POLS 370 Political Economy	3 cr
POLS 376 American Political Thought	3 cr
POLS 380 The United Nations	3 cr
POLS 499 Internship in Politics and Government	3 cr
One of the following capstone courses:	
POLS 485 Studies in Political Theory	3 cr
POLS 486 Studies in American Politics	3 cr
POLS 487 Studies in International Relations	3 cr
POLS 488 Studies in Comparative Politics	3 cr

*A statistics course may be used to meet the POLS elective requirement.

Politics and Government Major: Comprehensive Programs

GLOBAL STUDIES EMPHASIS

A minimum of 54 credits is required including the following:

POLS 117 Introduction to Political Ideas	3 cr
POLS 180 Introduction to American Politics	3 cr
POLS 255 Introduction to Comparative Politics	3 cr

POLS 260 Introduction to World Politics	3 cr
POLS 309 Political Theory I – Ancient to Early Modern	3 cr
POLS 310 Political Theory II – Later Modern and Contemporary	3 cr
Six of the following:	
POLS 250 Environmental Politics	3 cr
POLS 340 Politics of Social Movements	3 cr
POLS 350 Human Rights	3 cr
POLS 355 Politics of Development	3 cr
POLS 360 American Foreign Policy	3 cr
POLS 370 Political Economy	3 cr
POLS 380 The United Nations	3 cr
POLS 499 Internship in Politics and Government	3 cr
Two of the following:	
ECON 201 Macroeconomics	3 cr
ECON 202 Microeconomics	3 cr
ECON 303 International Economics and Globalization	3 cr
Two of the following:	
HIST 250 History of the Middle East	3 cr
HIST 254 History of Africa	3 cr
HIST 260 History of Latin America	3 cr
HIST 354 Conflict in Africa	3 cr
Or another 300 or 400-level History course on an international thematic	
One of the following:	
GEOG 110 World Regional Geography	3 cr
GEOG 120 Introduction to Human Geography	3 cr
GEOG 351 Geography of Latin American and the Caribbean	3 cr
One of the following capstone courses:	
POLS 485 Studies in Political Theory	3 cr
POLS 486 Studies in American Politics	3 cr
POLS 487 Studies in International Relations	3 cr
POLS 488 Studies in Comparative Politics	3 cr

PRE-LAW EMPHASIS

A minimum of 57 credits is required including the following:

POLS 117 Introduction to Political Ideas	3 cr
POLS 180 Introduction to American Politics	3 cr
POLS 255 Introduction to Comparative Politics	3 cr
POLS 260 Introduction to World Politics	3 cr
POLS 300 Constitutional Law I	3 cr
POLS 301 Constitutional Law II	3 cr
POLS 309 Political Theory I–Ancient to Early Modern	3 cr
POLS 310 Political Theory II–Late Modern and Contemporary	3 cr
Four of the following:	
POLS 250 Politics of the Environment	3 cr
POLS 282 Issues in State and Local Government	3 cr
POLS 331 Politics of the Presidency	3 cr
POLS 340 Politics of Social Movements	3 cr
POLS 350 Human Rights	3 cr
POLS 355 Politics of Development	3 cr
POLS 360 American Foreign Policy	3 cr
POLS 370 Political Economy	3 cr
POLS 376 American Political Thought	3 cr
POLS 380 The United Nations	3 cr
POLS 499 Internship in Politics and Government	3 cr
Six of the following courses in at least four disciplines:	
ACC 201 Introduction to Financial Accounting	3 cr
ACC 350 Income Tax	3 cr
BUAD 210 Legal Environment of Business	3 cr
BUAD 315 Business Law	3 cr
COM 271 Small Group Communication	3 cr
COM 371 Argument and Conflict Management	3 cr

COM 372 Issues Management	3 cr
ECON 201 Macroeconomics	3 cr
ECON 202 Microeconomics	3 cr
ECON 476 American Economic Development	3 cr
ENG 237 Women and Literature	3 cr
ENG 238 Literary Culture of the American West	3 cr
ENG 255 Ancient World Literature	3 cr
ENG 331 Literature and Ethnicity	3 cr
HIST 333 The Revolutionary Era and Early National Period	3 cr
HIST 336 Antebellum, Civil War and Reconstruction, 1830-1877	3 cr
HIST 340 Reform and Reorganization in American Society	3 cr
HIST 343 Depression and World War II	3 cr
PHIL 101 Introduction to Philosophy	3 cr
PSY 368 Abnormal Psychology	3 cr
SOC 259 Introduction to Criminal Justice	3 cr
SOC 349 Law Enforcement	3 cr
SOC 367 Corrections	3 cr
One of the following capstone courses:	
POLS 485 Studies in Political Theory	3 cr
POLS 486 Studies in American Politics	3 cr
POLS 487 Studies in International Relations	3 cr
POLS 488 Studies in Comparative Politics	3 cr

SECONDARY LICENSURE EMPHASIS

This emphasis qualifies students for State of Colorado Licensure in Social Science Education. Students interested in pursuing this comprehensive program should consult with the Teacher Education Program advisor in addition to the advisor in their major as soon as possible. A minimum of 72 credits is required. In addition, students must fulfill the Secondary Licensure Option described under Education. The following courses are required:

ECON 201 Macroeconomics	3 cr
ECON 202 Microeconomics	3 cr
ECON 303 International Economics and Globalization	3 cr
ECON 476 American Economic Development	3 cr
GEOG 110 World Regional Geography	3 cr
GEOG 120 Human Geography	3 cr
GEOG 250 Geography of North America	3 cr
GEOL 101 Physical Geology	3 cr
HIST 101 World History to 1500	3 cr
HIST 102 World History Since 1500	3 cr
HIST 126 U.S. History to 1865	3 cr
HIST 127 U.S. History Since 1865	3 cr
HIST 327 Colorado History	3 cr
POLS 117 Introduction to Political Ideas	3 cr
POLS 180 Introduction to American Politics	3 cr
POLS 255 Introduction to Comparative Politics	3 cr
POLS 282 Issues in State and Local Government	3 cr
POLS 300 Constitutional Law I	3 cr
POLS 301 Constitutional Law II	3 cr
POLS 309 Political Theory I—Ancient to Early Modern	3 cr
POLS 310 Political Theory II—Late Modern and Contemporary	3 cr
POLS 376 American Political Thought	3 cr
One of the following:	
POLS 260 Introduction to World Politics	3 cr
POLS 360 American Foreign Policy	3 cr
One of the following capstone courses:	
POLS 485 Studies in Political Theory:	3 cr
POLS 486 Studies in American Politics:	3 cr
POLS 487 Studies in International Relations:	3 cr
POLS 488 Studies in Comparative Politics:	3 cr

Environmental Management Emphasis (with a 3+2 Master in Environmental Management)

The Environmental Management emphasis allows students to complete the B.A. in Politics and Government (POLS) and the Master in Environmental Management (MEM) at Western in five years. To remain qualified for the 3+2, upon earning 66 credits each student must have:

- maintained a 3.0 cumulative GPA and a 3.25 GPA within the major;
- earned a B or above in two social science, two natural science (one with lab), and one statistics course;
- fulfilled the 3-credit Internship requirement with a B or above and positive letter from the project sponsor;
- provided three letters of recommendation, at least one of which is to be a professional reference and at least one of which is to be an academic reference from the student's major at Western;
- written a Statement of Purpose to the MEM program, detailing early career ambitions and ideas and connections for the eventual master's Project.

At this point, if any aspect of a student's performance is found to be insufficient, the MEM Director may reject a 3+2 student from the MEM program, in which case the student will need to find a new emphasis or minor in order to complete the undergraduate degree. Upon meeting the requirements above, and after Junior Year (reaching 91 credits in this plan—see "MAJOR MAP" at western.edu/3_2) holding to the same GPA and general performance standards outlined above, the School of Graduate Studies will designate students as "MEM candidates with provisional acceptance." Upon completion of the final 29 credits of the Western B.A. in Year Four of this plan, the School of Graduate Studies will designate students as "MEM degree seeking students." Students who have completed all other requirements of the 3+2 program and all Western undergraduate requirements, yet choose to leave the MEM program before Year 5, will still have completed the POLS undergraduate emphasis in Environmental Management and have earned the 120 credits necessary for a Western undergraduate degree.

ENVIRONMENTAL MANAGEMENT EMPHASIS (WITH A 3+2 MEM)

A minimum of 68 credits is required.

POLS 117 Introduction to Political Ideas	3 cr
POLS 180 Introduction to American Politics	3 cr
POLS 250 Politics of the Environment	3 cr
POLS 255 Introduction to Comparative Politics	3 cr
POLS 260 Introduction to World Politics	3 cr
POLS 309 Political Theory I – Ancient to Early Modern	3 cr
POLS 310 Political Theory II – Late Modern and Contemporary	3 cr
POLS 499 Internship in Politics and Government	3 cr
Five of the following:	
POLS 282 Issues in State and Local Government	3 cr
POLS 300 Constitutional Law I	3 cr
POLS 301 Constitutional Law II	3 cr
POLS 331 Politics of the Presidency	3 cr
POLS 340 Politics of Social Movements	3 cr
POLS 350 Human Rights	3 cr
POLS 355 Politics of Development	3 cr
POLS 360 American Foreign Policy	3 cr
POLS 370 Political Economy	3 cr
POLS 376 American Political Thought	3 cr
POLS 380 The United Nations	3 cr
One of the following:	
ECON 216 Statistics for Business and Economics	3 cr
MATH 113 Statistical Thinking	3 cr
MATH 213 Probability and Statistics	3 cr
SOC 211 Quantitative Research and Methods	3 cr
One of the following:	
POLS 485 Studies in Political Theory	3 cr
POLS 486 Studies in American Politics	3 cr
POLS 487 Studies in International Relations	3 cr
POLS 488 Studies in Comparative Politics	3 cr
Core MEM Courses	
ENVS 601 Introduction to Environmental Management	5 cr
ENVS 605 Science of Environmental Management	3 cr
ENVS 608 Environmental Politics and Policy	3 cr
ENVS 611 Integrative Skills for Environmental Management	3 cr
ENVS 612 Quantitative Skills for Environmental Management	3 cr
ENVS 615 Science of Climate Mitigation and Adaptation	3 cr
One of the following from the MEM Emphases:	

Sustainable and Resilient Communities Emphasis:	
ENVS 616 Environmental Organizational Development and Management	3 cr
Global Sustainability Emphasis:	
ENVS 617 Global Sustainability	3 cr
Integrative and Public Land Management Emphasis:	
ENVS 618 Public Lands Management	3 cr

Upon successful completion of the prescribed courses listed above, University defined General Education, and elective requirements totaling 120 credits (with 40 at the 300-level or higher), students are eligible for their B.A. conferral. Students electing to complete MEM must follow the balance of their declared emphasis curriculum:

MEM Sustainable and Resilient Communities Emphasis (beyond required Core courses)

Nine Credits of:

ENVS 623 Studies in Environmental Management	1-6 cr
and/or	
ENVS 620 Studies in Sustainable and Resilient Communities	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*****Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

MEM Integrative and Public Land Management Emphasis (beyond required Core courses)

Nine Credits of:

ENVS 623 Studies in Environmental Management	1-6 cr
and/or	
ENVS 625 Studies in Integrative and Public Land Management	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

MEM Global Sustainability Emphasis (beyond required Core courses)

Nine credits of (choose any combination with a global theme):

ENVS 620 Studies in Sustainable and Resilient Communities	3 cr
ENVS 623 Studies in Environmental Management	1-6 cr
ENVS 625 Studies in Integrative and Public Land Management	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

Politics and Government Minor

A minimum of 18 credits is required including a three-credit, upper-division Politics and Government elective chosen in consultation with an advisor and the following:

POLS 117 Introduction to Political Ideas	3 cr
POLS 180 Introduction to American Politics	3 cr
POLS 255 Introduction to Comparative Politics	3 cr
POLS 260 Introduction to World Politics	3 cr
One of the following:	
POLS 309 Political Theory I–Ancient to Early Modern	3 cr
POLS 310 Political Theory II–Late Modern and Contemporary	3 cr

Politics and Government Pre-Law Minor

A minimum of 21 credits is required including a three-credit elective chosen from the courses listed for the Politics and Government major: Pre-Law Emphasis chosen in consultation with an advisor and the following:

POLS 117 Introduction to Political Ideas	3 cr
POLS 180 Introduction to American Politics	3 cr
POLS 300 Constitutional Law I	3 cr
POLS 301 Constitutional Law II	3 cr
BUAD 210 Legal Environment of Business	3 cr
BUAD 315 Business Law	3 cr

Capstone Course Requirement. The following courses in the Politics and Government Major fulfill the capstone course requirement: POLS 485 Studies in Political Theory; POLS 486 Studies in American Politics; POLS 487 Studies in International Relations POLS 488 Studies in Comparative Politics.

POLITICS AND GOVERNMENT COURSES

POLS 117 Introduction to Political Ideas **3 credits**
An introduction to political analysis through a study of important political concepts and theories, as well as their historical development. Students study the ideas and practices of the public and philosophical development of concepts such as citizenship, democracy, equality, justice, liberty, or power. GT-SS1

POLS 180 Introduction to American Politics **3 credits**
An introduction to institutions and processes of American politics, including themes such as constitutionalism, representation, participation, political development, political economy, civil liberties and rights, public policy, and the ideas and values of American democracy. GT-SS1

POLS 250 Politics of the Environment **3 credits**
A survey of key issues of national and international environmental politics. Students are introduced to the historical foundations and ongoing debates concerning the natural environment. Topics include international environmental treaties, government responses to environmental disasters and crises, environmental justice movements, environmental causes of war and displacement, and environmental agreements and developments in the United States. Prerequisite: POLS 117 recommended.

POLS 255 Introduction to Comparative Politics **3 credits**
An introduction to the challenges and problems encountered in the study of comparative politics. Students examine issues of local and national governance through a comparative lens. By looking at similar political phenomena in several contexts, students explore the question of why some countries have successfully developed their political, economic and social systems while others are lagging behind. Issues examined include women's rights, poverty, underdevelopment, the environment, and democracy. Prerequisite: ENG 102 with a grade of C- or above. GT-SS1

POLS 260 Introduction to World Politics **3 credits**
An introduction to some of the more important concepts and approaches to understanding world politics. Students examine the politics between different countries and seek to answer questions about the promise and peril of the global future. Quest- ions contemplated include: What are the sources of political conflict and how can they be minimized? Under what conditions will nation states cooperate with each other to accomplish common goals? Should tyranny and human rights violations justify humanitarian intervention? Prerequisite: ENG 102 with a grade of C- or above. GT-SS1

POLS 282 Issues in State and Local Government **3 credits**
Using the foundations of American Federalism, the class examines policy issues at the state and local levels. With a comparative perspective and, at the same time, with particular attention paid to Colorado, some of the themes examined in states and localities include: budgets and economic policy, education, energy, and environmental Policy. Prerequisite: recommended POLS 180.

POLS 297 Special Topics **3 credits**

POLS 300 Constitutional Law I **3 credits**
A study of the historical development of the United States Constitution and Supreme Court through the most important Supreme Court decisions. The course focuses on the areas of jurisdiction of the courts, development of the common law, the separation of powers, federalism, and the interstate commerce power. Prerequisite: POLS 180.

POLS 301 Constitutional Law II **3 credits**
A continuation of POLS 300. An examination of the constitutional protections of individual liberties as defined by the Supreme Court. Students study the historical development of the Supreme Court's point of view in such areas as freedom of speech, subversion and disloyalty, religious freedom, church-state separation, and equal protection of the law. Prerequisite: POLS 180 recommended.

POLS 309 Political Theory I–Ancient to Early Modern **3 credits**
A survey of the historical development of western political theories from their origins in ancient Greece to the development of early modern political theories such as liberalism and republicanism. Students study thinkers such as Sophocles, Plato, Aristotle, William Shakespeare, Niccolo Machiavelli, John Locke, and Jean-Jacques Rousseau. Prerequisite: POLS 117 recommended.

POLS 310 Political Theory II–Late Modern and Contemporary **3 credits**
A survey of the historical development of modern and contemporary political theories since the French Revolution. Issues investigated might include the rise of liberal democracy and its critics, the impact of the industrial revolution on modern politics, and how technological change and environmental limitations have affected contemporary political thought. Students study thinkers such as Mary Wollstonecraft, John Stuart Mill, Karl Marx, Friedrich Nietzsche, Hannah Arendt, and Michel Foucault. Prerequisite: POLS 117 recommended.

POLS 331 The Politics of the Presidency **3 credits**
After more than two centuries of change and development, the presidency stands not only as the nation's preeminent public office but also its most problematic. This course examines the design and creation of the office, the impact various officeholders have made on shaping future expectations, and the problems of contemporary leadership. Prerequisite: POLS 180 recommended.

POLS 340 Politics of Social Movements **3 credits**
A study of social movements, past and present, in both domestic and international contexts. Students examine theories on why social movements develop, spread, and decline, while considering the factors that lead to their successes and failures. Through an examination of transnational movements, students consider the roles of social networks and participatory democracy in a globalized world. Prerequisite: ENG 102.

POLS 350 Human Rights **3 credits**

An engagement with the history and current developments in international human rights practices, offering a justification and critique of universal human rights through the lens of various schools of thought, discussing pre and post-WWII developments with attention to specific cases, and examining the relationship between culture, globalization and human rights violations in the 21st century. Prerequisite: ENG 102.

POLS 355 Politics of Development **3 credits**

An historical and case-specific examination of development and underdevelopment debates, including assumptions about poverty, sustainability, liberal democratic regimes and free-market economy. Specific topics include malnutrition, food security, rights of indigenous populations, international aid and donors, disease, democratization processes, human rights, and the environment. Prerequisites: POLS 255 and/or POLS 260 recommended.

POLS 360 American Foreign Policy **3 credits**

Not since the Roman Empire has any nation had as much economic, cultural and military power as the United States does today. Yet, as has become all too evident through the problems of terrorism, environmental degradation and the proliferation of weapons of mass destruction, that power is not enough to solve many global issues. This course examines the way in which U.S. foreign policy is made and the variety of ongoing and emerging foreign policy problems the U.S. faces in the context of their evolution. Prerequisites: POLS 255 and POLS 260 recommended.

POLS 370 Political Economy **3 credits**

A study of economic systems that focuses on the structure and uses of economic power and the relationship between economic and political power. Students think about questions such as: What is capitalism? What varieties of capitalism exist around the world? How has capitalism changed over time? Ultimately, students consider the relationship between capitalism, freedom, and democracy. Prerequisite: ENG 102.

POLS 376 American Political Thought **3 credits**

A study of American political thought from the colonial period to the present day through a survey of key thinkers and social movements. Students gain an appreciation for dominant views and key controversies within American political thought, as well how the ideas of challengers, such as Abolitionism, Populism, Progressivism, the Labor Movement, the Women's movement, the New Deal, and the Civil Rights Movement, have reshaped the accepted order. Prerequisite: POLS 117 or POLS 180.

POLS 380 The United Nations **3 credits**

A study of the United Nations, focusing on the relationship between the UN, the proliferation of human rights regimes and international human development. Students think about the importance of creating international norms, working toward a sustainable world peace, political efficacy, and human rights in the world. A Model UN simulation is part of the course requirements. Prerequisite: ENG 102.

POLS 397 Special Topics **3 credits**

POLS 485 Studies in Political Theory: **3 credits**

Senior seminar in political theory with varying topics. This course meets the Capstone requirement. Prerequisite: senior standing or instructor permission.

POLS 486 Studies in American Politics: **3 credits**

Senior seminar in American politics with varying topics. This course meets the capstone requirement. Prerequisite: senior standing or instructor permission.

POLS 487 Studies in International Relations: **3 credits**

Senior seminar in International Relations with varying topics. This course meets the cap-stone requirement. Prerequisite: senior standing or instructor permission.

POLS 488 Studies in Comparative Politics: **3 credits**

Senior seminar in Comparative politics with varying topics. This course meets the cap- stone requirement. Prerequisite: senior standing or instructor permission.

POLS 492 Independent Study **1-3 credits**

POLS 499 Internship in Politics and Government **1-12 credits**

Credit earned in an internship may be applied to the Major or Minor with advisor approval.

PSYCHOLOGY (PSY)

Psychology is the scientific study of individual human and animal behavior. A student of psychology can expect to investigate the following topics: psychopathology, social influences, perception, cognition, neuroscience, human development, personality, and health. The study of psychology also involves learning how psychologists work, including the areas of experimental methods, statistical analysis, and clinical psychology. From the basic courses to the more advanced, students achieve a greater understanding of themselves and others that will serve them well in their relationships and in any careers they may pursue.

In addition to the basic skills in writing, critical thinking, and use of technology expected of all Western students, Psychology majors have the opportunity to be involved in laboratory work. As students advance in their experience and knowledge, they can become involved in individual projects under faculty supervision. There are also internship opportunities available outside the classroom with programs for at-risk children, in domestic victim advocacy, in substance abuse prevention, and in other social service agencies statewide and nationally.

As many careers in psychology require a graduate degree, the Psychology Major at Western not only contributes to a solid liberal education, but also provides excellent preparation for graduate study. Students interested in careers in applied psychology are encouraged to pursue the Clinical, Counseling and School Psychology Emphasis. The Experimental Psychology Emphasis provides students with a broad background in the biological bases of behavior and offers preparation for graduate studies in experimental psychology or the neurosciences. The General Psychology Emphasis allows Psychology majors the freedom to choose courses that meet individual needs and interests.

FACULTY

Professor Susan J. Coykendall; Associate Professors Scott I. Cohn and Lindsey Fast;
Assistant Professor Salif Mahamane; Lecturers Kari E. Commerford, and Jessica Vogan.

DESCRIPTION OF THE PROGRAMS

Psychology Major: Standard Programs

GENERAL PSYCHOLOGY EMPHASIS

A minimum of 39 credits is required:

PSY 100 General Psychology	3 cr
PSY 200 Statistics and Data Analysis	3 cr
PSY 210 History of Psychology	3 cr
Psychology electives	8-9 cr
Two of the following:	
PSY 270 Developmental Psychology	3 cr
PSY 368 Psychopathology	3 cr
PSY 460 Psychological Testing	3 cr
PSY 475 Clinical Psychology	3 cr
Two of the following:	
PSY 258 Introduction to Personality	3 cr
PSY 324 Forensic Psychology	3 cr
PSY 361 Industrial and Applied Psychology	3 cr
PSY 369 Health Psychology	3 cr
PSY 457 Social Psychology	3 cr
Two of the following:	
PSY 301 Research Methods	3 cr
PSY 335 Learning and Behavior	4 cr
PSY 338 Cognitive Psychology	3 cr
PSY 345 Biological Psychology (with laboratory)	4 cr
PSY 380 Evolutionary Psychology	3 cr
PSY 437 Behavioral Pharmacology	3 cr
One of the following capstone courses:	
PSY 498 Capstone Seminar in Psychology	3 cr
PSY 499 Capstone Internship in Psychology	3 cr

CLINICAL, COUNSELING, AND SCHOOL PSYCHOLOGY EMPHASIS

A minimum of 40 credits is required:

PSY 100 General Psychology	3 cr
PSY 200 Statistics and Data Analysis	3 cr
PSY 210 History of Psychology	3 cr
PSY 270 Developmental Psychology	3 cr
PSY 301 Research Methods	3 cr
PSY 345 Biological Psychology (with laboratory)	4 cr

PSY 368 Psychopathology	3 cr
PSY 457 Social Psychology	3 cr
PSY 460 Psychological Testing	3 cr
PSY 475 Clinical Psychology	3 cr
One of the following:	
PSY 335 Learning and Behavior	4 cr
PSY 338 Cognitive Psychology	3 cr
PSY 380 Evolutionary Psychology	3 cr
PSY 437 Behavioral Pharmacology	3 cr
One of the following:	
PSY 258 Introduction to Personality	3 cr
PSY 324 Forensic Psychology	3 cr
PSY 361 Industrial and Applied Psychology	3 cr
PSY 369 Health Psychology	3 cr
One of the following capstone courses:	
PSY 498 Capstone Seminar in Psychology	3 cr
PSY 499 Capstone Internship in Psychology	3 cr

EXPERIMENTAL EMPHASIS

A minimum of 40 credits is required:

PSY 100 General Psychology	3 cr
PSY 200 Statistics and Data Analysis	3 cr
PSY 210 History of Psychology	3 cr
PSY 301 Research Methods	3 cr
PSY 345 Biological Psychology (with laboratory)	4 cr
Psychology Electives	9 cr
Four of the following:	
PSY 335 Learning and Behavior	4 cr
PSY 338 Cognitive Psychology	3 cr
PSY 380 Evolutionary Psychology	3 cr
PSY 437 Behavioral Pharmacology	3 cr
PSY 457 Social Psychology	3 cr
One of the following capstone courses:	
PSY 492 Independent Study	3 cr
PSY 498 Capstone Seminar in Psychology	3 cr
PSY 499 Capstone Internship in Psychology	3 cr

Psychology Minor

The Psychology Minor consists of a minimum of 18 credits:

PSY 100 General Psychology	3 cr
Psychology electives	15 cr

Capstone Course Requirement. The following courses in the Psychology Major fulfill the capstone course requirement: PSY 498 Capstone Seminar in Psychology, or PSY 499 Capstone Internship in Psychology (with a minimum grade of "C").

PSYCHOLOGY COURSES

PSY 100 General Psychology **3 credits**
An introduction to psychology including research methodology, biological bases of behavior, human development, sensation, perception, intelligence, cognition, language, states of consciousness, learning, memory, motivation, emotion, personality, abnormal behavior and stress and health. GT-SS3

PSY 197 Special Topics **1-6 credits**

PSY 200 Statistics and Data Analysis **3 credits**
An introduction to statistical procedures often encountered in the analysis of data from behavioral science research. Statistical methods covered include measures of central tendency and variability, correlation, regression, t-tests and analysis of variance. Prerequisites: PSY 100; MATH 131, or MATH 140 with a minimum grade of "C-", or instructor permission.

PSY 210 History of Psychology **3 credits**
Introduces psychology majors to the philosophical underpinnings and historical context underlying the development of the discipline. Prerequisite: PSY 100.

PSY 258 Introduction to Personality **3 credits**
An examination of the fundamental theories of personality including the psychoanalytic, trait, behavioral, social-learning, humanist and existential perspectives.

PSY 270 Developmental Psychology **3 credits**
A critical look at the change and continuity that occurs throughout the life span, emphasizing the interrelationships among physical, cognitive and psychosocial realms of human development. Current research findings are emphasized.

PSY 297 Special Topics **1-6 credits**

PSY 301 Research Methods **3 credits**
An examination of experimental and non-experimental research methods, the design of research studies, measurement issues, research ethics, research reporting and advanced topics in data analysis using computer statistical software. Students design and conduct their own study and present the results following APA approved format. Prerequisite: PSY 200.

PSY 324 Forensic Psychology **3 credits**
An overview of the different tasks performed by forensic psychologists, including assessment, civil commitment, jury selection, eyewitness testimony, behavioral profiling, provision of clinical services to incarcerated individuals, and custody evaluations. Prerequisites: PSY 100 or instructor permission.

PSY 335 Learning and Behavior **4 credits**
An exploration of the relationship between behaviors and their consequences through the application of basic behavioral principles. Topics include classical conditioning, instrumental conditioning, stimulus control, aversive control, and the biological constraints on learning. Students conduct their own experiments to apply the behavioral principles discussed throughout the course. Additional course fee applies. Prerequisite: PSY 200 or instructor permission.

PSY 338 Cognitive Psychology **3 credits**
A theoretical and empirical investigation into the processes and outcomes of thinking. Topics such as memory and forgetting, problem solving and creativity, cognitive disso- nance and consistency, defensive repression, language, optimism, and attribution are studied in relation to current scientific research findings. Prerequisites: PSY 100 and minimum sophomore standing or instructor permission.

PSY 345 Biological Psychology (with laboratory) **4 credits**
An investigation of the physiological basis of human behavior. Topics include functional neuroanatomy, neurophysiology and the activity of the nervous system in relation to behaviors such as sexual behavior, drug effects, emotion, and memory. Additional course fee applies. Prerequisite: PSY 200.

PSY 361 Industrial and Applied Psychology **3 credits**
A course designed to show how psychology is directly related to the student's career and the student's life as a job applicant, employee, manager, and consumer. Topics covered include: worker morale, leadership, work climate, communication networks, and productivity.

PSY 368 Psychopathology **3 credits**
A systematic study of the etiology, symptoms, assessment, and treatment of major forms of psychopathology. An interdisciplinary approach is employed as a basis for understanding mental disorders and mental illness. Prerequisites: PSY 100, PSY 258, or PSY 270.

PSY 369 Health Psychology **3 credits**
An overview of the emerging, multidisciplinary field of health psychology, which synthesizes research from clinical psychology, behavioral medicine and alternative therapies. Psychological aspects of prevention, health promotion and wellness are addressed. Content is both theory and application-based.

PSY 380 Evolutionary Psychology **3 credits**
Evolutionary psychology examines mental and psychological traits such as memory, perception, attraction, or aggression, as adaptations or functions of the natural selection process. Topics addressed include the nature and nurture conflict, relationships between the two sexes, group cooperation, crime, and racism. Prerequite: PSY100

PSY 397 Special Topics **1-6 credits**

PSY 399 Internship in Psychology **1-9 credits**
An opportunity for psychology majors to obtain field experience through direct, super- vised contact with professionals in psychology and related areas. Graded Satisfactory/ Unsatisfactory only. Prerequisite: completion of a minimum of 18 credits in psychology, including six credits at Western.

PSY 437 Behavioral Pharmacology **3 credits**
Considers the relationship between our sensation of the physical world and our internal perceptions through the lens of behavioral pharmacology. Attention is given to the exploration of altered perceptions produced by drugs. Prerequisites: PSY 100 and PSY 200.

PSY 457 Social Psychology **3 credits**
A discussion of theories and research findings concerning the individual in social situations with an emphasis on their applications to current social issues. Included are such topics as interpersonal attraction, persuasion, altruism, morality, aggression, and intra-group relations.

PSY 460 Psychological Testing **3 credits**
An introduction to the general methodology and theory of psychological testing. Students have the opportunity to take, score, administer and interpret several common assessment instruments. Ethics and limitations of testing are emphasized. Prerequisite: PSY 100, PSY 258, or PSY 270.

PSY 475 Clinical Psychology **3 credits**
An introduction to the profession of clinical/counseling psychology through the presentation and analysis of different theoretical orientations and their respective techniques. Students have in-class opportunities to practice basic skills. Professional ethics in the delivery of mental health services are addressed. Prerequisites: PSY 100, PSY 258, or PSY 270.

PSY 491 Topical Seminar in Psychology **1-3 credits**
A seminar involving advanced reading, discussion, and research. Different areas of study are selected as student and faculty interests dictate. A goal of this course is to stimulate critical thinking and analysis.

PSY 492 Independent Study **1-4 credits**
An opportunity for detailed study and research for advanced students. Topics and course requirements are determined in consultation with the sponsoring faculty member.

PSY 497 Special Topics **1-6 credits**

PSY 498 Capstone Seminar in Psychology **3 credits**
This capstone course is required for all psychology majors, except those who opt to complete the capstone internship. It is intended to provide the opportunity for the synthesis of the ideas and concepts acquired during undergraduate education in psychology. The seminar includes a discussion of controversial issues and ethical considerations in both experimental and applied areas, the completion of a comprehensive literature review and a consideration of the future of the field. Prerequisites: completion of a minimum of 18 credits in psychology including PSY 210.

PSY 499 Capstone Internship in Psychology **3 credits**
An opportunity for psychology majors to gain field experience through direct, supervised contact with professionals in psychology and related fields. In addition to on-site responsibilities, students write a comprehensive paper integrating the field experience and psychological theory and later formally present the paper in an open forum. Prerequisites: completion of a minimum of 18 credits in psychology, including six credits at Western.

RECREATION AND OUTDOOR EDUCATION (ROE)

The field of ROE is dedicated to creating opportunities for people to live healthy, engaged, and happy lives. The ROE program at Western State Colorado University is a professional preparation program for individuals seeking a career in recreation, outdoor leadership, or outdoor environmental education. This entails providing opportunities and requisite support for students to cultivate knowledge and develop practical skills in the following areas: leadership and facilitation, pedagogy, written and oral communication, environmental stewardship, philosophy and ethics, critical and creative thinking, program planning and execution, problem solving and resourcefulness, serving different populations, and the ability to manage risk. High value is placed on experiential education, as well as field-based learning through participation in backcountry inter-semester expeditions (generally in January, May, August, and spring break). Excellence in professional preparation is achieved through an interdisciplinary approach, including public and private partnerships, close proximity to recreation facilities and access to extensive public lands.

In addition to the traditional competencies expected of all liberal arts students, those majoring in ROE learn how the overall quality of life can be enhanced by the integration of appropriate leisure and educational activities. Students who graduate from the program gain confidence and leadership skills that can be applied in a variety of professional fields. Examples of options include employment with outdoor and environmental education centers, specialty outdoor training schools, municipal parks and recreation departments, social services, land management agencies, recreation and student services in higher education, and commercial guiding operations. Many students pursue graduate degrees, after garnering industry experience, allowing for more professional opportunities.

To participate in and graduate from the program, students must maintain a GPA of 2.5 or higher for all courses required of the ROE major. Students whose GPA drops below a 2.5 must repeat the applicable course(s) to raise the major GPA prior to taking additional ROE courses, or obtain permission from the instructor and Program Coordinator to repeat the course(s) while pursuing further coursework

FACULTY

Professors Mark A. Gibson and M. Brooke Moran;
Senior Lecturers Matthew H. Ebbott and Paul G. M. Tame; Lecturer Jay Whitacre.

DESCRIPTION OF THE PROGRAMS

The 36-credit Recreation and Outdoor Education Core is required for all Recreation and Outdoor Education majors:

Recreation and Outdoor Education Core

ROE 182 Introduction to Recreation and Outdoor Education	3 cr
ROE 189 Principles of Outdoor Education	3 cr
ROE 240 Alternative Programming	3 cr
ROE 283 Leadership and Facilitation	3 cr
ROE 351 Inquiry into Sustainability	3 cr
ROE 398 Program Planning (with laboratory)	3 cr
ROE 454 Human Development and Counseling for Outdoor Educators	3 cr
ROE 468 Leadership and Administration of Outdoor Pursuits	3 cr
ROE 490 Recreation Philosophy and Ethics	3 cr
ROE 491 Senior Seminar	3 cr
ROE 499 Internship in Recreation and Outdoor Education	6-9 cr

Medical Requirement: All Recreation and Outdoor Education majors must obtain a medical competency prior to graduation. Recreation emphasis majors must take ESS 276 Emergency Response or equivalent. Students with an emphasis in Outdoor Environmental Education, Outdoor Leadership, or Recreation and Outdoor Education Major: Comprehensive Program with Five-Year Master in Environmental Management must obtain certification as a Wilderness First Responder (WFR).

Recreation and Outdoor Education Major: Comprehensive Programs

RECREATION EMPHASIS

Recreation consists of 51 credits including the 36-credit Recreation and Outdoor Education Core, First Aid/CPR Competency and the following courses.

ESS 282 Principles of Sport and Fitness Management	3 cr
ESS 450 Risk Management in Physical Activity Settings	3 cr
One of the following:	
ROE 293 Outdoor Pursuits Education – Water Based	3 cr
ROE 295 Outdoor Pursuits Education – Snow Based	3 cr
ROE 296 Outdoor Pursuits Education – Land Based	3 cr
One of the following:	
ESS 382 Management of Sport and Fitness Facilities	3 cr
ROE 466 Facilities Management	3 cr
One of the following:	
ROE 333 Recreation and Sport Marketing	3 cr
ROE 364 Entrepreneurship and Commercial Recreation	3 cr

OUTDOOR ENVIRONMENTAL EDUCATION EMPHASIS

A minimum of 68 credits is required, including the 36-credit Recreation and Outdoor Education Core and the courses listed below. Additionally, students must become certified as a Wilderness First Responder (WFR).

ROE 230 Interpretation of Natural and Cultural History	3 cr
ROE 235 Foundations of Teaching Environmental Education	3 cr
ROE 391 Experiential Education Theory and Pedagogy	3 cr
Required supporting courses:	
ENVS 100 Introduction to Environmental Studies	3 cr
ENVS 200 Writing in the Environment	3 cr
Two of the following:	
ROE 293 Outdoor Pursuits Education–Water Based	3 cr
ROE 295 Outdoor Pursuits Education–Snow Based	3 cr
ROE 296 Outdoor Pursuits Education–Land Based	3 cr
One of the following:	
ENVS 360 Global Environmental Politics	3 cr
ROE 364 Entrepreneurship and Commercial Recreation	3 cr
ROE 466 Facilities Management	3 cr
Eight credits from the following:	
BIOL 151 Diversity and Patterns of Life (with laboratory)	4 cr
SCI 110 Habitable Planet (with laboratory)	4 cr
or both:	
BIOL 130 Environmental Biology	3 cr
BIOL 135 Environmental Biology Laboratory	1 cr
or both:	
GEOL 101 Physical Geology	3 cr
GEOL 105 Physical Geology Laboratory	1 cr

OUTDOOR LEADERSHIP EMPHASIS

A minimum of 57 credits is required, including the 36-credit Recreation and Outdoor Education Core and the following courses. Additionally, students must 1) become a certified Wilderness First Responder (WFR), and 2) complete at least 100 hours of certification-based or skill-based courses (not including WFR, Project Wet, Project Wild, or other certifications associated with required courses).

ROE 293 Outdoor Pursuits Education–Water Based	3 cr
ROE 295 Outdoor Pursuits Education–Snow Based	3 cr
ROE 296 Outdoor Pursuits Education–Land Based	3 cr
ROE 391 Experiential Education Theory and Pedagogy	3 cr
One of the following:	
BIOL 130 Environmental Biology	3 cr
ENVS 100 Introduction to Environmental Studies	3 cr
One of the following:	
ROE 230 Interpretation of Natural and Cultural History	3 cr
ROE 235 Foundations of Teaching Environmental Education	3 cr
One of the following:	
ROE 333 Recreation and Sport Marketing	3 cr
ROE 364 Entrepreneurship and Commercial Recreation	3 cr

Environmental Management Emphasis (with a 3+2 Master in Environmental Management)

This Recreation and Outdoor Education comprehensive emphasis allows students to complete the B.A. in ROE with the Outdoor Education emphasis and the Master in Environmental Management (MEM) at Western in five years. In addition to requirements listed below, students must 1) become a certified Wilderness First Responder (WFR), and 2) complete at least 100 hours of certification-based or skill-based courses (not including WFR, Project Wet, Project Wild, or other certifications associated with required courses). To remain qualified for the 3+2, upon earning 64 credits each student must have: maintained a 3.0 cumulative GPA and a 3.25 GPA within the major;

- maintained a 3.0 cumulative GPA and a 3.25 GPA within the major;
- earned a B or above in two social science, two natural science (one with lab), and one statistics course;
- fulfilled the 3-credit Internship requirement with a B or above and positive letter from the project sponsor;
- provided three letters of recommendation, at least one of which is to be a professional reference and at least one of which is to be an academic reference from the student's major at Western;
- written a Statement of Purpose to the MEM program, detailing early career ambitions and ideas and connections for the eventual master's Project.

At this point, if any aspect of a student's performance is found to be insufficient, the MEM Director may reject a 3+2 student from the MEM program, in which case the student will need to find a new emphasis or minor in order to complete the undergraduate degree.

Having met the criteria above and upon completed 91 credits (see "Major Map" at www.western.edu/3_2), the School of Graduate Studies will designate students "MEM candidates with provisional acceptance." Upon completion of the final 29 credits of the Western B.A. in Year 4 of this plan, the School of Graduate Studies will designate students as "MEM degree seeking students." Students who choose to leave the MEM program before Year 5 of the 3+2 program will be required to complete the requirements of the Recreation, Outdoor Environmental Education, or Outdoor Leadership emphasis, making them eligible for an undergraduate degree

Outdoor Education Emphasis (with 3+2 MEM)

A minimum of 77 credits is required for the B.A. The following is required for the Comprehensive Program with Five-Year Master in Environmental Management, in addition to 1) becoming a certified Wilderness First Responder (WFR), and 2) completing at least 100 hours of certification-based or skill-based courses (not including WFR, Project Wet, Project Wild, or other certifications associated with required courses):

ROE 182 Introduction to Recreation and Outdoor Education	3 cr
ROE 189 Principles of Outdoor Education	3 cr
ROE 230 Interpretation of Natural and Cultural History	3 cr
ROE 235 Foundations of Teaching Environmental Education	3 cr
ROE 240 Alternative Programming	3 cr
ROE 283 Leadership and Facilitation	3 cr
ROE 351 Inquiry into Sustainability	3 cr
ROE 398 Program Planning (with laboratory)	3 cr
ROE 490 Recreation Philosophy and Ethics	3 cr
ROE 491 Senior Seminar	3 cr
ROE 499 Internship in Recreation and Outdoor Education	6-9 cr
Required Supporting Courses	
ENVS 100 Introduction to Environment and Sustainability	3 cr
ENVS 200 Writing the Environment	3 cr
Two of the following	
ROE 293 Outdoor Pursuits Education-Water Based	3 cr
ROE 295 Outdoor Pursuits Education-Snow Based	3 cr
ROE 296 Outdoor Pursuits Education-Land Based	3 cr
Two of the following	
ENVS 360 Global Environmental Politics	3 cr
ROE 364 Entrepreneurship and Commercial Recreation	3 cr
ROE 391 Experiential Education Theory and Pedagogy	3 cr
ROE 454 Human Development and Counseling for Outdoor Educators	3 cr
ROE 466 Facilities Management	3 cr
ROE 468 Leadership and Administration of Outdoor Pursuits	3 cr
One of the following:	
ECON 216 Statistics for Business and Economics	3 cr
MATH 113 Statistical Thinking	3 cr
MATH 213 Probability and Statistics	3 cr
SOC 211 Quantitative Research and Methods	3 cr
Core MEM Courses	
ENVS 601 Introduction to Environmental Management	5 cr
ENVS 605 Science of Environmental Management	3 cr
ENVS 608 Environmental Politics and Policy	3 cr
ENVS 611 Integrative Skills for Environmental Management	3 cr
ENVS 612 Quantitative Skills for Environmental Management	3 cr
ENVS 615 Science of Climate Mitigation and Adaptation	3 cr
One of the following from the MEM Emphases:	
Sustainable and Resilient Communities Emphasis:	
ENVS 616 Environmental Organizational Development and Management	3 cr
Global Sustainability Emphasis:	
ENVS 617 Global Sustainability	3 cr
Integrative and Public Land Management Emphasis:	
ENVS 618 Public Lands Management	3 cr

Upon successful completion of the prescribed courses listed above, University defined General Education, and elective requirements totaling 120 credits (with 40 at the 300-level or higher), students are eligible for their B.A. conferral. Students electing to complete MEM must follow the balance of their declared emphasis curriculum:

MEM Sustainable and Resilient Communities Emphasis (beyond required Core courses)

Nine Credits of:

ENVS 623 Studies in Environmental Management	1-6 cr
and/or	
ENVS 620 Studies in Sustainable and Resilient Communities	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*****Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

MEM Integrative and Public Land Management Emphasis (beyond required Core courses)

Nine Credits of:

ENVS 623 Studies in Environmental Management	1-6 cr
and/or	
ENVS 625 Studies in Integrative and Public Land Management	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

MEM Global Sustainability Emphasis (beyond required Core courses)

Nine credits of (choose any combination with a global theme):

ENVS 620 Studies in Sustainable and Resilient Communities	3 cr
ENVS 623 Studies in Environmental Management	1-6 cr
ENVS 625 Studies in Integrative and Public Land Management	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

Recreation and Outdoor Education Minor

The Recreation and Outdoor Education Minor requires a minimum of 18-credits. No more than six credits of skills courses (e.g., 293, 295, 296) may count toward the minor:

ROE 182 Introduction to Recreation and Outdoor Education	3 cr
ROE 189 Principles of Outdoor Education	3 cr
ROE 283 Leadership and Facilitation	3 cr
ROE 351 Inquiry into Sustainability	3 cr
Recreation and Outdoor Education electives	6 cr

Capstone Course Requirement: The following courses in the Recreation and Outdoor Education Major fulfill the capstone course requirements: ROE 499 Internship in Recreation and Outdoor Education.

RECREATION AND OUTDOOR EDUCATION COURSES

ROE 182 Introduction to Recreation and Outdoor Education **3 credits**

An introduction to the history, philosophy, founders, and principles of recreation and outdoor education, the agencies providing programs, and an investigation of professional employment opportunities in recreation.

ROE 189 Principles of Outdoor Education **3 credits**

An exploration of the theory and practice of outdoor education, with emphases on group dynamics, risk management, leadership, Leave No Trace, technical skills, and teaching, which are applied in a backcountry setting. This backcountry block course is offered outside the confines of the regular semester, so check dates before registering. Students who drop the course within two weeks of the start date will not have their course fees refunded. Prerequisite: instructor permission

ROE 197 Special Topics **1-6 credits**

ROE 230 Interpretation of Natural and Cultural History **3 credits**

A study of the principles, philosophies, and practices of interpretation, as well as active approaches to describing, relating, displaying, and revealing resources to a variety of audiences, primarily through observation and involvement in a variety of interpretation programs. Prerequisites: BIOL 130, BIOL 150, BIOL 151, or GEOL 101.

ROE 235 Foundations of Teaching Environmental Education **3 credits**

A survey of environmental education examples from land management agencies, nature centers, and educational organizations. Students are guided to create their own curriculum employing environmental content. Field trips required.

ROE 240 Alternative Programming **3 credits**
Course participants gain insight into alternative programming for special populations. Students explore case studies, specialized equipment, and profiles of special populations. Guest speakers and site visits will help students understand the intricacies of alternative programming and requisite career qualifications. Field trips required.

ROE 283 Leadership and Facilitation **3 credits**
A study of recreation and outdoor education leadership, including leading activities, managerial leadership, and the art of facilitation. Emphasis is placed upon appropriate theories and techniques for varying populations.

ROE 293 Outdoor Pursuits Education—Water Based (with laboratory) **3 credits**
Skill development in areas such as leadership, facilitation, rescue techniques, white water rafting, stand-up paddle boarding, and kayaking, as well as a focus on environmental education. This backcountry block course is offered in summer only, so check dates before registering. Students who drop the course within two weeks of the start date will not have their course fees refunded. Prerequisites: ROE 189; ROE 283; and instructor permission.

ROE 295 Outdoor Pursuits Education—Snow Based (with laboratory) **3 credits**
Skill development in areas such as leadership, teaching, traveling in avalanche terrain, backcountry skiing, and winter camping. This backcountry block course is offered outside the confines of the regular semester, so check dates before registering. Students who drop the course within two weeks of the start date will not have their course fees refunded. Prerequisites: ROE 189; ROE 283; and instructor permission.

ROE 296 Outdoor Pursuits Education—Land Based (with laboratory) **3 credits**
Skill development in areas such as leadership, teaching, rock climbing, mountain biking, and backpacking. This backcountry block course is offered outside the confines of the regular semester, so check dates before registering. Students who drop the course within two weeks of the start date will not have their course fees refunded. Prerequisites: ROE 189; ROE 283; and instructor permission.

ROE 297 Special Topics **1-6 credits**

ROE 333 Recreation and Sport Marketing **3 credits**
A survey of recreation and sport marketing topics: buyer behavior, segmentation, positioning, demand analysis, information and research, pricing, promotion, channels, "product" policies, destinations, sponsorship, endorsement, merchandising, and fundraising. Prerequisites: ENG 102 with a minimum grade of "C-" and completion of at least 30 credits; or instructor permission.

ROE 351 Inquiry into Sustainability **3 credits**
An investigation of sustainability and the interconnectedness of environment, economics, and society. Students are provided opportunities to examine their thoughts and practical examples of sustainsable businesses, communities, and other systems. Teaching, applied projects, field trips, and/or participation in conferences may be required. Prerequisites: ENG 102 with a minimum grade of "C-" and completion of at least 30 credits; or instructor permission.

ROE 364 Entrepreneurship and Commercial Recreation **3 credits**
An analysis of the types of commercial and private enterprises, along with the qualities of the entrepreneur specific to recreation businesses. The student is also exposed to small-business management practices as they relate to commercial recreation. Case study analysis and field investigation methods are emphasized to provide the student the opportunity to learn through active participation. Prerequisites: ENG 102 with a minimum grade of "C-" and completion of at least 30 credits; or instructor permission.

ROE 391 Experiential Education Theory and Pedagogy **3 credits**
An introduction to the historical, theoretical, and pedagogical foundations of experien- tial education. Teaching opportunities in the classroom and/or in the outdoors allow students to hone facilitation styles and effectiveness. Course topics include the experi- ential learning cycle, reflective learning, feedback, edgework, communication tech- niques, and multiple intelligences. Prerequisites: ENG 102 with a minimum grade of "C-" and completion of at least 30 credits; or instructor permission.

ROE 397 Special Topics **1-6 credits**

ROE 398 Program Planning (with laboratory) **3 credits**
Equips students with a variety of program-planning methodologies and skills. Emphasis is placed on the planning, organization, implementation, and evaluation of recreation programs. Theories are applied in an experiential setting. Prerequisites: ENG 102 with a minimum grade of "C-" and completion of at least 30 credits; or instructor permission.

ROE 454 Human Development and Counseling for Outdoor Educators **3 credits**
An investigation of human development theories enabling students to better understand their own motives in outdoor pursuits and allow them to more effectively program for, manage, and support a variety of client needs. Prerequisite: ROE 182; ROE 189; ROE 283; and one of the following: ROE 293, ROE 295, or ROE 296; and senior standing; or instructor permission.

ROE 466 Facilities Management **3 credits**
A study of management, clientele considerations, facilities, outdoor area planning, and operation. Also addressed are personnel, finance, architectural and environmental barri- ers, plus equipment as related to recreation areas and facilities. Field visits required. Prerequisites: ENG 102 with a minimum grade of "C-" and completion of at least 30 credits; or instructor permission.

ROE 468 Leadership and Administration **3 credits**
A focus on the implementation of recreation and outdoor education programs, including planning, management and leadership, administrative duties, risk management, and specialized populations. Practical projects are employed as a means to provide students authentic experience in the field. Field trip(s) may be required. Prerequisites: senior standing or instructor permission.

ROE 490 Recreation Philosophy and Ethics **3 credits**
An exploration of recreation philosophy from Plato to Petzoldt and its implications to professionals in the field. Designed to prepare ROE majors for the ethical challenges and time use dilemmas of the 21st century. Prerequisites: senior standing; corequisite: ROE 491.

ROE 491 Senior Seminar **3 credits**

A small group of graduating seniors pursue a practical project necessitating professional levels of problem solving, research, written and oral prowess, critical thinking, and familiarity with core curriculum. Final projects are of high quality, so they can be used by professionals and decision-makers in the field. Prerequisites: senior standing. corequisite: ROE 490.

ROE 492 Independent Study **1-4 credits**

A course open to qualified upper-division students who have specialized interests in a particular area of advanced study in recreation. Prerequisite: instructor permission.

ROE 494 Research **1-4 credits**

Provides students the opportunity to pursue research in the field of recreation. Prerequisite: instructor permission.

ROE 496 Field Experiences **1-6 credits**

Provides students with directed field experiences in teaching, coaching, and laboratory settings. Guidelines for the field experiences are provided and agreed upon prior to registering for the course. Graded Satisfactory/Unsatisfactory only. Prerequisite: instructor permission.

ROE 497 Special Topics **1-6 credits**

ROE 499 Internship in Recreation and Outdoor Education **6-9 credits**

A course providing full-time concentration on a specific practical experience at an approved agency. It allows for comprehensive involvement in an agency program with faculty and on-site supervision. Prerequisites: senior standing and instructor permission.

SCIENCE (SCI)

The courses designated with the SCI prefix do not constitute a program or curriculum within themselves. Instead they are courses which support or complement programs across all of the science disciplines.

SCIENCE COURSES

SCI 110 Habitable Planet (with laboratory) **4 credits**

An introduction to earth science and ecology. Topics include earth history, the fossil record, biogeochemical cycles, climate, energy flow, biodiversity, evolution, population growth and regulation. This course is designed for students seeking licensure as elementary teachers (grades K-6). Additional course fee applies.

SCI 111 Nature of Science **1 credit**

An introduction to science as it relates to the individual, society, and the elementary school classroom. The process of science is examined, as well as the connection between science as it is done and science in textbooks. This course is designed for students seeking licensure as elementary teachers (grades K-6). Prerequisite or corequisite: SCI 110.

SCI 120 Living Planet (with laboratory) **4 credits**

An introduction to human biology, chemistry and biochemistry. Topics explored include anatomy, physiology, nutrition, cell biology, genetics, inorganic chemistry, biochemistry, development, and the application of biological and biochemical principles to understanding disease. This course is designed for students seeking licensure as elementary teachers (grades K-6). Additional course fee applies.

SCI 197 Special Topics **1-6 credits**

SCI 202 Scientific Writing **3 credits**

An introduction to the effective oral, written, and graphical communication in the sciences. Students address these skills by exploring current issues in science. Prerequisites: ENG 102 and minimum sophomore standing with a major in anthropology, biology, or chemistry.

SCI 210 Dynamic Planet (with laboratory) **4 credits**

A foundation in physics, earth science, and space science. Topics explored include motion, force, energy, weather, plate tectonics, earthquakes, volcanoes, and the solar system. This course is designed for students seeking licensure as elementary teachers (grades K-6). Additional course fee applies. Prerequisite: SCI 110 or SCI 120 and completion of the general education essential skills mathematics requirement.

SCI 297 Special Topics **1-6 credits**

SCI 390 Science Teaching Practicum **1-2 credits**

An opportunity for students in the sciences to participate in laboratory design, instruction and execution, and in field experiences. Specifically designed for recipients of awards, such as undergraduate assistantships and teaching assistantships, or for students pursuing degrees in science with an education emphasis. May be taken for a maximum of six credits. Graded Satisfactory/Unsatisfactory only.

SCI 397 Special Topics **1-6 credits**

SCI 400 Environmental Science Seminar **1 credit**

An examination of the environmental sciences through readings of primary literature, secondary literature and discussions of the environmental science discipline. The professional practices, procedures and standards of environmental science are discussed. Students will develop a professional portfolio of an environmental science project. Graded Satisfactory/Unsatisfactory only. Prerequisites: Instructor approval. This course is intended for students at the end of their Environmental Science minor.

SCI 497 Special Topics **1-6 credits**

SCI 499 Internship in Science **1-5 credits**

An opportunity for students to gain experience through direct involvement with professionals in various fields of science.

SOCIOLOGY (SOC)

While all social sciences are interested in understanding human behavior, sociology is distinguished by its focus on understanding patterns of human behavior and emphasizing the social forces that shape and influence these patterns. Often, this perspective is surprising and can challenge assumptions of how the world works. The subject matter of sociology is broad—anything about social life one is interested in can be (and likely has been) studied by sociologists. Ultimately, students of sociology develop an appreciation for ways in which social structures and culture shape the world they live in and thus shape their own lives.

This breadth of social life is reflected in the sociology curriculum. After taking SOC 101 Introduction to Sociology, which is a prerequisite for other sociology courses, students are free to pursue other areas of interest. Courses on social institutions (such as family, medicine, and the criminal justice system), social processes (such as the relationship between the self and society, social movements, and deviance), and social stratification (such as race, class and gender) represent the rich diversity of social life that sociologists are interested in understanding. These offerings are complemented by grounding in social theory and methodology. As a social science, sociological knowledge is based on empirical observation and analysis that is informed by and informs social theory.

The standard major provides a mix of seven core courses and six elective choices. Students with an interest in criminal justice can pursue a concentration in that area by taking an additional list of core courses in the criminal justice emphasis. Students who wish to pursue a minor take the introductory course and then choose five elective courses. SOC 101 Introduction to Sociology and SOC 168 Social Problems also fulfill Area I General Education requirements. Sociology majors are encouraged to take MATH 113 Statistical Thinking, to fulfill the general education mathematics competency requirement.

In addition to classroom instruction, The Sociology Club and the International Honors Society in Sociology, Alpha Kappa Delta, are active on campus with social and intellectual activities. While sociology provides a useful perspective for any kind of employment, graduates typically find employment in social services, law enforcement, teaching, and research.

FACULTY

Professor Greg P. Haase;
Assistant Professors Matt Aronson, Jackie Gabriel, and Cindy Whitney.

DESCRIPTION OF THE PROGRAMS

Sociology Major: Standard Program

A minimum of 39 credits is required including:

SOC 101 Introduction to Sociology	3 cr
SOC 225 Self and Society	3 cr
SOC 302 Sociological Theory	3 cr
SOC 310 Qualitative Research Methods	3 cr
SOC 380 Social Inequalities	3 cr
SOC 498 Capstone	3 cr
One of the following:	
PSY 200 Statistical Analysis and Experimental Methodology I	3 cr
SOC 211 Quantitative Research Methods	3 cr
Six of the following:	
GEOG 340 Introduction to Geographic Information Systems	3 cr
PSY 368 Psychopathology	3 cr
SOC 150 Environmental Sociology	3 cr
SOC 168 Social Problems	3 cr
SOC 259 Introduction to Criminal Justice	3 cr
SOC 285 Criminology	3 cr
SOC 303 Contemporary Theory	3 cr
SOC 320 The Family	3 cr
SOC 322 Medical Sociology	3 cr
SOC 323 Cultural Studies	3 cr
SOC 340 Social Movements	3 cr
SOC 349 Law Enforcement	3 cr
SOC 350 Deviance	3 cr
SOC 351 Juvenile Delinquency	3 cr
SOC 355 Drugs and Society	3 cr
SOC 367 Corrections	3 cr
SOC 397 Special Topics	3 cr
SOC 399 Internship in Sociology	1-6 cr
SOC 492 Independent Study	1-6 cr

Criminal Justice Emphasis

A minimum of 42 credits is required including:

POLS 301 Constitutional Law II	3 cr
SOC 101 Introduction to Sociology	3 cr
SOC 225 Self and Society	3 cr
SOC 259 Introduction to Criminal Justice	3 cr
SOC 285 Criminology	3 cr
SOC 302 Sociological Theory	3 cr
SOC 310 Qualitative Research Methods	3 cr
SOC 349 Law Enforcement	3 cr
SOC 367 Corrections	3 cr
SOC 380 Social Inequalities	3 cr
SOC 498 The Capstone Experience	3 cr
One of the following:	
PSY 200 Statistical Analysis and Experimental Methodology I	3 cr
SOC 211 Quantitative Research Methods	3 cr
At least two of the following:	
GEOG 340 Introduction to Geographic Information Systems	3 cr
PSY 368 Psychopathology	3 cr
SOC 150 Environmental Sociology	3 cr
SOC 168 Social Problems	3 cr
SOC 303 Contemporary Theory	3 cr
SOC 320 The Family	3 cr
SOC 322 Medical Sociology	3 cr
SOC 323 Cultural Studies	3 cr
SOC 340 Social Movements	3 cr
SOC 350 Deviance	3 cr
SOC 351 Juvenile Delinquency	3 cr
SOC 355 Drugs and Society	3 cr
SOC 397 Special Topics	3 cr
SOC 399 Internship in Sociology	1-6 cr
SOC 492 Independent Study	1-6 cr

Environmental Management Emphasis (with a 3+2 Master in Environmental Management)

The Environmental Management emphasis allows students to complete the B.A. in Sociology (SOC) and the Master in Environmental Management (MEM) at Western in five years. To remain qualified for the 3+2, after 66 credits each student must have: maintained a 3.0 cumulative GPA and a 3.25 GPA within the major;

- maintained a 3.0 cumulative GPA and a 3.25 GPA within the major;
- earned a B or above in two social science, two natural science (one with lab), and one statistics course;
- fulfilled the 3-credit Internship requirement with a B or above and positive letter from the project sponsor;
- provided three letters of recommendation, at least one of which is to be a professional reference and at least one of which is to be an academic reference from the student's major at Western;
- written a Statement of Purpose to the MEM program, detailing early career ambitions and ideas and connections for the eventual master's Project.

At this point, if any aspect of a student's performance is found to be insufficient, the MEM Director may reject a 3+2 student from the MEM program, in which case the student will need to find a new emphasis or minor in order to complete the undergraduate degree. Upon meeting the requirements above, and after Junior Year (reaching 91 credits in this plan—see "MAJOR MAP" at western.edu/3_2) holding to the same GPA and general performance standards outlined above, the School of Graduate Studies will designate students as "MEM candidates with provisional acceptance." Upon completion of the final 29 credits of the Western B.A. in Year Four of this plan, the School of Graduate Studies will designate students as "MEM degree seeking students." Students who have completed all other requirements of the 3+2 program and all Western undergraduate requirements, yet choose to leave the MEM program before Year 5, will still have completed the SOC undergraduate emphasis in Environmental Management and have earned the 120 credits necessary for a Western undergraduate degree.

A minimum of 68 credits is required.

SOC 101 Introduction to Sociology	3 cr
SOC 225 Self and Society	3 cr
SOC 302 Sociological Theory	3 cr
SOC 310 Qualitative Research Methods	3 cr
SOC 380 Social Inequalities	3 cr

SOC 399 Internship	3 cr
SOC 498 The Capstone Experience	3 cr
Six of the following:	
GEOG 340 Introduction to Geographic Information Systems	
PSY 368 Psychopathology	3 cr
SOC 168 Social Problems	3 cr
SOC 303 Contemporary Theory	3 cr
SOC 320 The Family	3 cr
SOC 321 Sociology of Religion	3 cr
SOC 322 Medical Sociology	3 cr
SOC 323 Cultural Studies	3 cr
SOC 349 Law Enforcement	3 cr
SOC 350 Deviance	3 cr
SOC 351 Juvenile Delinquency	3 cr
SOC 355 Drugs and Society	3 cr
SOC 367 Corrections	3 cr
SOC 397 Special Topics	3 cr
SOC 492 Independent Study	3 cr
One of the following:	
ECON 216 Statistics for Business and Economics	3 cr
MATH 213 Probability and Statistics	3 cr
PSY 200 Statistics and Data Analysis	3 cr
SOC 211 Quantitative Research Methods	3 cr
One of the following:	
SOC 150 Environmental Sociology	3 cr
SOC 340 Social Movements	3 cr
Core MEM Courses	
ENVS 601 Introduction to Environmental Management	5 cr
ENVS 605 Science of Environmental Management	3 cr
ENVS 608 Environmental Politics and Policy	3 cr
ENVS 611 Integrative Skills for Environmental Management	3 cr
ENVS 612 Quantitative Skills for Environmental Management	3 cr
ENVS 615 Science of Climate Mitigation and Adaptation	3 cr
One of the following from the MEM Emphases:	
Sustainable and Resilient Communities Emphasis:	
ENVS 616 Environmental Organizational Development and Management	3 cr
Global Sustainability Emphasis:	
ENVS 617 Global Sustainability	3 cr
Integrative and Public Land Management Emphasis:	
ENVS 618 Public Lands Management	3 cr

Upon successful completion of the prescribed courses listed above, University defined General Education, and elective requirements totaling 120 credits (with 40 at the 300-level or higher), students are eligible for their B.A. conferral. Students electing to complete MEM must follow the balance of their declared emphasis curriculum:

MEM Sustainable and Resilient Communities Emphasis (beyond required Core courses)

Nine Credits of:

ENVS 623 Studies in Environmental Management	1-6 cr
and/or	
ENVS 620 Studies in Sustainable and Resilient Communities	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*****Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

MEM Integrative and Public Land Management Emphasis (beyond required Core courses)

Nine Credits of:

ENVS 623 Studies in Environmental Management	1-6 cr
and/or	
ENVS 625 Studies in Integrative and Public Land Management	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

MEM Global Sustainability Emphasis (beyond required Core courses)

Nine credits of (choose any combination with a global theme):

ENVS 620 Studies in Sustainable and Resilient Communities	3 cr
ENVS 623 Studies in Environmental Management	1-6 cr
ENVS 625 Studies in Integrative and Public Land Management	3 cr
Masters Project Requirement:	
ENVS 690 Master's Project Development	5 cr
ENVS 694 Master's Project and Portfolio	9 cr

*Students must take 3 cr of ENVS 694 Fall Year 5 and 6 credits of ENVS 694 Spring Year 5.

Sociology Minor

A minimum of eighteen credits is required:

SOC 101 Introduction to Sociology	3 cr
Sociology electives	15 cr

Capstone Course Requirement. The following courses in the Sociology Major fulfill the capstone course requirement: SOC 498 The Capstone Experience, or SOC 399 Internship (Criminal Justice Emphasis).

SOCIOLOGY COURSES

SOC 101 Introduction to Sociology **3 credits**

An introduction to the discipline of sociology with special emphasis on the unique per- spective this science utilizes to examine the social world. Sociology is distinguished by its focus on understanding patterns of human behavior and emphasizing the social forces that shape and influence these patterns. Primary course focus is on culture, inequality, race and gender, and social institutions. This course serves as a "gateway" course for all Sociology majors and minors, and must be passed with a minimum grade of "C" to be used as a prerequisite. Prerequisite for all 200-, 300-, and 400-level Sociology courses.

SOC 150 Environmental Sociology **3 credits**

The sociological perspective is utilized to examine a variety of issues addressing the human-environment interface. In particular, this course examines how social organization and culture both shape and are shaped by the natural environment. The course focuses on issues of sustainability, the rights of the natural world, and environmental justice.

SOC 168 Social Problems **3 credits**

An introduction to the field of sociology through an analysis of social problems in the United States and in the world. Course focus is on topics such as drugs and alcohol abuse, crime and prisons, health and illness, hunger and poverty, resource depletion and pollution, and the effects of globalization.

SOC 197 Special Topics **1-6 credits**

SOC 211 Quantitative Research Methods **3 credits**

An introduction for students of the social sciences to the fundamentals of quantitative research analysis. Students design and administer surveys, code data, and analyze results. Students become familiar with descriptive statistics (frequency distributions, measures of central tendency, and dispersion), inferential statistics (sampling theory, hypothesis testing, normal binomial distributions, confidence intervals, and types of error), as well as techniques for computing correlation. Prerequisites: SOC 101 with a minimum grade of "C"; and MATH 113 or MATH 140.

SOC 225 Self and Society **3 credits**

An examination of how the discipline of sociology approaches "micro-level" phenomenon. Emphasis is on the formation of the self, the socialization process, and the importance of language to social interaction. Beginning with the premise that social reality is a social construction which has been created through our interactions with others, the implications of this premise for the version of reality each of us experiences is explored. Prerequisite: SOC 101 with a minimum grade of "C."

SOC 259 Introduction to Criminal Justice **3 credits**

An introduction to the history and contemporary issues of the criminal justice system (law enforcement, courts, and corrections) in the United States. Topics surveyed include the system's history, constitutional limitations, philosophical background, and the system's process. Prerequisite: SOC 101 with a minimum grade of "C."

SOC 285: Criminology **3 credits**
An introduction to the field of criminology with special emphasis on theories of crime, types of criminals, victimology, and the criminal justice system. Special topics examined include gangs, white collar crimes, property crimes, victimless crimes, and organized crime. Prerequisites: SOC 101 with a minimum grade of a "C" and SOC 259 with a minimum grade of a "C"

SOC 297 Special Topics **1-6 credits**

SOC 302 Sociological Theory **3 credits**
A formal introduction to classical sociological theories relevant to the discipline. Students learn about the history of the discipline, identify major sociological theorists and their theories, learn how these theories can be applied to various historical and contemporary social issues, and discover the relationship between theory, research, ideology and every-day life. Prerequisite: SOC 101 with a minimum grade of "C."

SOC 303 Contemporary Sociological Theory **3 credits**
A formal introduction to sociological theories developed since World War II. Students are able to identify and describe recent sociological theories and apply theory to con-temporary social phenomena as well as their individual experiences. Students recognize the relationship between theory, ideology, and daily life. Prerequisite: SOC 101 with a minimum grade of "C."

SOC 310 Qualitative Research Methods **3 credits**
An examination of qualitative approaches to understanding social life. In particular, the course covers selecting a topic suitable for qualitative investigation, participant observation and in depth interviewing techniques, the ethics and politics associated with doing qualitative research, writing up field notes, formulating topics, reviewing the literature around the topic, the analysis of field notes, and the writing of research reports. Prerequisite: ENG 102 with a grade of "C-" or above; SOC 101 with a minimum grade of "C."

SOC 320 The Family **3 credits**
An analysis of the family as a social group and institution. Students consider the ways in which the family is influenced by demographic changes and by the changes in other social institutions, such as the economy, education, the state and religion. Prerequisite: SOC 101 with a minimum grade of "C."

SOC 322 Medical Sociology **3 credits**
An examination of the United States Health Care System and comparison of various components of this system with that of others. The allopathic (Western) medical model is also examined. The course emphasizes the mortality and morbidity trends and patterns which exist in the U.S., the problems facing our health care system (high costs, unequal access), and alternative models of health and disease. Prerequisite: SOC 101 with a minimum grade of "C."

SOC 323 Cultural Studies **3 credits**
A foundation in the sociology of culture as well as extensive analysis of selected regional national and/or global (sub) cultures and their environments. Issues covered include the social organization of culture, institutions and narratives, material and non- material culture, and cultural identity and the self. Prerequisite: SOC 101 with a minimum grade of "C."

SOC 340 Social Movements **3 credits**
An introduction to the study of social movements with two goals in mind. First, to expose students to the beliefs, practices, and consequences of a number of important historical, and contemporary movements. Second, the course familiarizes students with the theoretical perspectives, conceptual issues, focal questions, and empirical research that animate the study of social movements. This includes such issues as movement emergence, movement participation, mobilization dynamics, movement strategies and tactics, and movement outcomes. Prerequisite: SOC 101 or ENVS 100 with a minimum grade of "C."

SOC 349 Law Enforcement **3 credits**
An examination of issues affecting American law enforcement. Students are exposed to the historical underpinnings of the American policing experience, police operations and applications at the local, state, federal, and international levels, law enforcement sub- culture, police structure and organization, ethics, selection and training, and career opportunities. Prerequisite: SOC 259 with a minimum grade of "C."

SOC 350 Deviance **3 credits**
Students examine various forms of nonconformity—criminal and otherwise. To do so, they study the major theoretical perspectives addressing deviance and its control. Students explore how ordinary rituals, agents of social control, and ideology interact to maintain the existing social order. Prerequisite: SOC 101 with a minimum grade of "C."

SOC 351 Juvenile Delinquency **3 credits**
Biological, psychological, and sociological factors in juvenile delinquency are examined, as are modern trends in prevention and treatment. The course also addresses the procedural and substantive aspects of the juvenile justice system. Prerequisite: SOC 101 with a minimum grade of "C."

SOC 355 Drugs and Society **3 credits**
An examination of trends and patterns in American drug use, drug classification schemes, the relationship between drugs and crime, and drug education and prevention strategies. The use of hallucinogenic plants in other cultures is also explored. Prerequisite: SOC 101 with a minimum grade of "C."

SOC 367 Corrections **3 credits**
An in-depth look at corrections in the United States. Topics include history of corrections, jails, prisons, community corrections, offenders and inmates, women in corrections, juvenile corrections, correctional officers and treatment professionals, and special inmate populations. Prerequisites: SOC 101, SOC 259 and SOC 285 all with a minimum grade of "C."

SOC 380 Social Inequalities **3 credits**
An examination of major theories and concepts associated with social inequality as well as the causes and consequence of social inequality. The historical and contemporary aspects of social inequality in the United States are explored. Forms of resistance to social inequality are also considered. Prerequisite: SOC 101 with a minimum grade of "C".

SOC 397 Special Topics **1-6 credits**

SOC 399 Internship in Sociology **1-6 credits**

Sociology internships provide Sociology majors of junior and senior status with opportunities to work on sites off campus in the areas of law enforcement and social services. The experience must meet standards set by the University and by the sociology faculty. Up to three hours of internship credit may be counted toward the major. Graded Satisfactory/Unsatisfactory only.

SOC 492 Independent Study **1-6 credits**

Independent studies are available to seniors as a Capstone option. Enrollment is contingent upon developing a proposal with a faculty sponsor and requires a variable credit form. Prerequisite: minimum GPA of 3.50 in Sociology courses or instructor permission.

SOC 497 Special Topics **1-6 credits**

SOC 498 Capstone **3 credits**

Provides Sociology majors with a culminating activity for the senior year. Students summarize and integrate their coursework, apply their emerging sociological perspective to real world events, and prepare for future careers, jobs, and/or graduate work. Prerequisites: SOC 101 and SOC 310 with minimum grades of "C", and one of the following: SOC 211, PSY 200, ECON 216, or MATH 213 with minimum grade of "C"; senior standing, or instructor permission.

SPANISH (SPAN)

Western's Spanish Program allows its majors to study the language, literature, and culture of Spain and Spanish-speaking countries. Graduates of the Spanish Program are expected to have an understanding of and proficiency in speaking, reading, writing, and listening to Spanish; to be acquainted with the phonology of modern Spanish dialects and to explore the sound system; to be able to read, discuss, critique, and appreciate the literary value of Hispanic literature; and to be familiar with and appreciate Hispanic civilization and culture. The Standard Major prepares students for positions with the federal government or major corporations concerned with international business. They are also prepared for a variety of other positions, such as court interpreters, hotel managers in resort areas, and teachers. The Secondary Licensure Emphasis qualifies students for the State of Colorado Licensure in Spanish Education.

FACULTY

Assistant Professor Lorena Gomez.

DESCRIPTION OF THE PROGRAMS

All Majors require the 15-credit Spanish Core to be completed prior to enrollment in upper-division electives.

Spanish Core

SPAN 254 Intermediate Spanish I	3 cr
SPAN 255 Intermediate Spanish II	3 cr
SPAN 270 Spanish Conversation and Composition	3 cr
SPAN 375 Judicial and Medical Interpreting I	3 cr
SPAN 385 Introduction to Hispanic Literature	3 cr

A maximum of nine credits earned from independent study and/or foreign travel may be applied to the Major. Students who desire foreign language credit for foreign study and/ or exchange programs must have prior approval from the Department of Communication Arts, Languages, and Literature. Spanish credit for foreign study will be granted only to students who participate in formal study abroad programs sponsored by institutions accredited in the United States.

Spanish Major: Standard Program

A minimum of 36 credits is required, including the 15-credit Spanish Core and the following:

SPAN 494 Capstone Experience	3 cr
Six of the following:	
SPAN 340 Spanish Civilization and Culture	3 cr
SPAN 341 Latin American Civilization and Culture	3 cr
SPAN 370 Advanced Spanish Conversation and Composition	3 cr
SPAN 460 Hispanic Literature: Drama	3 cr
SPAN 460 Hispanic Literature: Poetry	3 cr
SPAN 460 Hispanic Literature: Prose	3 cr
SPAN 475 Judicial and Medical Interpreting II	3 cr

K-12 LICENSURE EMPHASIS

A minimum of 36 credits is required including the 15-credit Spanish Core and the following. In addition, students must fulfill the K-12 Licensure requirements described under Education.

SPAN 341 Latin American Civilization and Culture	3 cr
SPAN 370 Advanced Spanish Conversation and Composition	3 cr
SPAN 460 Hispanic Literature: Prose	3 cr
SPAN 475 Judicial and Medical Interpreting II	3 cr
SPAN 494 Capstone Experience	3 cr
Two of the following:	
SPAN 340 Spanish Civilization and Culture	3 cr
SPAN 460 Hispanic Literature: Drama	3 cr
SPAN 460 Hispanic Literature: Poetry	3 cr

Spanish Minor

A minimum of 18 credits beyond SPAN 101 Elementary Spanish I, and SPAN 102 Elementary Spanish II, including the 15-credit Spanish Core and:

One of the following:

SPAN 340 Spanish Civilization and Culture	3 cr
SPAN 341 Latin American Civilization and Culture	3 cr
SPAN 370 Advanced Spanish Conversation and Composition	3 cr
SPAN 460 Hispanic Literature:	3 cr
SPAN 475 Judicial and Medical Interpreting II	3 cr

Capstone Course Requirement. The following course in the Spanish Major fulfills the capstone course requirement: SPAN 494 Capstone Experience.

SPANISH COURSES

SPAN 101 Elementary Spanish I **3 credits**
An introduction to essentials of the Spanish language: comprehension, speaking, reading, and writing. Reserved for students with less than two years of high school Spanish.

SPAN 102 Elementary Spanish II **3 credits**
A continuation of SPAN 101. Prerequisite: SPAN 101 or equivalent.

SPAN 197 Special Topics **1-6 credits**

SPAN 254 Intermediate Spanish I **3 credits**
A continuation of SPAN 102. A grammar review and extensive practice in conversation, reading, and writing. Prerequisite: SPAN 102 or equivalent (two years or more of high school Spanish).

SPAN 255 Intermediate Spanish II **3 credits**
A continuation of SPAN 254. Further practice and development of speaking, reading, and writing skills. Prerequisite: SPAN 254 or equivalent.

SPAN 270 Spanish Conversation and Composition **3 credits**
A course to develop oral proficiency and writing skills in Spanish. Focuses on structure and vocabulary, emphasizing both speaking and listening, as well as basic writing skills within the Spanish language. Prerequisite: SPAN 255 or equivalent.

SPAN 297 Special Topics **1-6 credits**

SPAN 340 Spanish Civilization and Culture **3 credits**
An introduction to the general trends of Spanish civilization and everyday life. Includes Spanish development from prehistoric times to the present. Conducted in Spanish. Prerequisite: SPAN 255 or equivalent.

SPAN 341 Latin American Civilization and Culture **3 credits**
An introduction to the general trends of Latin American civilization, culture and the national character, as expressed in everyday life in the various countries of Latin America. Includes pre-Columbian history to the present. Conducted in Spanish. Prerequisite: SPAN 255 or equivalent.

SPAN 366 Methods of Teaching a Foreign Language **3 credits**
An introduction to past and current methods of teaching a foreign language, as well as to develop an understanding of proficiency and a synthesis of sound language-teaching practices.

SPAN 370 Advanced Spanish Conversation and Composition **3 credits**
A course designed to give students the opportunity to develop their oral proficiency through discussion and presentations. In addition, consideration is given to composition, using tasks that reflect the type of academic work generally asked of Spanish majors and minors—analysis and classification, argumentation, definition, exposition, comparison and contrast, and cause and effect. Prerequisite: SPAN 270.

SPAN 375 Judicial and Medical Interpreting I **3 credits**
A study of specialized Spanish vocabulary in two major areas: medicine and law. Students are exposed to sight, simultaneous and consecutive interpreting modes. Emphasis is placed on reaching 120 words per minute. Prerequisite: SPAN 255.

SPAN 385 Introduction to Hispanic Literature **3 credits**
Students read authentic Hispanic literature concentrating on details such as style, point of view, theme, and symbolism rather than simply reading for comprehension. Students read works by authors from Spain and Latin America with emphasis on works from major literary movements and styles. This course is conducted in Spanish. Prerequisite: SPAN 270.

SPAN 392 Directed Study in Spanish **1-4 credits**
A course of individual research and study about topics in Spanish. Prerequisite: six credits of Spanish beyond SPAN 102.

SPAN 397 Special Topics **1-6 credits**

SPAN 460 Hispanic Literature: **3 credits**
A course to give students the opportunity to read and analyze works by major Hispanic novelists, dramatists, essayists, poets and short story writers. The content of the course varies. This course may be taken for credit more than once. This course is conducted in Spanish. Prerequisite: SPAN 385.

SPAN 475 Judicial and Medical Interpreting II **3 credits**
An advanced study of highly specialized Spanish vocabulary in two major areas: medicine and law. Students are presented with various advanced sight, simultaneous and consecutive interpreting opportunities. Emphasis is placed on reaching 140 words per minute. Prerequisite: SPAN 375.

SPAN 490 Workshop Abroad **1-8 credits**
A series of workshops to study various aspects of contemporary issues in Hispanic cultures abroad. Prerequisite: SPAN 255 or equivalent.

SPAN 492 Independent Study **1-4 credits**
A special study in areas of student interest. May be taken for a maximum of four credits. Prerequisite: 15 credits of Spanish.

SPAN 494 Capstone Experience **3 credits**
A research project written by the Spanish major in an area of Spanish language and culture that is appropriate for the student's undergraduate experience. This course is offered yearly. Prerequisite: 24 credits in Spanish beyond SPAN 101 and SPAN 102.

PERSONNEL (As of May 1, 2018)

Faculty

Kevin D. Alexander (2000) Professor of Biology. Chair, Department of Natural and Environmental Sciences. B.A., University of Texas at Austin; Ph.D., University of North Texas.
Melanie Armstrong (2015) Assistant Professor of Environment and Sustainability. B.A., Brigham Young University; M.A. Ohio University; Ph.D., University of New Mexico.
Matthew Aronson (2013) Assistant Professor of Sociology. B.A., University of Montana; M.A., Ph.D., Colorado State University.
Robert H. Barrett (1993) Professor of Music; Chair, Department of Music. B.M., Brigham Young University; M.M., University of North Texas; D.M.A., University of Oklahoma–Norman.
Brian Bernhardt (2014) Assistant Professor of Politics and Government. B.A., James Madison University; M.A., Ph.D., University of Colorado-Boulder.
Robin A. Bingham (1997) Professor of Biology. B.A., University of Vermont; M.A., Ph.D., University of Colorado.
Bradford Burton (2015) Associate Professor of Geology and Rady Chair of Petroleum Geology. B.S., Montana State University; M.S., Idaho State University; Ph.D., University of Wyoming.
Christina Buchanan (2004) Associate Professor of Exercise and Sport Science. B.A., Mount Holyoke College: M.S., Ph.D., Colorado State University.
Tina Butterfield (2009) Associate Professor of Art. B.F.A., Western State Colorado University; M.F.A., Radford University.
Albert R. Caniff, Jr. (1994) Professor of Art. B.F.A., M.A., M.F.A., Western Michigan University; Ed.M., Nazareth College.
Mayela Cárdenas Surillo (2018) Associate Professor of Art. B.F.A., Rochester Institute of Technology; M.F.A., University of Oregon.
Abel A. Chavez, Jr. (2014) Assistant Professor of Environment and Sustainability. B.S., University of Colorado-Denver; M.B.A., University of Houston; Ph.D., University of Colorado-Denver.
Jonathan D. Coop (2012) Associate Professor of Environment and Sustainability and Biology. B.A., University of California-Santa Cruz. Ph.D., University of Wisconsin-Madison.
Robert A. Cohen (2006) Professor of Mathematics; Chair, Department of Mathematics and Computer Science. B.A., Humboldt State University; Ph.D., University of Colorado.
Scott I. Cohn (2007) Associate Professor of Psychology. B.S., Lafayette College; M.A., Ph.D., American University.
Brian Coppess (2017) Assistant Professor of Educational Leadership. B.A., Simpson College; M.S., Iowa State University; D.Ed. University of Northern Iowa.
Susan J. Coykendall (1997) Professor of Psychology. B.A., Kalamazoo College; M.A., Ph.D., Ohio State University.
Philip L. Crossley (2000) Professor of Geography. B.A., Trinity Western University; M.A., Ph.D., University of Texas at Austin.
Steven Crowley (2014) Associate Professor of Accounting. B.S., M.S., University of Montana; Ph.D., University of Utah.
Lance Dalleck (2013) Associate Professor Exercise and Sport Science. B.A., Western State Colorado University; M.S., Colorado State University; Ph.D., University of New Mexico-Albuquerque.
Jeffrey Dykes (2013) Associate Professor of Business Administration. B.A., Western State Colorado University; J.D., University of Denver.
Lindsey Fast (2014) Associate Professor of Psychology. B.S., Texas State University; M.S., Ph.D., Colorado State University.
Robert P. Fillmore (1997) Professor of Geology. B.A., Western State Colorado University; M.S., Northern Arizona University; Ph.D., University of Kansas.
Kimberly J. Fix (2009) Associate Professor of Mathematics. B.A., Winona State University; Ph.D., University of Iowa.
Jackie Gabriel (2016) Assistant Professor of Sociology. B.A., University of Iowa; M.A., University of Nebraska at Omaha; Ph.D., Colorado State University.
Peter H. Gauss (1990) Professor of Biology. B.S., St. Joseph's University; Ph.D., Johns Hopkins University.
Mark A. Gibson (2000) Professor of Recreation and Outdoor Education; Chair, Department of Recreation and Exercise and Sport Science. B.A., Eastern Washington University; M.S., Colorado State University; Ed.D., University of Northern Colorado.
Lorena Gomez (2017) Assistant Professor of Spanish. B.A., Universidad Nacional de Colombia; M.A., University of Mississippi; Ph.D., University of Alabama.
Christopher W. Greene (2010) Associate Professor of Business Administration. B.S., University of Wyoming; J.D., University of Colorado School of Law.
Greg P. Haase (1988) Professor of Sociology; Chair, Department of Behavioral and Social Sciences. B.A., M.A., Louisiana State University; Ph.D., Colorado State University.
Ralph Hanke (2016) Assistant Professor of Business Administration. B.A., M.A., University of Waterloo; M.A., Bowling Green State University; Ph.D., Pennsylvania State University.
James Harriss (2016) Associate Professor of Business Administration. B.B.A., M.B.A., Sam Houston University. D.B.A., Mississippi State University.
John C. Hausdoerffer (2005) Professor of Environment and Sustainability and Philosophy. Dean, School of Environment and Sustainability. B.A., Western State Colorado University; M.A., St. John's College; Ph.D.,
Sally R.E. Hays (2004) Professor of Economics. B.A., University of Colorado; Ph.D., University of Oregon.
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Faculty (*Continued*)

S. Chase Hutchison (2006) Professor of Art; Chair, Department of Art. B.F.A., Western State Colorado University; M.F.A., New Mexico State University.
Christine Jespersen (1998) Professor of English. B.A., University of Colorado; M.A., Ph.D., Rutgers University.
Anders Johnson (2017) Assistant Professor of Art. B.A., North Park University; M.F.A., Indiana University.
Peter Kadushin (2014) Assistant Professor of Exercise and Sport Science. B.S., Pennsylvania State University; M.S., M.A., Ph.D., West Virginia University.
Corrine Knapp (2014) Assistant Professor of Environment and Sustainability & Integrated Land Management Coordinator. B.A., University of Colorado; M.S., Colorado State University; Ph.D., University of Alaska.
Scott A. Lazerus (2000) Professor of Economics. B.A., Ph.D., University of Utah.
John F. Lucido (2007) Professor of Communication. B.A. Humboldt State University; M.F.A., University of North Carolina–Greensboro.
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Patrick A.M. Magee (1996) Assistant Professor of Biology. B.S. Colorado State University; M.S., Ph.D., University of Missouri.
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David W. Marchetti (2007) Professor of Geology. B.A., State University of New York at Geneseo; M.S., Ph.D., University of Utah.
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Elizabeth Petrie (2014) Moncrief Chair in Petroleum Geology and Assistant Professor of Geology. B.S., University of New Mexico; M.S., Ph.D., Utah State University.
David J. Plante (1999) Professor of Economics. B.A., Boston University; Ph.D., University of Utah.
Ian Renga (2015) Assistant Professor of Education. B.S., Indiana University; Ed.M., Harvard University; Ph.D., University of Colorado-Boulder.
Heather D. Roberson (2008) Professor of Music. B.M., Illinois Wesleyan University; M.A., University of Iowa; D.M.A., University of Kansas.
David Rothman (2012) Assistant Professor and, Graduate Director in Creative Writing. A.B., Harvard University; M.A., University of Utah; Ph.D., New York University.
Marc Rubin (2018) Assistant Professor of Computer Science. B.A., Colorado College; M.S., University of Tennessee; Ph.D., Colorado School of Mines.
Anne W. Ryter (1996) Professor of Chemistry. B.S., Beloit College; Ph.D., University of Colorado.
Terence S. Schliesman (1998) Professor of Communication. B.A., Central Washington University; M.A., Ph.D., Washington State University.
Daniel L. Schuster (1988) Professor of Computer Science and Mathematics. B.A., University of Colorado; B.S., M.S., Eastern Washington University; Ph.D., University of Texas at Austin.
Jeffrey Sellen (2010) Professor of Environmental Studies & Director of the Colorado Water Workshop. B.A., Wartburg College; M.A., University of Nebraska–Omaha; Ph.D., Washington State University.
Steven Siegel (2017) Assistant Professor of Music. B.M., James Madison University; M.M., West Texas A.&M. University; D.M.A, University of Kentucky;
Lynn L. Sikkink (2006) Professor of Anthropology. B.A., University of Colorado; M.A., Ph.D., University of Minnesota.
Perry Solheim (2018) Assistant Professor of Accounting. B.A., Fort Lewis College; B.A., Claremont McKenna College; Ph.D., University of Utah.
Crystal Southall (2014) Assistant Professor of Exercise & Sport Science. B.A., University of Colorado-Boulder; M.A., University of Memphis; Ph.D., University of Northern Colorado.
Mark Stiger (1989) Moncrief Chair in Anthropology; Professor of Anthropology. B.A., M.A., University of Colorado; Ph.D., University of New Mexico.
Allen L. Stork (1985) Professor of Geology. B.A., Pomona College; Ph.D., University of California–Santa Cruz.
Maria Boikova Struble (2008) Professor of Politics and Government. B.A., Louisiana State University; M.A., Arizona State University.

Faculty (*Continued*)

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Heather Thiessen-Reily (1996) Professor of History. B.A., University of Saskatchewan; M.A., Flinders University of South Australia; Ph.D., Tulane University.
Mark D. Todd (1988) Professor of English. B.A., M.A., Eastern New Mexico University; Ph.D., Texas Tech University.
Duane L. Vandenbusche (1962) Professor of History. B.S., Northern Michigan University; M.A., Ed.D., Oklahoma State University.
Michael Vieregge (2011) Professor of Business Administration. M.A., M.P.A., University of Texas at Austin; Ph.D., Pennsylvania State University.
Joel Watson (2015) Assistant Professor of Marketing. B.S., University of Virginia; Ph.D., University of Utah.
Cindy Whitney (2013) Assistant Professor of Sociology. B.A., Adams State University; M.S., Mankato State University; Ph.D., Kansas State University.
Stephen Winters-Hilt (2018) Associate Professor of Computer Science. B.S., M.S., California Institute of Technology; Ph.D., University of Wisconsin; Ph.D., University of California-Santa Cruz.
Jessica R. Young (1996) Professor of Environmental Management Master Program. B.A., University of California-San Diego. Ph.D., Purdue University.

NOTE: Dates indicate first year of employment at Western State Colorado University.

Administration

Gregory B. Salsbury (2014) President. B.S., Southern Illinois University; M.A., University of Illinois; M.A., Annenberg School for Communication and Journalism; Ph.D., University of Southern California.
Julie S. Baca (2010) Chief Financial Officer. B.A., Western State Colorado University; M.A., Southern Illinois University.
W. Bradley Baca (2002) Executive Vice President and Chief Operations Officer. B.A., Dartmouth College; M.A., University of Colorado.
William L. Niemi (1997) Associate Vice President for Academic Affairs; Professor of Politics and Government. B.A., University of California–Santa Cruz; M.A., University of California–Santa Barbara; Ph.D., University of California–Los Angeles.
Gary C. Pierson (1998) Vice President for Student Affairs. B.A., M.A., Adams State University.
Loren Ahonen (2017) Interim Assistant Sports Information Director. B.A., M.S., Western State Colorado University.
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Tara Allman (2017) Assistant Director of Campus Recreation/Wilderness Pursuits. B.S., M.A., Ohio University.
Mark Anderson (2005) Senior Programmer Analyst. B.A. Western State Colorado University.
Alyssa Atzenbeck (2017) Interim Academic Success Advisor/Exploratory Program Coordinator. B.A., Western State Colorado University.
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Katie Benoit (2016) Associate Director of Athletics for Development. B.A., University of Rochester; M.A., Northeastern University College of Professional Studies.
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Erik Berglund (2017) Interim Graphic Designer. B.A., Western State Colorado University.
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Gregory Chase (2016) Director of Mountain Sports-Operations. A.A., Colorado Mountain College; B.A., University of Colorado-Colorado Springs; M.A. University of Denver.
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Taylor Cull (2017) Interim Social and Digital Media Coordinator. B.A., Western State Colorado University.
Taylre Derby (2017) Director of Alumni Relations. B.S., Colorado State University.
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Samuel Ferrera (2017) Interlibrary Loan/Night Manager. B.A., Western State Colorado University.
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Marlo Frazier (2016) Education Department Assistant. B.A., University of Northern Colorado.
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LaDonna Garcia (2017) Benefits Administrator. B.S., Metropolitan University of Denver.

Administration (*Continued*)

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Paul Giberson (2014) Associate Director of Housing Operations & Conference Services. B.A., Western State Colorado University; M.A., Colorado State University; A.B.D., University of Northern Colorado.
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Lindsey Grasmick (2015) Interim Head Men's & Women's Track & Field Coach B.A., Adams State University; M.A., Minnesota State University.
Joshua Grier (2010) Senior Systems Administrator. B.S., Kennesaw State University.
John Gunning (1996) General Accountant. B.A., Western State Colorado University.
Bryce Hanna (2015) Operations Manager. B.S., M.A., University of Illinois-Urbana.
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Ginny Hayes (2006) Registrar. B.A., Western State Colorado University.
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Hope Howard (2017) Residence Director. B.A., University of Washington; M.A., Seattle University.
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Joy P. Kean (2018) Executive Assistant to the President. B.S., Oregon State University.
Delaney Keating (2017) Director of the ICELab and West Central S.B.D.C. B.A., Western State Colorado University.
Chelyn Kempton (2016) Student Accounts Counselor. B.A., Western State Colorado University.
Ana Ketch (2018) Director of Extended Studies. A.S. Lyndon State College; B.A. University of New Mexico; M.A. University of Connecticut.
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Kathleen M. Kinkema (1998) Interim Associate Vice President for Academic Affairs; Professor of Exercise and Sport Science. B.A., Grand Valley State University; M.S., Ph.D., University of North Carolina–Greensboro.
Nathan Kubes (2010) Director of Campus Security. B.A., Western State Colorado University; M.S., Walden University.
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Lindsay Leggett (2017) Interim Regional Director of Recruitment. B.A., Western State Colorado University.
Scott Little (2012) Technical Director of Theater. B.S., University of Wyoming; M.F.A., University of South Dakota.
Kirsten Lokie (2014) Interim Assistant Director of Student Financial Services. B.A., Western State Colorado University.
Chris Luekenga (2010) Interim Associate Vice President of Student Affairs. B.A., Anderson University; M.A., Trinity Theological Seminary.
Aaron MacLennan (1994) Assistant Director of Enterprise Information Systems. B.A., Western State Colorado University.
Raymond McClintock (2016) Resident Director. B.S., M.B.A., Bradley University.
J. Greg Maestas (2014) Interim Regional Director of Recruitment. B.A., M.A., Western State Colorado University.
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Erik Matheson (2017) Head Women's Swimming & Diving Coach. B.A., M.S., California State University-Northridge.
Erin McKenzie (2015) Controller. B.A., Fort Lewis College; M.Phil., University of Utah.
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Jennifer L. Michel (2004) Head Cross-Country Coach. B.A., Western State Colorado University.
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Don L. Mundell (1991) Head Athletic Trainer. B.A., University of Northern Colorado; M.Ed., Colorado State University.
Alissa Mundt (2018) Director of Educator Licensure. B.A., University of Puget Sound; M.Ed., Columbia University; J.D., University of Denver.
Sarita Neyman (2015) Executive Assistant to the VP Finance Officer.. B.A., University of Oklahoma.
Peter Noon (2017) Interim Marketing Content Coordinator. B.A., Western State Colorado University.
Kathleen O'Brien (2017) Admissions Marketing Associate. B.S., Eastern Michigan University.
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T. Matt Porter (2017) IT Application Administrator, Student Services. B.A. Bethany College.
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Carrie Reinecke (2010) Transfer Evaluator. B.A., Western State Colorado University.
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Chad Robinson (2002) Director of Computing, Media, and Telecommunications. B.S., University of Michigan–Ann Arbor; M.E., University of Colorado, Boulder; M.A. University of Colorado.
Kate Robinson (2010) Network Administrator. B.A., Western State Colorado University.
Sally Jo Romero (1996) Director of Multicultural Affairs. B.A., Western State Colorado University.
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Ryan White (2014) Campus Recreation Sports Coordinator. B.A., Western State Colorado University.
Svea E. Whiting (1999) Director of University Center Operations. B.S., Colorado State University.
Tiffanie Wick (2007) Electronic Resources Librarian. B.A., Western State Colorado University, M.L.I.S., San Jose State University.
Veronica Wilde (2018) Campus Visits Coordinator/Marketing Associate. B.A., Western State Colorado University.
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Wendy Wolfenbarger (2015) Executive Assistant to the Executive Vice President/Chief Operations Officer. B.A., Western State Colorado University

Emeritus Faculty and Staff

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Martyn L. Apley (1978-1998) Professor of Zoology. B.S., Kansas State University; M.S., Ph.D., Syracuse University.
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Bruce L. Bartleson (1965-1998) Professor of Geology. B.S., Beloit College; M.S., University of Illinois; Ph.D., University of Colorado.
Edward Bartsch (1965-1996) Professor of Psychology. A.A., Reedley College; B.A., California State University-Fresno; M.A., Ph.D., Claremont Graduate School & University Center.
Owen E. Blacklock (1968-1999) Assistant Professor of Psychology. B.A., University of Arkansas; M.A., University of Denver.
Kenneth W. Blair (1986-2005) Professor of Business Administration. B.S., M.S., Colorado State University; Ph.D., Arizona State University.
Max E. Bramble (1969-1988) Professor of History. B.A., University of Colorado; M.A., Western State Colorado University; Ph.D., Michigan State University.
Michael R. Brooks (1987-2015) Professor of Communication Arts. A.B., University of California–Santa Cruz; M.F.A., University of Montana.
John W. Brown (1981-2006) Professor of Mathematics. B.S., M.S., University of Nebraska at Kearney; Ph.D., University of Northern Colorado.
Glenn R. Calkins (1978-2000) Assistant Professor of Mathematics. B.A., Western State Colorado University; M.A., Kansas University-Lawrence.
Leila M. Calkins (1987-2009) Assistant Professor of Mathematics. B.S., M.A., Northeast Missouri State University.
Lorena A. Casebier (1950-1976) Director of Reading Skills Clinic; Associate Professor of Education. B.S., Wisconsin State University-La Crosse; M.A., University of Minnesota.
John Q. Cope (1959-1996) Associate Professor of English; Writing Facilitator. B.A., Whitman College; M.A., University of Washington.
Kenneth A. Deming (1965-1987) Associate Professor of Business. B.S., B.A., M.B.A., University of Denver.
Roger A. Drake (1969-2013) Professor of Psychology. B.A., Western Washington University; M.A., University of Iowa; Ph.D., University of Tennessee.
Cynthia L. Drexel (1982-2015) Professor of Business Administration; Faculty Athletic Representative. B.A., M.A., Western State Colorado University; Ph.D., Brigham Young University.
Steven J. Dunn (1988-2003) Professor of Political Science & General Education. B.A., San Francisco State University; B.S.E., University of Arkansas; M.A., M.P.A., Ph.D., Northern Arizona University.
Paul A. Edwards (1987) Professor of Communication Arts; Chair, Department of Communication Arts, Languages, and Literature.
James R. Elsnes (1970-1998) Professor of Geography. B.S., University of Minnesota; M.A., Ed.D., University of Colorado.
Elmer G. García (1970-1997) Professor of Spanish. B.S., M.A., Northern Arizona University; Ph.D., University of Colorado.
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James M. Gelwicks (1981-2004) Assistant Professor of Communication Arts. B.A., University of Colorado; M.A., Northern Illinois University.
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F. James Hahn (1969-2008) Professor of Business Administration. B.S., University of Colorado; J.D., University of Wisconsin, School of Law.
Sherryl Hall-Peterson (1985-2009) Vice President for Student Affairs and Dean of Students. B.A., Oklahoma City University; M.A., Western State Colorado University.
Helynne H. Hansen (1988) Professor of Modern Languages. B.A., M.A., Ph.D., University of Utah.
Virginia L. Harris (1972-2000) Associate Professor of Kinesiology and Recreation. B.S., M.S., Winona State University.
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Bob B. Hays (1967-1988) Professor of Education. B.A., Hardin-Simmons University; M.Ed., Ed.D., North Texas State University.
Harry E. Heil (1970-2010) Professor of Art. B.F.A., M.A., Brigham Young University.
Roger L. Hudson (2000-2015) Professor of Business Administration. B.S., M.B.A., Ph.D., University of Minnesota.
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Lee Johnson (1968-2004) Professor of Art. B.F.A., Minneapolis School of Art; M.A., University of New Mexico; Skowhegan School of Painting & Sculpture.
Martin A. Johnson (1970-1999) Director of Conference Services. B.A., M.A., Western State Colorado University.
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Heidi L. Keck (1997) Professor of Mathematics. B.S., Bemidji State University; M.S., University of Utah; Ph.D., University of Montana.
William King (1995-2012) Professor of English. B.S., Memphis State University, M.A., University of Washington; Ph.D., University of North Carolina.
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