2004-2005 Course Catalog

University of Montana–Missoula. Office of the Registrar

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The Discovery Continues is the University’s institutional theme for the new millennium. It encompasses exploration of new knowledge through research, scholarship, and creative activities and aggressively brings that knowledge to bear on solutions for societal problems and challenges. This search is based on a solid foundation of values and wisdom derived from understanding and respecting a diversity of cultures and perspectives.
The University of Montana-Missoula

The University of Montana-Missoula Home Page ................................................ (406) 243-6266
Enrollment Services, Admissions, Orientation ....................................................... (406) 243-2223
Business Services ....................................................................................... (406) 243-2223
College of Technology ............................................................................... (406) 243-7882 (In Montana, 1-800-542-6882)
Disability Services ......................................................................................... TDD (406) 243-2243
Family Housing ................................................................................................. (406) 549-0134
Financial Aid ....................................................................................................... (406) 243-5373
Graduate School ............................................................................................... (406) 243-2572
Registrar ........................................................................................................... (406) 243-2995
Residence Halls ................................................................................................. (406) 243-2611
University Switchboard ..................................................................................... (406) 243-0211

Reserved Rights
The right is reserved to change any of the rules and regulations of the University at any time including those relating to admission, instruction and graduation. The right to withdraw curricula and specific courses, alter course content, change the calendar, and to impose or increase fees similarly is reserved. All such changes are effective at such times as the proper authorities determine and may apply not only to prospective students but also to those who already are enrolled in the University.

Calendar

Summer Session, 2004
Summer Sessions will occur between the dates of May 14 and July 29.

Autumn Semester, 2004

April 19 (Monday) ............................................................................................ Autumn 2004 Registration Begins
August 13 (Friday) .......................................................................................... Last Day for Registered to Pay Fees
August 17 (Tuesday) ....................................................................................... Late Registration Begins
August 25-27 (Wednesday-Friday) ................................................................ Semester Begins, Orientation and Registration
August 30 (Monday) ........................................................................................ Classes Begin
September 6 (Monday) ................................................................................... Labor Day, Holiday
November 1-16 .................................................................................................. Spring 2005 Registration
November 2 (Tuesday) ..................................................................................... Election Day, Holiday
November 11 (Thursday) ................................................................................. Veteran's Day, Holiday
November 24-25-26 (Wednesday-Thurday-Friday) ....................................... Thanksgiving Vacation
December 11-12 (Saturday-Sunday) ................................................................. Study Days
December 13-17 (Monday-Friday) .................................................................... Final Examinations

Spring Semester, 2005

November 1 (Monday) ....................................................................................... Spring 2005 Registration Begins
January 3-21 ....................................................................................................... Winter Session Classes
January 7 (Friday) ............................................................................................ Last Day for Registered to Pay Fees
January 11 (Tuesday) ....................................................................................... Late Registration Begins
January 17 (Monday) ........................................................................................ Martin Luther King Day, Holiday
January 19-21 (Wednesday-Friday) ................................................................ Semester Begins, Orientation and Registration
January 24 (Monday) ........................................................................................ Classes Begin
February 21 (Monday) ....................................................................................... Washington-Lincoln Day, Holiday
March 21-25 (Monday-Friday) .......................................................................... Spring Vacation
April 18-29 .......................................................................................................... Autumn 2005 Registration
May 7-8 (Saturday-Sunday) .............................................................................. Study Days
May 9-13 (Monday-Friday) ............................................................................... Final Examinations
May 14 (Saturday) ............................................................................................. Commencement

Summer Session, 2005
Summer Sessions will occur between the dates of May 23 and July 29.
Administration
Administration

The Montana University System

The following Strategic Plan was adopted by the Board of Regents October 19, 2001.

Mission

The Mission of the Montana University System is to serve students through the delivery of high quality, accessible postsecondary educational opportunities, while actively participating in the preservation and advancement of Montana’s economy and society.

Vision

We will prepare students for success by creating an environment of ideas and excellence that nurtures intellectual, social, economic, and cultural development. We will hold academic quality to be the prime attribute of our institutions, allocating human, physical, and financial resources appropriate to our educational mission. We will encourage scientific development and technology transfer, interactive information systems, economic development and lifelong learning. We will protect academic freedom, practice collegiality, encourage diversity, foster economic prosperity, and be accountable, responsive, and accessible to the people of Montana.

Goals

The following five goals and subordinate objectives will guide the Montana University System in moving toward realization of its vision for the future of higher education in Montana.

A. To provide a stimulating, responsive and effective environment for student learning, student living, and academic achievement.
   1. To assure adequate campus policies to protect academic freedom and promote the free exchange of ideas while requiring pre- and post-tenure evaluation of faculty performance and systematic program review that reflect the Regents’ priority on student learning.
   2. To offer academic programs and services focused around approved campus missions and consistent with available resources.
   3. To foster an environment that attracts and retains high quality faculty and staff.
   4. To improve rates of student retention and degree completion across the Montana University System.
   5. To develop, maintain at/near state-of-the-art condition Montana University System facilities, technology and infrastructure and to coordinate the use of capacities and resources across all MUS institutions.
   6. To ensure student readiness for higher education and validate student competencies for graduation.

B. To make a high quality, affordable higher education experience available to all qualified citizens who wish to further their education and training.
   1. To identify or seek creative funding alternatives that will expand public and private resources.
   2. To make sure that every academically qualified individual has an opportunity to receive the benefits of higher education without financial or social barriers.
   3. To expedite student progress toward degree objectives in order to reduce time to degree (and related costs) and maintain affordability for the widest range of students.

C. To deliver higher education services in a manner that is efficient, coordinated, and highly accessible.
   1. To operate as a unified system of higher education and increase productivity through effective planning, assessment, collaboration and resource sharing.
   2. To increase student access to Montana University System programs through coordinated statewide delivery and expanded use of technology.
   3. To increase the coordination of academic resources to improve student progress toward degree.
   4. To promote diversity with special attention to Montana’s Native American populations.

D. To be responsive to market, employment, and economic development needs of the state and the nation.
   1. To offer programs and services consistent with the changing market and employment needs of the state and nation.
   2. To encourage basic research and technology transfer to contribute to the economic development of the State of Montana.
   3. To promote the full spectrum of higher education needs and opportunities in two-year, four-year, graduate and professional education.

E. To make the Montana University System more accessible and responsive to businesses, government and other constituents.

F. To improve the support for and understanding of the Montana University System as a leading contributor to the state’s economic success and social and political well being.
   1. To improve and expand the communication and outreach of the Montana University System to constituents, communities and policy makers.
   2. To meet constituents’ expectations for accountability through responsible stewardship of resources.
   3. To expand community involvement, service and outreach initiatives at the campus level.
   4. To partner with state government, our congressional delegation, K-12 education, tribal and local governments, labor and business leaders to preserve and improve the economy of Montana.

The University of Montana

Mission

The University of Montana capitalizes on its unique strengths to create knowledge, provide an active learning environment for students, and offer programs and services responsive to the needs of Montanans. The University delivers education and training on its four campuses and through telecommunications to sites inside and outside of Montana. With public expectations on the rise, the University asks its students, faculty, and staff to do and accomplish even more than they have in the past. The dedication to education for and throughout life reflects the commitment to service learning and community building on and off the campuses. The University enhances its programs through continuous quality review for improvement and remains fully accountable to the citizenry through annual audits and performance evaluations.

The University of Montana-Missoula

Mission

The mission of The University of Montana-Missoula is the pursuit of academic excellence as indicated by the quality of curriculum and instruction, student performance, and faculty professional accomplishments. The University accomplishes this mission, in part, by providing unique educational experiences through the integration of the liberal arts, graduate study, and professional training with international and interdisciplinary emphases. Through its graduates, the University also seeks to educate competent and humane professionals and informed, ethical, and engaged citizens of local and global communities. Through its programs and the activities of faculty, staff, and students, The University of Montana-Missoula provides basic and applied research, technology transfer, cultural outreach, and service benefitting the local community, region, state, nation and the world.
Vision Statements
In pursuit of its mission, The University of Montana-Missoula will:
1) Educate students to become ethical persons of character and values, engaged citizens, competent professionals, and informed members of a global and technological society.
2) Increase the diversity of the students, faculty, and staff for an enriched campus culture.
3) Attain the Carnegie Commission status of Doctoral Research–Extensive University (30 or more doctorates in at least 15 fields annually) and increase funded research to $50,000,000 annually by 2006.
4) Develop more partnerships—especially with local communities, businesses and industries, public schools, community and tribal colleges, state and local governments and universities abroad—and expand the training and technology transfer programs to promote community and economic development.
5) Develop the capability and infrastructure for use of information technology to increase the efficiency and productivity of the campus and the state; and
6) Involve and engage the faculty, staff, students, alumni, partners, and friends of the University in institutional governance.

Accreditation
The University of Montana-Missoula is fully accredited by the Northwest Association of Schools and Colleges.
Many of the professional schools and departments have the approval of appropriate accrediting organizations, also. The Department of Art is accredited by the National Association of Schools of Art and Design (NASAD); all programs of the School of Business Administration are accredited by AACSB International; The Association to Advance Collegiate Schools of Business, in addition, the accounting programs have a separate accounting accreditation by the AACSB; the Chemistry Department's Bachelor of Science program is approved by the American Chemical Society; computer science is accredited by the Accreditation Board for Engineering and Technology, Inc. (ABET); drama is accredited by the National Association of Schools of Theater at the undergraduate and graduate levels; all programs preparing licensed school personnel though the School of Education are approved by the Montana Board of Public Education and fully accredited by the National Council of Accreditation of Teacher Education at the undergraduate and graduate levels; the athletic training option in the Health and Human Performance Department in the School of Education is accredited by the Commission on Accreditation of Allied Health Education Programs; the food service management program is accredited by the American Culinary Federation Educational Institute Accrediting Commission; the forest resources management program is accredited by the Society of American Foresters; the School of Journalism is accredited by the American Council on Education in Journalism and Mass Communications; the School of Law has approval of both the Association of American Law Schools and the American Bar Association; the Legal Assisting program is approved by the American Bar Association; the Department of Music is fully accredited at the undergraduate and graduate levels by the National Association of Schools of Music; the School of Pharmacy is a member of the American Association of Colleges of Pharmacy, the entry-level Doctor of Pharmacy program has been granted candidate accreditation status by the Accreditation Council for Pharmacy Education, 20 North Clark Street, Suite 2500, Chicago, IL 60602-5109; the pharmacy technology program is approved by the American Society of Health System Pharmacists; both the Doctor of Physical Therapy degree and the Master of Science degree in Physical Therapy are accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association; the practical nursing program is approved by the Montana Board of Nursing; the graduate program in clinical psychology is accredited by the American Psychological Association; the recreation management program is accredited by the Parks, Recreations, and Leisure Services Education Council on accreditation sponsored by the National Recreation and Parks Association in cooperation with the American Association for Leisure and Recreation; the respiratory care and surgical technology programs are accredited by the Commission on Accreditation of Allied Health Education Programs; the baccalaureate program in social work is accredited by the Council on Social Work Education; and the M.S.W. program is a candidate for accreditation by the Council on Social Work Education.
The University of Montana-Missoula is fully accredited by the American Association for Accreditation of Laboratory Animal Care.

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6- Administration

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College of Technology
Academic Information
Areas of Study

Accounting - M.Acct., option in B.S. in Business Administration
Accounting Technology - A.A.S.
Acting - option in B.F.A. and M.F.A., Fine Arts
Administrative Assisting - A.A.S.
African-American Studies - undergraduate minor
Algebra - option in M.A. and Ph.D., Mathematics
American Politics - option in B.A., Political Science
Analysis - option in M.A. and Ph.D., Mathematics
Analytical/Environmental Chemistry - option in M.S. and Ph.D., Chemistry
Animal Behavior - option in M.A. and Ph.D., Psychology
Anthropology - B.A., M.A., undergraduate minor
Applied Analysis - option in B.A., Mathematics
Applied Geoscience - option in Ph.D., Geology
Applied Health Science - option in B.S. in Health and Human Performance
Applied Linguistics - option in M.A., Linguistics
Applied Mathematics - option in M.A. and Ph.D., Mathematics
Applied Science - B.A.S.
Aquatic - option in B.S. in Wildlife Biology
Archeology - option in B.A., Anthropology
Art - option in B.A. and M.A., Fine Arts; teacher preparation
Art Education - option in B.A., Fine Arts
Art History - option in M.A., Fine Arts
Art History/Criticism - undergraduate minor
Art Studio - undergraduate minor
Asian Studies - option in B.A., Liberal Studies; undergraduate minor
Associate of Arts
Astronomy - option in B.A., Physics; undergraduate minor
Athletic Training - option in B.S. in Health and Human Performance
Biochemistry - M.S., option in B.S., Chemistry
Biological Chemistry - option in B.S., Chemistry
Biological Education - option in B.A., Biology
Biology - B.A., teacher preparation; undergraduate minor
Biomolecular Structure and Dynamics - Ph.D.
Botanical Sciences - option in B.A., Biology
Broadcast - option in B.A. in Journalism
Building Maintenance - Certificate
Building Maintenance Engineering - A.A.S.
Business - courses offered
Business Administration - B.S. in Business Administration, M.B.A.
Business French - undergraduate minor
Business and Information Technology Education - option in B.A. in Education
Cartography and G.I.S. - option in B.A. and M.A., Geography
Cellular and Molecular Biology - option in B.A., Biology
Ceramics - option in B.F.A. and M.F.A., Fine Arts
Chemistry - B.A., B.S., M.S.T.C., M.S., Ph.D., undergraduate minor; teacher preparation
Chinese - undergraduate minor
Choreography and Performance - option in B.F.A., Fine Arts
Classical Civilization - option in B.A., Classics, undergraduate minor
Classical Languages - option in B.A., Classics
Classics - B.A.
Clinical - option in M.A. and Ph.D., Psychology
Combinatorics and Optimization - option in B.A., Mathematics
Communication Studies - B.A., M.A., undergraduate minor
Communication and Human Relationships - option in B.A., Communication Studies
Communications - courses offered
Community and Environmental Planning - option in B.A. and M.A., Geography
Comparative Literature - non-degree advising program
Composition and Music Technology - B.M.
Composition/Technology - option in M.M., Music
Computational Physics - option in B.A., Physics
Computer Applications - undergraduate minor
Computer Science - B.S., M.S., undergraduate minor
Computer Science-Mathematical Sciences - B.S.
Computer Support - option in A.A.S., Accounting Technology
Computer Technology - A.A.S.
Conservation - option in B.S. in Resource Conservation
Creative Writing - M.F.A.; option in B.A., English
Criminology - option in B.A. and M.A., Sociology
Culinary Arts - Certificate
Cultural and Ethnic Diversity - option in B.A., Anthropology
Cultural Heritage - option in M.A., Anthropology
Curriculum and Instruction - M.Ed., M.A., Ed.D.
Curriculum Studies - option in M.Ed. and M.A., Curriculum and Instruction
Customer Relations - Certificate
Dance - option in B.A., Fine Arts; undergraduate minor
Design/Technology - option in B.F.A. and M.F.A., Fine Arts
Developmental - option in M.A. and Ph.D., Psychology
Diesel Technology - A.A.S.
Directing - option in M.F.A., Fine Arts
Drama - option in B.A. and M.A., Fine Arts; undergraduate minor; teacher preparation
Drama Education - option in B.A., Fine Arts
Earth Science Education - option in B.S., Geology, teacher preparation
Ecology - option in B.A., Biology
Economics - B.A., M.A., undergraduate minor, teacher preparation
Ecosystem Management - M.M.
Education - B.A. in Education
Electronics Technology - A.A.S.
Elementary Education - option in B.A. in Education; option in M.Ed. and M.A., Curriculum and Instruction
English - B.A., M.A., undergraduate minor, teacher preparation
English as a Second Language - certificate program, teacher preparation
English Teaching - option in B.A and M.A., English
Entrepreneurship - option in A.A.S., Management
Areas of Study - 9

Environmental Chemistry - option in B.S., Chemistry
Environmental Geology - option in B.S., Geology
Environmental Philosophy - option in M.A., Philosophy
Environmental Studies - B.A., M.S., undergraduate minor
Exercise and Performance Psychology - option in M.S., Health and Human Performance
Exercise Science - option in B.S. in Health and Human Performance; option in M.S., Health and Human Performance
Fiction - option in M.F.A., Creative Writing
Film - nondegree advising program
Finance - courses offered
Financial Management - option in B.S. in Business Administration
Fish and Wildlife Biology - Ph.D.
Food and Beverage Management - option in A.A.S., Management
Food Service Management - A.A.S.
Forensic Anthropology - option in B.A. and M.A., Anthropology
Forest Resources Management - option in B.S. in Forestry
Forestry - B.S.F., M.S., Ph.D.
French - B.A., option in M.A., Modern Languages and Literatures, undergraduate minor, teacher preparation
General - nondegree advising program; option in B.A., Liberal Studies
General Geology - option in B.S., Geology
General Linguistics - option in M.A., Linguistics
General Psychology - option in B.A., Psychology
General Science - teacher preparation
Geology - B.S., M.S., Ph.D.; option in B.S., Geology; undergraduate minor; teacher preparation
Geography - B.A., M.A., undergraduate minor, teacher preparation
German - B.A., option in M.A., Modern Languages and Literatures, undergraduate minor, teacher preparation
Government - teacher preparation
Greek - undergraduate minor
Health and Human Performance - B.S.H.P., M.S., teacher preparation
Health Enhancement - option in B.S. in Health and Human Performance
Health Promotion - option in M.S., Health and Human Performance
Health Sciences - courses offered
Heavy Equipment Operation - Certificate
History - B.A., M.A., Ph.D., undergraduate minor, teacher preparation
History Education - option in B.A., History
History-Political Science - B.A., teacher preparation
Honors College - nondegree advising program
Human and Family Development - undergraduate minor
Human Biological Sciences - option in B.A., Biology
Human Resources - option in A.A.S., Administrative Assisting; option in A.A.S. Accounting Technology
Individual Interdisciplinary Program - Ph.D.
Information Systems - option in B.S. in Business Administration
Information Systems Management - option in A.A.S., Computer Technology
Inorganic Chemistry - option in M.S. and Ph.D., Chemistry
Integrated Arts and Education - option in M.A., Fine Arts
Integrative Microbiology and Biochemistry - Ph.D.
Intercultural Youth and Family Development - M.A.
Interdisciplinary Studies - M.I.S.
International Business - option in B.S. in Business Administration
International Relations and Comparative Politics - option in B.A., Political Science
Japanese - B.A., undergraduate minor
Journalism - B.A. in Journalism, M.A.
Land and People - option in B.S. in Resource Conservation
Latin - option in B.A., Classics, undergraduate minor, teacher preparation
Latin American Studies - undergraduate minor
Law - J.D.
Legal Studies - courses offered
Legal Support Services - A.A.S.
Liberal Studies - B.A.
Library - courses offered
Library Media Services - option in M.Ed. and M.A., Curriculum and Instruction; undergraduate minor; teacher preparation
Linguistics - M.A.; option in B.A. and M.A., Anthropology; option in B.A. and M.A., English; option in B.A., French; option in B.A., German
Literacy Education - M.Ed. and M.A., Curriculum and Instruction
Literature - option in B.A. and M.A., English
Management - option in B.S. in Business Administration, A.A.S.
Mansfield Center - courses offered
Marketing - option in B.S. in Business Administration
Math Education - option in B.A. and M.A., Mathematics
Mathematics - B.A., M.A., Ph.D. undergraduate minor, teacher preparation
Mathematical Sciences-Computer Science - B.S.
Media Arts - option in M.F.A., Fine Arts; undergraduate minor
Medical Assisting - A.A.S.
Medical Office Technology - A.A.S.
Medical Reception - Certificate
Medical Secretarial Technology - option in A.A.S., Medical Office Technology
Medical Technology - B.S. in Medical Technology
Medical Transcription - option in A.A.S., Medical Office Technology
Mental Health Counseling - M.A., Counselor Education
Metals Processes - courses offered
Microbial Ecology - option in B.S. in Microbiology and M.S., Ph.D., Biochemistry/Microbiology
Microbiology - B.S. in Microbiology, M.S., undergraduate minor
Military Science - courses offered
Modern Languages and Literatures - M.A.
Music - B.M.E., M.M.; option in B.A., Fine Arts; undergraduate minor, teacher preparation
Music Education - option in M.M., Music
Music History and Literature - option in M.A., Fine Arts
Music Media Production - option in M.F.A., Fine Arts
Musical Theatre - option in M.M., Music
Native American Studies - B.A., undergraduate minor
Natural History - option in B.A., Biology
Nature and Democracy - undergraduate minor
Nature-Based Tourism - option in B.S. in Recreation Management
Network Management - option in A.A.S., Computer Technology
Neuroscience - M.A., Ph.D.
Nonfiction - option in M.F.A., Creative Writing
Nonprofit Administration - undergraduate minor
Nursing - courses offered
Office Administration - option in A.A.S., Administrative Assisting
Office Systems Management - undergraduate minor
Operations Research - option in M.A., and Ph.D., Mathematics
Orchestrical Instruments - option in B.M., Performance
Organ - option in B.M., Performance
Organic Chemistry - option in M.S. and Ph.D., Chemistry
Organismal Biology and Ecology - M.S., Ph.D.
Organizational Communication - option in B.A., Communication Studies
Painting and Drawing - option in M.F.A., Fine Arts
Painting/Drawing - option in B.F.A., Fine Arts
Paralegal Studies - A.A.S.
Paramedical Arts - nondegree advising program
Performance - B.M.; option in M.M., Music
Pharmaceutical Sciences - M.S.
Pharmacology - option in B.S., Chemistry
Pharmacology/Pharmaceutical Sciences - Ph.D.
Pharmacy - Pharm.D.
Pharmacy Technology - Certificate
Philosophy - B.A., M.A., undergraduate minor
Photography - option in B.F.A. and M.F.A., Fine Arts
Photojournalism - option in B.A. in Journalism and M.A., Journalism
Physical Chemistry - option in M.S. and Ph.D., Chemistry
Physical Geography - option in B.A., Geography
Physical Therapy - M.S., D.P.T.
Physics - B.A., undergraduate minor, teacher preparation
Piano - option in B.M., Performance
Poetry - option in M.F.A., Creative Writing
Political Science - B.A., M.A., undergraduate minor, teacher preparation
Police Science-History - B.A., teacher preparation
Practical Nursing - A.A.S.
Pre-Engineering - nondegree advising program
Pre-Law - nondegree advising program
Pre-Medical Sciences - nondegree advising program
Pre-Nursing - nondegree advising program
Print - option in B.A. in Journalism and M.A., Journalism
Printmaking - option in B.F.A. and M.F.A., Fine Arts
Psychology - B.A., M.A., Ph.D., undergraduate minor, teacher preparation
Public Administration - M.P.A., option in B.A., Political Science
Public Law - option in B.A., Political Science
Pure Mathematics - option in B.A., Mathematics
Radio-Television - B.A. in Radio-Television; option in M.A., Journalism
Radiologic Technology - A.A.S.
Range Technology - option in B.S. in Forestry
Reading - teacher preparation
Recreation Management - B.S. in Recreation Management, M.S.
Recreation Services Management - option in B.S. in Recreation Management
Recreational Power Equipment - Certificate
Religious Studies - courses offered
Research - option in B.A., Psychology
Resource Conservation - B.S. in Resource Conservation, M.S.
Respiratory Care - A.A.S.
Rhetoric and Public Discourse - option in B.A., Communication Studies
Rural and Environmental Change - option in B.A. and M.A., Sociology
Russian - B.A., undergraduate minor, teacher preparation
Russian Studies - undergraduate minor
Sales and Marketing - Certificate, option in A.A.S. in Management
School Counseling - option in M.A., Counselor Education
School Psychology - M.A., Ed.S.
Science - teacher preparation
Scientific Applications - option in B.S., Computer Science
Sculpture - option in B.F.A. and M.F.A., Fine Arts
Secondary Education - option in M.Ed. and M.A., Curriculum and Instruction
Secretarial Technology - courses offered
Small Engine Equipment Technology - courses offered
Social Science, Comprehensive - teacher preparation
Social Work - B.A., M.S.W.
Sociology - B.A., M.A., undergraduate minor, teacher preparation
Software Systems - option in B.S., Computer Science
Spanish - B.A., option in M.A., Modern Languages and Literatures, undergraduate minor, teacher preparation
Special Education - teacher preparation
Statistics - option in B.A., M.A., and Ph.D., Mathematics
Studio Teaching - option in B.F.A., Fine Arts
Surgical Technology - A.A.S.
Teaching Ethics - option in M.A., Philosophy
Technical Communication - M.S.
Terrestrial - option in B.S. in Wildlife Biology
Terrestrial Sciences - option in B.S. in Resource Conservation
Toxicology - M.S., Ph.D.
Voice - option in B.M., Performance
Welding Technology - Certificate; A.A.S.
Wilderness Studies - undergraduate minor
Wildlife Biology - B.S. in Wildlife Biology, M.S., undergraduate minor
Women's and Gender Studies - undergraduate minor
Women's Studies - option in B.A., Liberal Studies
University College - courses offered
Zoological Sciences - option in B.A. Biology
Admission to the University

Admission to bachelor degree programs and undergraduate nondegree status is administered by Enrollment Services-Admissions, The University of Montana-Missoula, Missoula, Montana 59812 (406) 243-6266 or 1-800-462-8636.

Admission to Associate of Applied Science programs, Associate of Arts, certificate programs and nondegree status is administered by the College of Technology of The University of Montana-Missoula, 909 South Avenue West, Missoula, Montana 59801 (406) 243-7828 (in Montana, 1-800-542-6882).

Admission to graduate degree programs and graduate nondegree status is administered by the Graduate School, The University of Montana-Missoula, Missoula, Montana 59812 (406) 243-2572. Requirements for admission are detailed in the Graduate School catalog.

Admission to the School of Law is administered by the School of Law, The University of Montana-Missoula, Missoula, Montana 59812 (406) 243-4311. Requirements for admission are detailed in the Law School Catalog (www.umt.edu/law).

The requirements for admission to these statuses are described below. Please note that achievement of a high school diploma or equivalent is the minimum level of academic preparation required for admission to the University. Applicants will be notified of their acceptance or refusal as soon as possible after necessary credentials have been received.

The University of Montana-Missoula does not discriminate in admission, in the provision of student services, or in employment policies on the basis of race, sex, national origin or ancestry, marital status, creed, religion, color, political ideas, age, or mental or physical disability. The University accepts applications from in-state and out-of-state, domestic and international students.

The University welcomes out-of-state students as educational programs and resources permit. The University retains the right to limit the number of students and to establish requirements which will insure their high scholastic aptitude.

Bachelor Degree Admission

Entering Freshmen

Academic Eligibility

The University continues to raise the academic standards required for full admission to baccalaureate programs, and the process will continue in future years. For the 2004-05 academic year both in-state and out-of-state high school graduates will be offered full admissions if they meet the following requirements.

1. Graduation from a state accredited high school.
2. Successful completion of the College Preparatory program (all courses are subject to Office of Public Instruction guidelines):
   -Four years of English.
   -Three years of math, including Algebra I, Geometry and Algebra II (or the sequential content equivalent of these courses). Students are encouraged to take a math course in their senior year.
   -Three years of social studies, including one year global studies (i.e., world history or world geography), one year American history and one year of additional course work (i.e., government, psychology, economics).
   -Two years of laboratory science. One year must be earth science, biology, chemistry, or physics; the other year can be one of those sciences or another approved college prep laboratory science.
   -Two years chosen from the following: foreign language (preferably two years), computer science, visual and performing arts, or vocational education units.
3. Cumulative high school grade point average (GPA), on a 0-4 scale, and composite on the enhanced ACT (or combined verbal/math on SAT) must fall in the gray region of grid #1 shown in Figure 1.

Provisional Acceptance

Students who fail to meet the admissions requirements may be admitted on a provisional basis if the Admissions Committee determines that a student could be successful by taking advantage of the academic support services that are available. Students will be granted full admission, after completing twenty-four credits with a grade point average of at least 2.0 Students are expected to complete the twenty-four credits within two semesters but must complete them within three semesters. In cases where academic preparation falls below the admission standards listed above, applicants will be directed to the College of Technology where courses can be taken to strengthen their preparation for success at the University.

Figure 1- Admissions Grid #1 - Current Standards

Special Circumstances

The following categories of students may receive special consideration with regard to admission standards:

Non-traditional freshmen (those students who do not enter college for a period of at least three years from the date of high school graduation or from the date they would have graduated
from high school if they have a GED).

- Admission status of high school graduates with transcripts and ACT/SAT scores will be determined using the grid above.

- Admission status of GED non-traditional applicants with ACT/SAT scores will be determined using the grid above. In lieu of a GPA, the GED score rescaled from 4000 to 4.0 (maximum) will replace the GPA axis.

- Applicants without both transcripts and ACT/SAT scores, or applicants without both GED transcript and ACT/SAT scores will be admitted provisionally.

GED freshmen (those students who pass the GED and enter college within three years of the date they would have graduated from high school).

- Admission status of GED freshman will be determined using the grid above. In lieu of a GPA, the GED score rescaled from 4000 to 4.0 (maximum) will replace GPA axis.

Summer only students are exempt from standards 2 and 3 above.

All traditional freshman or GED freshman applicants must take the ACT or SAT. Some departments reserve the right to set higher admission standard for their undergraduate programs. Applicants to these programs who meet general University requirements for admission to the undergraduate degree status will be admitted to the appropriate pre-major program by Enrollment Services-Admissions. Application to the undergraduate major program is an additional, separate process administered by the department and arranged for by the student seeking acceptance.

Questions concerning admission requirements may be directed to Enrollment Services-Admissions, (406) 243-6266 or 1-800-462-8636.

These admission requirements are subject to change.

Future trends in Admission Eligibility at UM

In future years, the academic criteria for full admission to baccalaureate programs at the University will continue to rise. Students who fail to meet these stricter admission standards may be admitted on a provisional basis if the Admissions Committee determines that a student could be successful by taking advantage of the academic support services that are available. Other applicants will be directed to the College of Technology where courses can be taken to strengthen their preparation for success at the University.

How to Apply

Applications for admission are available from Enrollment Services-Admissions by request. In addition, applications are sent to all Montana high schools, community colleges and select out-of-state schools. Applications are available also on the University web-site.

An application for admission is complete when Enrollment Services-Admissions receives the credentials described below.

1. Application form. Applications must be complete and signed.
2. $30 application fee. This non-refundable fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. Applications are not processed prior to payment of this fee. The University of Montana-Missoula waives the application fee for students who have attended an affiliate college. Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.
3. Test scores. Official ACT or SAT results should be sent directly from the testing company or may be posted on the high school transcript.
4. High School Student Self-Report form. This form is part of the standard application form and is the basis for the initial admission decision.
5. Final high school transcript with graduation date. Information provided on the self-report form will be verified from this transcript.

6. Medical History Record. All students are required to submit a completed Medical History Record to the Curry Health Center two weeks prior to registration. It is important that the immunization record be complete, accurate and validated by a health official.

When to Apply

March 1 is the application priority processing date for autumn semester. The application priority processing date for spring is November 15. Applications postmarked or completed after the processing priority date will be processed on a space available basis. Students are encouraged to apply early as some programs may fill early. A student must be admitted to The University of Montana-Missoula prior to attending an orientation program. Orientation information is sent to accepted students prior to each semester.

Transfer Students

Academic Eligibility

Any undergraduate degree transfer applicant who has attempted fewer than twelve college level credits must meet the academic eligibility requirements for freshmen mentioned above. Other undergraduate degree applicants who have attempted twelve or more college level credits must meet the academic eligibility requirements described here.

Applicants must present a 2.00 (C) cumulative grade average (on a 0-4 scale) for all college level work attempted to be eligible for admission.

Enrollment Services-Admissions determines whether or not transfer courses are college level, the appropriate grading and credit conversions on transfer work, and the applicability of transferred credit toward general education, upper division, and other University requirements. See Transfer Evaluations under General Information in this section for details.

How to Apply

Receipt of the following credentials in Enrollment Services-Admissions constitutes a complete application for admission:

1. Application form. The application form may be obtained by contacting Enrollment Services-Admissions, The University of Montana-Missoula, Missoula, Montana 59812 (406) 243-6266. It should be complete, signed and returned.
2. $30.00 application fee. This non-refundable fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. An application cannot be considered prior to payment of this fee. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.
3. Official college/university transcripts. The student must supply a complete official transcript from each regionally accredited college or university attended holding candidate status for regional accreditation.

Applications from students who are enrolled at the transfer school while applying to UM will be considered for admission based on incomplete official transcripts showing all academic work completed and posted to date. The complete official transcript must be on file before the second registration at UM. Academic eligibility will be reviewed upon receipt of the complete transcript.
4. Medical History Record. All students are required to submit a completed Medical History Record to the Curry Health Center two weeks prior to registration. It is especially important that the immunization record be complete and accurate and validated by a health official.

When to Apply

March 1 is the application priority processing date for autumn semester. The application priority processing date for spring semester is November 15. Applications postmarked or completed
after the processing priority date will be processed on a space available basis. Students are encouraged to apply early as some programs may fill early. A student must be admitted to The University of Montana-Missoula prior to attending an orientation program. Orientation information is sent to accepted students prior to each semester.

**Bachelor of Applied Science Admission**

**Academic Eligibility**

Applicants must hold an Associate of Applied Science degree from an accredited institution with a minimum cumulative grade average of 2.5.

**How to Apply**

Applicants should contact the Bachelor of Applied Science advisor at The University of Montana College of Technology, 243-7825. The applicant and advisor meet to discuss goals of the degree, and the applicant receives the B.A.S. application for admission.

An application for admission is complete when the B.A.S. advisor receives the credentials described below.

1. Completed B.A.S. application
2. Official transcripts of all prior college work
3. $30 application fee (if the applicant is new to The University of Montana system)
4. Medical History Record (if the applicant is new to The University of Montana system)

**When to Apply**

Applications from students who hold an A.A.S. degree are accepted on a continual basis. Applicants who are in the process of completing the A.A.S. degree are encouraged to begin the application process during their final semester. Students are not, however, admitted until after the A.A.S. degree has been awarded.

**Associate of Applied Science, Associate of Arts and Certificate Admission**

The Associate of Applied Science and Certificate programs in the College of Technology are designed to lead an individual directly to employment in a specific career. In some instances, particularly in allied health, the degree is a prerequisite for taking a licensing examination. The University College of Arts and Sciences offers a Bachelor of Applied Science degree for students who have completed the Associate of Applied Science degree. The Associate of Arts degree typically prepares students to transfer to other programs.

**Academic Eligibility**

To be eligible for admission, students must have graduated from an accredited high school or passed the GED. Students admitted to the College of Technology who wish to enroll in courses at the University of Montana-Missoula main campus must meet the admission requirements of the main campus.

**How to Apply**

Applications for admission are available from the College of Technology by request. In addition, applications are sent to all in-state high schools.

An application for admission is complete when the College of Technology receives the credentials described below.

1. Application form. Applications must be completed and signed.
2. $30 application fee. This non-refundable application fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.
3. Test scores. All students are required to take either the ACT, SAT or ASSET standardized test and submit scores to the Admissions Office. Contact the College of Technology Admissions Office for specific information regarding this requirement.
4. Proof of high school graduation/GED. An official high school transcript with graduation date or GED score report must be sent to the College of Technology.
5. Medical History Record. All students are required to submit a completed Medical History Record to the Curry Health Center two weeks prior to registration. History record forms are sent to students with acceptance notifications. Some health-related programs have additional requirements. Refer to the College of Technology section of this catalog.

**International**

The University of Montana-Missoula Enrollment Services-Admissions Office or the College of Technology will issue the Immigration Form I-20 AB or I-20MN (necessary for obtaining an F-1 or M-1 student visa) to international applicants who are academically eligible for the undergraduate degree status (see above) and who supply complete credentials as described below. In certain situations an international applicant may not need an I-20; in these cases, Enrollment Services-Admissions should be contacted for individual advice regarding admission status, academic eligibility, and admission requirements. International students are not required to submit ACT or SAT scores.

**How to Apply**

Receipt of the following credentials constitutes a complete international application for admission:

1. International application form. This form can be obtained by contacting Enrollment Services-Admissions or the College of Technology. The form must be complete and signed.
2. $30.00 application fee (in US dollars). This non-refundable fee is payable once at the undergraduate level when payment is followed by enrollment. In all other cases record of payment will remain on file for one year. Payment of this fee is expected prior to consideration of the application. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.
3. Academic Credentials:
   A. Certified copies of non-U.S. academic credentials beginning with secondary school and continuing through the highest level of achievement.
   B. U.S. transcripts. Complete official transcripts showing all U.S. high school and college/university attendance.
4. Statement of Financial Support. The applicant must submit a certified statement from a bank or sponsor verifying that adequate financial resources are available to pay for the student's estimated expenses for the first year (tuition, fees, room, board, miscellaneous expenses, student health insurance, expenses of dependents, etc.). This estimated amount is adjusted annually and is available by contacting Admission & New Student Services.
5. English Report. Students from countries other than Australia, New Zealand, Canada or the United Kingdom must show evidence of proficiency in English by submitting official scores of the Test of English as a Foreign Language (TOEFL). A minimum score of 500 is required for regular admission to undergraduate programs (see Conditional Admission below). However, students who score less than 580 will be required to take English as a Second Language courses according to the following schedule (except College of Technology students):

- 500-525—one-half the normal academic load plus ENSL/LING 250: English for Foreign Students: Intermediate. Students in mathematics, computer science, and science fields that depend heavily on laboratory work may enroll up to a three-fourths academic load.

A student may petition the Supervisor of the English as a Second Language Program to waive this requirement, if the student has the support of his or her department or program chair.

Any questions concerning the evidence of proficiency in English should be directed to Enrollment Services-Admissions. Requests for information on TOEFL test procedures and registration should be directed to:

TOEFL, P.O. Box 899, Princeton, New Jersey 08540

When the student arrangements to take the TOEFL test, he or she should request that examination results be sent directly to:

Enrollment Services-Admissions or the College of Technology,
The University of Montana-Missoula, Missoula, Montana 59812.
(Code N. 4489-00)

Conditional Admission
International students who score below 500 and who meet all other admission requirements will be offered conditional admission. Conditionally admitted students study in an intensive program at The University of Montana-Missoula English Language Institute on campus until the TOEFL score reaches 500. After a score of 500 is achieved, enrollment in regular university courses begins.

6. Medical History Record International. All students are required to submit a completed Medical History Record for international students to the Curry Health Center two weeks prior to registration. It is required that the immunization record (for measles, rubella, diphtheria, tetanus and polio) be complete, accurate, and validated by a physician. Skin testing for tuberculosis will be required upon arrival through the Curry Health Center.

7. Visa Clearance and Advisor's Recommendation Form. F-1 and M-1 students transferring from another college or university in the U.S. must have this form completed by the foreign student advisor of the transfer school and returned to the UM Enrollment Services-Admissions Office or the College of Technology. A new I-20 will be issued by UM once a transfer release date is entered in SEVIS (Student & Exchange Visitor Information System) by the current school.

When to Apply
Applications are accepted on a rolling, space-available basis. Consequently, students are encouraged to apply early to secure acceptance.

Undergraduate Nondegree Status
An applicant who wishes to pursue studies for his or her personal growth and who does not wish to work toward a formal degree at The University of Montana-Missoula may apply as an undergraduate nondegree student. (This option is not available to freshmen unless they are applying to the College of Technology.) Each applicant should understand that acceptance to this category does not constitute acceptance into a degree granting program. Applicants admitted as undergraduate nondegree students are not eligible for financial aid.

Academic Eligibility
Each applicant must certify on the application form that he or she has graduated from a high school that is fully accredited by its state department of education, or has passed the General Educational Development test with a standard score of 35 or above on each test and an average standard score of 45 or above on all five tests. To be considered for nondegree status, a student must have attempted 12 or more college level credits.

Except in the College of Technology, a maximum of 30 semester credits earned as a nondegree student will be applied to an undergraduate degree at The University of Montana-Missoula if the applicant applies and is accepted to a degree program. Whether credits taken in the College of Technology as a nondegree student may apply to a particular degree program is dependent on the courses taken and the degree program to which the student may be admitted. This category is not open to students currently on academic suspension from The University of Montana-Missoula.

If a person is admitted as an undergraduate nondegree student and later wishes to change to a degree program, he or she will be required to file an application for readmission, furnish the required supporting credentials and meet the regular admissions standards for the intended program. Readmission applications are available from Enrollment Services-Admissions, the College of Technology, or the Registrar's Office.

How to Apply
Receipt of the following credentials in Enrollment Services-Admissions or the College of Technology constitutes a complete application for admission to the undergraduate nondegree status:

1. Application form. The application form may be obtained from the Office of Enrollment Services-Admissions, The University of Montana-Missoula, Missoula, Montana 59812 (406) 243-6266 or the College of Technology (406) 243-7882. It should be completed, signed, and returned.

2. $30.00 application fee. This non-refundable fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. An application cannot be considered prior to payment of this fee. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.

3. Medical History Record. All applicants are required to submit a completed Medical History Record to the Curry Health Center two weeks prior to registration. The form must be complete, accurate and validated by a health official. Health forms are sent to students with letters of acceptance.

When to Apply
March 1 is the application priority processing date for autumn semester. The application priority processing date for spring semester is November 15. Applications postmarked or completed after these dates will be processed on a space available basis. Students are encouraged to apply early.

Graduate Nondegree Status
Graduate nondegree status allows students, who have not been formally admitted to a graduate degree program, to receive graduate credit for courses.

Up to nine semester nondegree graduate credits (or the credits earned during a single semester, whichever is greater) may be applied toward a subsequent degree program, with the approval of the student's program advisor and the graduate dean. Acceptance as a graduate nondegree student does not imply future admission to a degree program.

Graduate nondegree students may take courses for either graduate or undergraduate credit, as defined by the university catalog. Graduate credits will be assigned automatically unless a request for undergraduate credit is submitted to the Graduate School by the sixth week of the semester.
Admission to the University - 15

Applicants admitted as graduate nondegree students are not eligible for financial aid. Graduate nondegree students are assessed the graduate level tuition and fees at the master’s level rate for all credits taken.

Applicants must have earned a baccalaureate degree (or higher degree) from a regionally accredited college or university prior to enrollment in the graduate nondegree status.

Applicants seeking graduate nondegree status must apply online at www.umt.edu/grad and pay a $45 non-refundable application fee. Deadline for submitting graduate nondegree applications is prior to the first day of the semester.

Graduate Nondegree Readmission

Students who previously attended The University of Montana in a graduate nondegree status and have not been enrolled for two years, 24 months or more, use the graduate nondegree readmission from to reapply for the same status.

Graduate nondegree readmission forms can be downloaded from www.umt.edu/grad/apply/nondegree.htm. Or you may contact the Graduate School at the Lommasson Center, Rm 224, Missoula, MT 59812 or by phone 406-243-2577 or by e-mail at gradschl@msou.umt.edu. Former graduate nondegree students applying for readmission pay a $25 non-refundable application fee.

Graduate Degree

Graduate degree admission is for candidates seeking to complete a master’s or doctoral program at UM. Program information and deadlines are listed at www.umt.edu/grad/programs/default.htm. The academic department you are applying to conducts the initial evaluation of a complete application packet and submits your packet and a recommendation to the Graduate School for the final decision regarding admission.

Applicants seeking graduate status must apply online at www.umt.edu/grad and pay a $45 non-refundable application fee.

GED (General Educational Development)

A person who is not a graduate from an accredited high school may be eligible for admission by earning passing scores on the GED test. Passing scores are a minimum score of 35 on each test and an average score of 400, or a minimum score of 410 on each test and an average score of 450. GED students who have been out of high school for less than three years must also submit ACT or SAT scores. For additional information and test center locations in Montana, contact the Office of Public Instruction, Helena, MT 59601.

Former University of Montana-Missoula Students - Readmission

Students previously enrolled at The University of Montana-Missoula who have interrupted their enrollment for 24 months or more must submit an application for readmission. Applications for readmission may be obtained from the Registrar’s or Admissions Offices.

Former students applying for a change in their admission status (undergraduate degree, undergraduate nondegree, graduate nondegree) via the readmission process are subject to the admission requirements described above.

Former undergraduate degree students who do not plan to change their status and who have attended another college/university since attending The University of Montana-Missoula, even if their absence from UM has been less than two years in duration, must submit college transcripts.

Former students who are applying for readmission must comply with Immunization Requirements as listed in this catalog.

Former students are not required to pay the application fee of $30.00 unless they are changing from an undergraduate status to a graduate status or vice versa. The application fee is paid only once at the undergraduate level.

General Information

Achievement Tests (ACT/SAT)

The results of the American College Test (ACT) or the Scholastic Aptitude Test (SAT) must be requested directly from the testing company or may be posted on the high school transcript. They are used for admission and academic advising, for the granting of scholarships, and for admission into the Davidson Honors College. All new undergraduate degree students, both freshmen and transfers, who have attempted or earned fewer than 12 college credits must take the ACT or the SAT. Arrangements should be made to take the test in October or December of the year preceding entrance to the University. Complete information and registration forms are sent to all high school counselors well in advance of each test date. Information may also be obtained from the American College Testing Program, P. O. Box 168, Iowa City, Iowa 52240 or the College Board ATP, Box 592, Princeton, New Jersey 08540.

The examination must be completed no later than December of the year before entrance if the student wishes to be considered for scholarships. Students must have taken the test in order to be considered for admission. Students who have a disability which would hamper them in taking the ACT or SAT test will need to make special arrangements for accommodation.

If the high school graduation date is more than three years prior to the term in which the student intends to enroll, an ACT or SAT score is not required but is strongly encouraged.

Advanced Placement (AP) Program/College Level Examination Program (CLEP)

College credit may be granted based on achievement in college-level high school courses, provided the University has received satisfactory scores from the College Level Entrance Examination Program (CLEP) or the Advanced Placement Program (AP) examinations. The University of Montana-Missoula awards credit based upon the recommendations from the American Council on Education (ACE) guide.

It should not be assumed that credit granted by other colleges/universities would be allowed by UM. Specific questions regarding the Advanced Placement Program should be directed to Enrollment Services-Admissions.

University policy for awarding credit on the basis of AP/CLEP is as follows:

1. Students must be enrolled in or applying to the undergraduate degree status.
2. Grades of CR (credit) will be recorded for all credits granted.
3. There is no limit to the number of credits that may be awarded.
4. Credits may be used toward general education requirements.
5. Enrollment Services-Admissions will make appropriate designations.
6. The student’s academic department will determine the applicability of credits granted toward major requirements.

Credit for Military Service and Schooling

The University may grant elective credit for courses completed in military service schools and training provided such credit is baccalaureate level as recommended by the American Council on Education in "A Guide to Evaluation of Educational Experiences in the Armed Services". Credit may be granted toward College of Technology programs if appropriate to the program requirements. Specific questions regarding credit for military service schools should be directed to Enrollment Services-Admissions.
**Credit for Training Programs**

The University may grant elective credit for courses completed in training programs, provided such credit is baccalaureate level as recommended by the American Council on Education in "The National Guide to Educational Credits for Training Programs". Credit may be granted toward College of Technology programs if appropriate to the program requirements. Specific questions regarding credit for training programs should be directed to Enrollment Services-Admissions.

**Foreign Language Placement**

Transfer credit is not granted for high school foreign languages. Placement testing is done by the Department of Modern and Classical Languages and Literatures to determine appropriate class placement for entering students.

**General Education Requirement**

Accepted transfer courses apply toward The University of Montana-Missoula General Education requirements as assigned by Enrollment Services-Admissions.

Transfer students who submit all credentials on time and who are admitted to an undergraduate degree program will receive an evaluation of their work showing the distribution of courses toward the general education requirements; this evaluation will be sent with the acceptance letter. It is important that a student monitor his/her program with the help of an academic advisor. Refer to the General Education Requirements section of this catalog for details.

Students who have earned a baccalaureate or higher degree are considered to have met the general education requirements.

**Immunization Requirements**

Montana state law requires post secondary students to provide proof of immunization. Students must complete the Pre-Registration Immunization Requirements form and return the same to the Curry Health Center prior to orientation and registration.

Registration cannot be completed without this documentation. A Pre-Registration Immunization Requirements form is sent with the admission acceptance letter. For additional information, visit www.umt.edu/chc.

**High School Pilot Program**

Area high school students can enroll in University classes under this program. High school students earn college credit, receive an early introduction to University opportunities and are able to develop skills and knowledge beyond the high school level. For more information, contact the Coordinator of the High School Pilot Program, Enrollment Services-Admissions, Lommasson Center 103, The University of Montana-Missoula, Missoula, MT 59812 or phone (406)-243-6266. For opportunities in the College of Technology, phone (406)-243-7828.

**International Student Exchange Program (ISEP)**

For information on the International Student Exchange Program, contact the International Programs Office, University Hall 222, The University of Montana-Missoula, Missoula, MT 59812 or phone (406)-243-2288.

**National Student Exchange (NSE)**

The University of Montana-Missoula participates in the National Student Exchange (NSE) program with 145 other state colleges and universities. This program offers students the opportunity to become better acquainted with different social and educational patterns in other areas of the United States. NSE encourages students to experience new life and learning styles, appreciate differing cultural perspectives, learn more about themselves and others and broaden their educational backgrounds through specialized courses or unique programs which may not be available on the home campus. The qualified sophomore or junior year student may travel to another state and participate in the exchange program for up to one academic year while continuing to pay in-state (resident) fees. For more information, contact the Coordinator of the National Student Exchange Program, Enrollment Services-Admissions, Lommasson Center 101, The University of Montana-Missoula, Missoula, MT 59812 or phone (406)-243-6266.

**Admission Review Committee**

The Admission Review Committee reviews applications from students who do not meet the regular admission standards.

**Enrollment Limitation**

The University of Montana-Missoula may deny or condition admission, readmission, or continuing enrollment of any individual who, in the judgment of the University, presents an unreasonable risk to the safety and welfare of the campus and persons therein.

In making such judgment, the University may, among other things, take into account the individual's history and experience relative to (a) violence and destructive tendencies, (b) behavior on other college campuses, and (c) any rehabilitative therapy the individual may have undergone.

The University of Montana-Missoula adopts the following Admission Review Procedures:

- **The Director of Admissions and New Student Services**, the Dean of the Graduate School or the Chair of the Admissions Committee of the various professional schools, or the Admissions Review Committee at The University of Montana-Missoula shall be responsible for the administration of the Admissions Review procedures established to implement Board of Regents policy. When the responsible admissions officer has reason to believe an applicant may present an unreasonable risk to the safety and welfare of the campus and persons therein, additional information regarding the applicant’s background and experiences shall be requested.

- When an applicant has been convicted of a felony; (2) When an applicant is currently on probation or parole; or (3) When the responsible admissions officer has reason to believe that an applicant’s background and experiences include instances: (1) When an applicant has been convicted of a felony; (2) When an applicant has been adjudicated as a danger to others or to self; (3) When an applicant has been suspended or expelled for disciplinary reasons from other educational institutions, either before or after the applicant has been accepted at The University of Montana-Missoula; (4) When, on the basis of other facts, the Director or other responsible officer has reason to believe an applicant may present an unreasonable risk to the safety and welfare of the campus and persons therein.

After obtaining additional information, the responsible admissions officer may admit the applicant or refer the applicant to the Admissions Review Committee for review and recommendation.

**Transfer Credentials**

The kinds of credentials evaluated by Enrollment Services-Admissions for possible transfer credits fall into two categories, required and optional.

- **Required Credentials** - UM requires that these credentials be submitted for evaluation at the time of application. They consist of official transcripts from regionally accredited colleges and universities, from colleges and universities that are candidates for regional accreditation, and foreign colleges and universities.

- **Optional Credentials** - Although students are not required to submit these records, Enrollment Services-Admissions or the College of Technology will evaluate them any time during enrollment in the undergraduate degree status. They consist of official records from nontraditional sources including the Advance Placement Program, the College Level Examination Program,
military service records and records from certain training programs (see below).

**Transfer Evaluations**

Evaluations of transfer records are done by Enrollment Services-Admissions. An Evaluation of Transfer Records is included in the acceptance packet and in the advising materials distributed during orientation. It is recommended that students provide their advisors with transfer course descriptions.

As part of an evaluation, Enrollment Services-Admissions reviews all academic work for possible repeated courses and assigns courses to the appropriate UM General Education areas. Credit for courses judged by Enrollment Services-Admissions to be of college level will be applied toward the free elective requirements of baccalaureate degrees. The evaluation also designates courses applicable toward the 39 credit Upper Division requirement. Accepted credits are subject to restrictions noted in the Credit Maximums presented later in the section under Degree Requirements. These and other limitations are explained in that section. The academic department is authorized to determine the applicability of accepted credit toward major department requirements. Students are required to seek the advice of their departmental advisors prior to registration each term.

Students in the College of Technology must submit official transcripts for evaluation. If a student feels that a course taken at another institution may substitute for a specific College of Technology course, the evaluation will be done by the associate dean and the chair of the department of the equivalent course. Courses in which a grade lower than "C" was earned, internship, clinical experience, and some laboratory courses will not be considered for transfer credit.

**Transfer Guides**

Enrollment Services-Admissions publishes guides to the evaluation of transfer courses from various two and four year colleges in Montana, Idaho, and Wyoming. These guides are available at the transfer schools and from Enrollment Services-Admissions, The University of Montana-Missoula, Missoula, MT 59812.

**Validation Required Credit**

The Montana University System Board of Regents has stipulated that college level credit from colleges and universities having candidacy status in a regional accrediting association can be accepted only after the student has successfully completed twenty (20) semester credits at the receiving institution. At UM, these credits are termed "validation required" (VR) credits. As students successfully complete twenty credits at UM, the VR credit is released by the UM Registrar and added to the undergraduate credits.

**Vocational-Technical Credit**

Courses from regionally accredited colleges which are intended for use exclusively in terminal, non-transfer programs (associate of applied science or certificate programs) are termed vocational-technical. Transfer credit toward an A.A. or baccalaureate program, except for the Bachelor of Applied Science degree, is not accepted for vocational-technical courses, and vocational-technical courses are not used to determine academic eligibility for admission to these programs at UM. Vocational-technical courses will appear on the UM permanent record designated by "VVT". Although credits for vocational-technical courses are not accepted in transfer except in the College of Technology and for the Bachelor of Applied Science degree, the vocational-technical petition process enables a student's UM major department to grant up to 10 semester credits based on vocational-technical experiences which enhance the major program.

To receive a vocational-technical credit grant, a student may petition his or her major department by securing the petition form from the Registrar's Office. This form, together with a copy of The University of Montana-Missoula permanent record and a copy of the transfer institution's catalog, should be presented to the department chair of the student's major. The department chair will return the form to the Registrar's Office indicating how many, if any, credits may be applied toward the degree. This completed form is an agreement between the institution and the student that the credits apply toward graduation requirements provided the student retains his or her major in the same field. Should the student elect to change majors, the same procedure must be followed with the new department chair.

This petition process may be used by students wishing to count up to 10 semester credits in technical courses taken from the College of Technology to an associate of arts or baccalaureate degree program. Technical courses are designated by a course number suffix of "T".

**Western Interstate Commission for Higher Education**

The Western Interstate Commission for Higher Education's Professional Student Exchange Program enables students in thirteen western states to enroll in out-of-state professional programs when those programs are not available in their home states. Exchange students receive preference in admission. They pay reduced levels of tuition: for most students, resident tuition in public institutions or reduced standard tuition at private schools. The home state pays a support fee to the admitting schools to help cover the cost of students' education.

The following professional programs are not available in Montana but are supported by the Montana WICHE program. They are dentistry, medicine, occupational therapy, optometry, osteopathic medicine, podiatry, public health and veterinary medicine.

The Certifying Officer for the state of Montana can be contacted for specific details about the program. WICHE Student Exchange Program, Montana University System, 2500 Broadway, Helena, MT 59620. (406)444-6570 or Fax: (406) 444-1469.

**Western Undergraduate Exchange Program (WUE)**

The Western Undergraduate Exchange (WUE) program at The University of Montana-Missoula is administered as a scholarship program. The scholarship is limited to students who are legal residents of Alaska, Colorado, Hawaii, Idaho, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington and Oregon.

The amount of the WUE scholarship is 150% of in-state fees. Only new freshmen and transfer students are eligible to apply for a WUE scholarship.

Once the scholarship is awarded, it extends through four full calendar years or completion of the bachelor's degree, whichever is first, provided:

a. state legal residence does not change
b. all other criteria of the UM scholarship are met, including maintenance of a cumulative UM GPA of 3.0 or above
c. students do not interrupt their UM attendance by twelve months or more.

If a student chooses a major in pre-pharmacy or pre-nursing, they will only be eligible for the scholarship until the time they are admitted to their respective professional school.

Spring semester WUE scholarship applications may be considered by the Scholarship Coordinator on a space available basis.

Alternative measures of exceptional ability may be presented in lieu of the required GPA.

Time as a WUE Scholarship recipient cannot be used toward fulfilling in-state residency requirements for fee purposes at any unit of the Montana University System.

All students who have been accepted for admisions by February 1, are considered for the scholarship. There is not a separate application for the scholarship.
Further details are available from the WUE Scholarship Coordinator in the Enrollment Services-Admissions Office.

**Student Conduct Code**

The Student Conduct Code, embodying the ideals of academic honesty, integrity, human rights and responsible citizenship, governs all student conduct at The University of Montana-Missoula. Student enrollment presupposes a commitment to the principles and policies embodied in this Code.

The Student Conduct Code sets forth University jurisdiction, student rights, standards of academic and general student conduct, disciplinary sanctions for breach of the standards of student conduct and procedures to be followed in adjudicating charges of both academic and general misconduct.

The Vice President for Student Affairs is responsible for procedural administration of the Student Conduct Code for all general conduct. The Provost and Vice President for Academic Affairs is responsible for all academic conduct.

Copies of the Student Conduct Code can be obtained from the offices of the Vice President for Student Affairs, the Provost and Vice President for Academic Affairs, Residence Life, and Associated Students of The University of Montana-Missoula (ASUM). The Student Conduct Code also can be accessed from the internet at www.umt.edu/studentaffairs/policy/code.htm.

**Servicemembers Opportunity College**

The University is a member of Servicemembers Opportunity Colleges, a consortium of over 1300 institutions pledged to be reasonable in working with servicemembers and veterans trying to earn degrees.

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### Academic Advising and Orientation

**Advising**

The University of Montana-Missoula maintains that academic advising is an important part of the educational process. Establishing a friendly and honest relationship with an academic advisor will be an advantage to the UM student both personally and educationally. An effective relationship with an advisor is one of the avenues through which students come to realize the maximum educational benefits available to them, learn to better understand themselves and to meet their special educational needs and aspirations.

Academic advising is required each semester of all undergraduate students. This mandatory advisement policy means that a student must obtain the advisor's endorsement of his or her course selection. Students are strongly encouraged to meet with an advisor prior to registration for the next semester to discuss plans and to secure schedule approval.

Students majoring in a department or school are assigned an academic advisor from that unit. Each department may use a different process in assigning advisors. In some cases, the person in charge of advising for the program, the Advising Chair, does all the freshman advising. Or, the may be assigned an advisor in the major who seems best suited to discuss particular interests.

Advisors assist students regarding class schedules, dropping or adding courses, and graduation requirements. Advisors' signature lines are provided on forms when they are required.

The University of Montana-Missoula encourages the enrollment of students who are unsure of their educational and career plans. These students are designated as General Studies students, and are assigned a faculty member or peer advisor from a select advising pool through the Office of Academic Advising in the University College. This advisor assists the student in exploring various educational and career goals while meeting the General Education Requirements. While many advisors are faculty members from the departments, the University does involve trained peer advisors and staff in the process. In the event a student is dissatisfied with an assigned advisor, he or she may request a change of advisor either from the department or through the University College.

Although faculty advisors, peer advisors and the Director of the University College and Office of Academic Advising are available to assist students, it is important for students to realize that the ultimate responsibility for meeting all graduation requirements is their own. Students can increase their academic plan's effectiveness by fully utilizing the advising system, and by acquainting themselves with the academic requirements of their major fields, University policies for registration and graduation, and scholastic requirements. The UM catalog is the official source of information on these matters.

The Academic Advising committee, in collaboration with appropriate student groups, facilitates positive academic advising experiences by: educating students about developing mentor relationships with faculty and professional staff; educating students to understand their responsibilities in the advising process; encouraging students to fulfill their obligation to plan in advance for advising sessions; and educating students on accepting responsibility for all advising decisions.

Students with academic advising questions or concerns are invited to contact the University College, Lommasson Center 269, The University of Montana-Missoula, Missoula, MT 59812 or phone (406) 243-2835 or the College of Technology (406) 243-7828.

**Orientation**

Students who have made the decision to enroll at The University of Montana are invited to campus to attend an orientation program. Participation in orientation is the best way for new students to get acquainted with the University. Orientation is designed for all students who are new to UM, both first-time college students and students transferring from another school.

UM offers three summer orientation sessions. If a student is unable to attend a summer session, UM provides similar sessions at the beginning of autumn and spring semesters. On the mountain campus new freshmen students are assessed a $50.00 orientation fee and new transfer students are assessed a $60.00 orientation fee. New students in the College of Technology are assessed a $7.00 orientation fee. A College of Technology orientation schedule is sent to all students accepted to COT programs.

Typical events at orientation include an introduction to academic programs, placement exams, academic advising appointments, information sessions for campus support services, and events that help students meet other students. Orientation participants also register for classes.

Orientation information is sent to all students who have been granted admission to UM. Call Enrollment Services-Admissions & New Student Services for more information at (406) 243-6266 or 1-800-462-8636 or the College of Technology (406) 243-7828 or 1-800-542-6882.
Academic Policies and Procedures

Registration

The detailed instructions, registration and the course offerings are published in the Class Schedule which is available for a nominal fee from The Bookstore in the University Center or the Bookstore in the College of Technology. Students must complete their registration during the scheduled registration period or be subject to payment of a late registration fee if they are allowed to register. Registration is not completed nor is any credit awarded until all fees have been paid.

Students in the College of Technology who do not enroll for a semester or more (excluding summer) must reapply for admission through the College of Technology. Other students who plan to attend a summer session or an academic year semester and were not in attendance during the immediately preceding 24 months, must reapply for admission through the Registration Counter in Griz Central in the Lommasson Center. Students should reapply for the autumn semester by July 1 and for the spring semester by November 1. Students who have never attended before or who are changing admission status must apply to Enrollment Services - Admissions & New Student Services or the College of Technology. See the Admissions section of this catalog.

All students currently enrolled for an academic year semester and students readmitted to the University may pre-register for the subsequent semester.

Students with Disabilities

Students with disabilities may obtain assistance with the registration process and the relocation of classes through Disability Services in 28 Corbin Hall, (406) 243-2243 VOICE/TDD.

Dropping and Adding Courses or Changing Sections, Grading or Credit Status

Students are expected, when selecting and registering for their courses, to make informed choices and to regard those choices as semester-long commitments and obligations.

After registering and through the first fifteen (15) instructional days of the semester, students may use the internet (http://cyberbear.umt.edu) to drop and add courses or change sections and credits. Fees are reassessed on the fifteenth day of the term. Added courses and credits may result in additional fees. For courses dropped by the fifteenth instructional day, no fees are charged and courses are not recorded. (For deadlines and refund policy for withdrawal from all courses, see the Withdrawal section of this catalog.)

An instructor may specify that drop/add is not allowed on the internet. A drop/add form is used to make changes in these courses, if approved by the instructor.

After adding a course, the credit/no credit grading option or auditor status may be elected on the internet or on a form available at the Registration Counter in Griz Central in the Lommasson Center. These options are not allowed for some courses as identified in the Class Schedule. Change of grading option to audit is not allowed after the 15th instructional day.

Beginning the sixteenth (16) instructional day of the semester through the thirtieth (30) instructional day, students use paper forms to drop, add, and make changes of section, grading option, or credit. The drop/add form must be signed by the instructor of the course and the student’s advisor. The signed drop/add form must be returned to the Registration Counter (or the Registrar’s Office at the College of Technology) no later than the thirtieth instructional day. A $10.00 processing fee is charged for each drop/add form. Added courses and credits may result in additional fees. There are no refunds or reductions of fees for courses dropped and grades of W (withdrawn) are recorded.

Beginning the thirty-first (31) instructional day of the semester through the last day of instruction before scheduled final examinations, students must petition to drop, add, and make changes of section, grading option, or credit. The petition form must be signed by the instructor of the course and the student’s advisor and, in the case of Drops only, by the dean of the student’s major. A $10.00 processing fee is charged for each petition. Added courses and credits may result in additional fees. There are no refunds or reductions of fees for courses dropped, and the instructor assigns a grade of WP (withdrawn/passing) if the student’s course work has been passing or a WF (withdrawn/failing) if the course work has been failing. These grades do not affect grade averages but they are recorded on students’ transcripts.

Documented justification is required for dropping courses by petition. Some examples of documented circumstances that may merit approval are: registration errors, accident or illness, family emergency, change in work schedule, no assessment of performance in class until after this deadline, or other circumstances beyond the student’s control.

The opportunity to drop a course for the current term or alter grading option for such a course ends on the last day of instruction before scheduled final exams. Dropping a course taken in a previous term or altering grading option or audit status for such a course is not allowed. The only exceptions are for students who have received a grade of NF (never attended) or have ceased attendance before the sixteenth day of instruction and can provide to the Registrar’s Office instructor verification of non-attendance.

See the School of Law section of this catalog for the add and drop deadlines for law courses.

Class Attendance/Absence Policy

Students who are registered for a course but do not attend the first two class meetings may be required by the instructor to drop the course. This rule allows for early identification of class vacancies to permit other students to add classes. Students not allowed to remain must complete a drop form or drop the course on the internet (http://cyberbear.umt.edu) to avoid receiving a failing grade. Students who know they will be absent should contact the instructor in advance.

Students are expected to attend all class meetings and complete all assignments for courses in which they are enrolled. Instructors may excuse brief and occasional absences for reasons of illness, injury, family emergency, or participation in a University sponsored activity. (University sponsored activities include for example, field trips, ASUM service, music or drama performances, and intercollegiate athletics.) Instructors shall excuse absences for reasons of military service or mandatory public service.

Instructors may establish absence policies to conform to the educational goals and requirements of their courses. Such policies will ordinarily be set out in the course syllabus. Customarily, course syllabi will describe the procedures for giving timely notice of absences, explain how work missed because of an excused absence may be made up, and stipulate any penalty to be assessed for absences.

The UM Faculty Senate encourages the faculty to accommodate students incurring an excused absence by allowing them to make up missed work when this can be done in a manner consistent with
the educational goals of their courses. Students expecting to incur excused absences should consult with their instructors early in the term to be sure that they understand the absence policies for each of their courses.

Withdrawal from the University

Students who withdraw from the University while a semester is in progress must complete withdrawal forms which are obtained from the Registration Counter in Griz Central in the Lommasson Center or the Registrar's Office in the College of Technology. Drop/add forms cannot be used to withdraw from school and students are not allowed to drop all their courses on the internet. International students must first contact the Foreign Student Advisor before withdrawing as visa status will be affected. Students who are withdrawing for medical reasons must contact the Curry Health Center to withdraw. Medical withdrawals are granted only for a student's significant health problems and must be documented by a healthcare provider.

See the Expenses section of this catalog for fee information relating to withdrawals.

Students receiving financial aid who withdraw will not receive aid the next term of enrollment. A Reinstatement of Financial Aid form must be completed in the Financial Aid Office to request aid for any term subsequent to a withdrawal. Students who reside in a University residence hall or in family housing must notify the Residence Life Office or the Family Housing Office of the withdrawal.

Students who purchase health insurance with registration will receive a refund and lose coverage if withdrawn during the first fifteen instructional days. Withdrawal after the fifteenth day will not result in a refund but coverage will continue through the remainder of the semester.

When withdrawal forms are completed in Griz Central or the Registrar's Office in the College of Technology before the last two weeks of the semester, grades of W (withdrawal) are assigned. Beginning two weeks from the end of the term, students may not withdraw from the University except for very unusual circumstances. Such late withdrawals are to be approved by the student's academic dean before the end of the semester. However, in exceptional cases, a student's academic dean may approve retroactive withdrawal for the last semester in attendance, provided the request is approved before the end of the student's next semester of enrollment.

University Employees' Registration

University employees who have applied and have been accepted for admission to the University may register with the approval of the employee's supervisor. Waivers of some fees are granted to some faculty and staff members who are at least three-quarter time salaried employees on the date of registration. Additional information and the necessary forms are available in the Office of Human Resource Services in the Lommasson Center.

Grading System

The University uses two types of grading: traditional letter grades and credit/no credit grades. At the option of the instructors some courses are offered only on the traditional letter grade basis or only on the credit/no credit basis. Other courses are open to either type of grading, at the option of the student. Courses offered on the A-F basis only or CR/NCR only will be indicated in the Class Schedule. In the event a change in the published grading option for a course becomes necessary, the faculty member may make the change during the first ten class days of the semester. The students in the class and the Registrar's office must be notified of the change no later than the tenth class day. Grades preceded by an R indicate remedial courses.

Traditional Letter Grading (A-F)

Letter grades represent an assessment of the overall quality of work performed in a given course. A—Excellent; B—Good; C—satisfactory; D—Poor, F—Failure. When assigning traditional letter grades, instructors may, at their discretion, utilize the symbols + or -. Use of the + or - will be limited to A-, B+, B-, C+, C-, D+, and D-. Other symbols used are: I—Incomplete; N—work on the course may be continued in later semesters (when work is completed, the final grade assigned applies to all semesters of the course); NR—no record of academic performance; W—withdrawal from a course or course dropped after the fifteenth instructional day; WP—course dropped after thirteenth instructional day with passing work; WF—course dropped after the thirteenth instructional day with failing work; AUD—auditor registration. (AUD is recorded for all students who register in courses as auditors, intending to listen to the courses without earning credit or being graded. The same fees are assessed as when registering for credit. Any attendance or participation expectations are established by the instructor of the course. If attendance expectations are not met, the instructor may request a notation be placed on the student's academic record indicating attendance was not satisfactory.) An R preceding the grade indicates a remedial course. Remedial courses do not count in credits earned or grade point averages.

Credit/No Credit Grading (CR, NCR)

Student Option: To encourage students to venture into courses where they might otherwise hesitate because of uncertainty regarding their aptitude or preparation, they may enroll in some courses on a credit/no credit basis. A freshman or sophomore with a grade-point average of 2.00 or better may enroll in an undergraduate course a semester on a credit/no credit basis. Juniors and seniors may elect more than one credit/no credit course a semester.

No more than 18 CR credits may be counted toward graduation. Courses taken to satisfy General Education Requirements must be taken for traditional letter grade. Courses required for the student's major or minor must be taken for traditional letter grade, except at the discretion of the department concerned.

A CR is given for work deserving credit (A through D-) and an NCR for work of failing quality (F). CR and NCR grades do not affect grade point averages. The grades of CR and NCR are not defined in terms of their relationship to traditional grades for graduate course work.

Election of the credit/no credit option must be indicated at registration time or within the first 15 class days on CyberBear. After the fifteenth day, but prior to the end of the 30th day of instruction, an undergraduate student may change a credit/no credit enrollment to an enrollment under the A-F grade system, or the reverse by means of a drop/add form.

The University cautions students that many graduate and professional schools and some employers do not recognize non-traditional grades (i.e., those other than A through F) or may discriminate against students who use the credit/no credit option for many courses. Moreover, students are cautioned that some degree programs may have different requirements regarding CR/NCR credits, as stipulated in the catalog.

Faculty Option: A faculty member may elect to grade an entire class on the credit/no credit basis. This method of grading is used in courses where more precise grading is inappropriate. A faculty member may indicate that a particular course is not available under the credit/no credit option. Courses graded credit/no credit only and courses graded A-F only will be identified in the Class Schedule.

No Credit Grading in Composition (NC)

Students enrolled in English 100 and 101 and COM 101 are graded by the traditional letter grades of A through F or are given NC for no credit. The NC grade is awarded when exceptional progress has occurred but the student needs to repeat the course. The NC grade does not affect grade point average.

Policy on Incompletes

It is assumed that students have the responsibility for completing the requirements of the courses in which they are enrolled within the time framework of the semester.
Incompletes may be given when, in the opinion of the instructor, there is a reasonable probability that students can complete the course without retaking it.

The incomplete is not an option to be exercised at the discretion of students. In all cases it is given at the discretion of the instructor within the following guidelines:

1. A mark of incomplete may be assigned students when:
   a. They have been in attendance and doing passing work up to three weeks before the end of the semester, and
   b. For reasons beyond their control and which are acceptable to the instructor, they have been unable to complete the requirements of the course on time. Negligence and indifference are not acceptable reasons.

2. The instructor sets the conditions for the completion of the course work and notes these conditions on the final grade report.

3. When a student has met the conditions for making up the incomplete, the instructor will assign a grade based upon an evaluation of the total work done by the student in the course.

4. An incomplete which is not made up within one calendar year automatically will revert to the alternate grade which was assigned by the instructor at the time the incomplete was submitted.

5. An incomplete remains on the permanent record and is accompanied by the final grade, for example, IA, IB, IC, etc.

**Computation of Cumulative Grade Average**

Quality points are assigned as follows: 4 quality points for each credit of A; 3.67 quality points for each credit of A-; 3.33 quality points for each credit of B+; 3 quality points for each credit of B; 2.67 quality points for each credit of B-; 2.67 quality points for each credit of C+; 2 quality points for each credit of C; 1.67 quality points for each credit of C-; 1.33 quality points for each credit of D+; 1 quality point for each credit of D; and 0.67 quality points for each credit of D-.

The cumulative grade average is computed by dividing the total quality points earned by the total number of credits attempted, excluding courses assigned W, WF, WP, CR, NC, NCR, I, AUD, or N grades and courses numbered under 100 (grade is preceded by an R). Grades for courses transferred from other colleges and universities are not included in calculated grade averages for graduation.

**Undergraduate Academic Performance**

Academic standing is determined at the time grades are posted for the term. Retroactive registration changes or grade changes may affect cumulative grade averages but do not change the end of term academic standing.

**Academic Probation**

Students will be placed on academic probation at the end of any semester if their cumulative grade average drops below 2.00. The effect of the academic probation is to serve notice to students that the quality of their work is below an acceptable level and that continuation of unsatisfactory work during their next semester of enrollment will result in academic suspension. Students who are placed on academic probation will find that fact noted on their final grades and transcripts viewed on www.umt.edu/CyberBear/. They should contact their advisors immediately to seek help.

**Academic Suspension**

Students will be academically suspended at the end of any semester if they were placed on academic probation during their last semester of attendance and their cumulative grade average is still below 2.00. Exceptions are made if they earn at least 2.00 grade average for the semester without raising their cumulative grade average to the required minimum. In such cases, students remain on academic probation. The effect of academic suspension is that students may not re-enroll at the University unless they have been reinstated. Academic suspensions are noted on final grades and transcripts on cyberbear.umt.edu.

**Reinstatement**

Following suspension, students will not be considered for reinstatement until at least one semester or the entire summer term has passed. In order to be reinstated, students must receive the approval of the dean of the school or college in which they intend to enroll. Reinstatements are never automatic, and students' requests for reinstatement are unlikely to be approved unless the students offer carefully prepared plans which indicate how their academic performance will be improved.

All students reinstated after suspension are reinstated on academic probation and will be suspended again unless they meet the requirements as explained under Academic Suspension above.

A student denied reinstatement may appeal the denial in writing to the University President within ten days of receiving the notice of denial. The decision to deny reinstatement normally will not be reversed unless there is evidence the decision was made arbitrarily.

**Helping Services**

Many programs at The University of Montana-Missoula offer services to help students who are experiencing academic difficulty. Faculty academic advisors are a primary resource for such students as they are in a position to both give advice and make appropriate referrals. Students with declared majors secure advisors through the department advising chair, and general studies students secure advisors through the Office of Academic Advising in the University College.

Several courses are taught to assist students who have deficiencies in their academic backgrounds. The College of Technology offers MAT 005. The English Department offers basic composition and a writing laboratory. Help with study skills is available in the Curriculum and Instruction course 160.

Financial needs, personal problems, and indecision regarding vocation often affect academic performance. The Financial Aid Office, the Counseling Center, the Curry Health Center, the Career Planning and Placement Service and the Clinical Psychology Center can help in these areas.

Two tutoring programs are available to students, one administered by the Educational Opportunity Program and the other by the University College; both are located in Corbin Hall. The Counseling Center offers workshops on a variety of topics designed to enhance student academic performance.

The Education Opportunity Program (EOP) is a federally-funded program offering academic support services, including one-on-one academic advising, career search and counseling (using a national career database), mentoring for Native American students, a two-credit study skills class, and tutoring at no cost to eligible students. To qualify, a student must meet one of the following criteria: first-generation (neither parent has completed a four-year college degree), qualification under income (usually met if receiving a Pell grant), or documented disability. For more information, visit EOP at Lommasson Center 154, call 406-243-5032, or log on to www.umt.edu/eop.

The Academic Support Center offers a variety of services designed to increase the College of Technology students’ academic success. Students are assisted in the development of speed-reading and study skills and tutoring in any subject area. Academic and career counseling, as well as help in adjusting to the transition from the workplace to school, is provided. For information about the Center’s services and the Step Ahead program, contact the College of Technology (406) 243-7825.

**Plagiarism Warning**

Plagiarism is the representing of another's work as one's own. It is a particularly intolerable offense in the academic community and is strictly forbidden. Students who plagiarize may fail the course and may be remanded to Academic Court for possible suspension or expulsion. (See Student Conduct Code section of this catalog.)

Students must always be very careful to acknowledge any kind of borrowing that is included in their work. This means not only...
borrowed wording but also ideas. Acknowledgment of whatever is not one's own original work is the proper and honest use of sources. Failure to acknowledge whatever is not one's own original work is plagiarism.

**General Information**

**Maximum Credit Load**

Generally, an undergraduate student should register for no more than 21 credits during a semester, including physical education activity courses, and courses which carry no credit such as Mathematics 005.

Permission to enroll for more than the maximum credit load given above may be approved by the student's faculty advisor.

**Full-Time Student Defined**

An undergraduate student must register for a minimum of 12 hours credit a semester to be classified as a full-time student; however, in most baccalaureate programs a student must earn at least 15 credits per semester to graduate in a four year period. One- and two-year programs usually require between 15 and 19 credits per semester.

**Classification of Undergraduate Students**

The undergraduate student is classified as a freshman, sophomore, junior or senior based on the number of credits earned. The student who has earned fewer than 30 credits is a freshman. The student who has earned at least 30 credits but fewer than 60 is a sophomore, and the student who has earned at least 60 credits but fewer than 90 credits is a junior. The student who has earned 90 or more credits is classified a senior.

**Dean's List (Honor Roll)**

To qualify for the Dean's List, students must be undergraduates, must earn a semester grade average of 3.50 or higher, and receive grades of A or B in at least 9 credits. No grades of C+, C, D+, D, D-, F, NC or NCR are allowed.

**Repeating a Course**

All courses repeated remain on the permanent record but, when the $100.00 repeat fee is paid, only the last grade received is used to calculate the cumulative grade average unless the last grade is I, W, WP, W, N, NCR, NF, NP or AUD. These grades do not repeat other grades.

If enrollment in a course is closed, a student who is repeating or auditing the course may be required by the instructor to drop the course. This rule grants enrollment preference to those students attempting to register for the course for the first time for credit. It is the responsibility of the student who is not allowed to remain in the course to formally drop the course to avoid a failing grade for that course.

The repetition of a course in the School of Law is governed by a different policy. See the School of Law section of this catalog.

**University Omnibus Option for Independent Work**

Under the "University omnibus option" credit is allowed for independent work in topics or problems that are proposed by the student and approved both by the instructor or instructors under whose supervision the work is to be done and by the chairperson or chairpersons of the department(s) involved. Such independent work may require as many weeks as the instructor(s) shall stipulate. The work may be on campus or off campus, as the nature of the study requires, although prior approval of all arrangements and faculty supervision must be assured.

All fees must be paid during a regular registration period in advance of beginning independent work. The student may not receive a larger number of credit hours than he or she is registered for, although a smaller number may be completed and credit obtained with the approval of the instructor or instructors. No more than 10 credit hours may be received in a single topic or problem. A maximum of 15 credit hours of independent work for a bachelor degree and 13 credit hours of independent work for an associate degree is permitted under the University omnibus option.

For each course taken under the University omnibus option, the student's transcript will show the departmental prefix, the level of the course, the number of credit hours, and the exact title of the topic. Students obtain course request numbers through the departments.

**Credit By Examination**

Under certain circumstances, a currently registered student may receive credit by examination for a course in which he or she has not been regularly enrolled. The student must have a minimum cumulative grade average of 2.00 and an entering freshman must present a high school scholastic record equivalent to a 2.00 grade average to be eligible to earn credit by examination in any course.

Each school or department may determine those courses, if any, for which credit may be earned by examination. The dean of the school or the chair of the department must approve any arrangements prior to testing for such credit. On the successful completion of an examination, the department notifies the Registrar's Office. There are no fees for this type of credit by examination and grading may be credit/no credit or traditional letter grade.

For information regarding other types of credit by examination, consult the College Level Examination Program in this catalog. See index.

**Course Numbering System**

<table>
<thead>
<tr>
<th>Numbering System</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>001-099</td>
<td>Courses below college level. Credit not allowed toward a degree.</td>
</tr>
<tr>
<td>100-199</td>
<td>Primarily for freshmen.</td>
</tr>
<tr>
<td>200-299</td>
<td>Primarily for sophomores.</td>
</tr>
<tr>
<td>300-399</td>
<td>Primarily for juniors.</td>
</tr>
<tr>
<td>400-499</td>
<td>Primarily for seniors.</td>
</tr>
<tr>
<td>500-599</td>
<td>Primarily for graduate students.</td>
</tr>
</tbody>
</table>

**Undergraduates in Graduate Courses**

Post-baccalaureates and seniors holding a 3.0 (or greater) grade point average may, with consent of instructor, enroll in 500-level courses for undergraduate credit. Variance from these requirements cannot be petitioned.

**Credit**

Credit is defined in terms of semester hours. In general, 1 semester hour credit is allowed for 1 hour of lecture each week of the semester, or an average of 2 hours of laboratory each week of the semester.

**Prerequisites and Corequisites**

"Prereq." indicates the course or courses to be satisfactorily completed before enrollment in the course described. "Coreq." indicates a course which must be taken concurrently with the course described.

**Cross-listed and Equivalent Courses**

Some courses are offered jointly by two or more departments. Thus, the notation "Same as Ling 373,", included in the course description for Anthropology 373, indicates that Anthropology 373 and Linguistics 373 are the same course. A student may enroll for such a course under the department in which she or he wishes to receive credit, but credit is not allowed toward a degree for both courses.

In certain cases, a course description indicates credit is not allowed for that course and for another course offered by a different department. These courses are very similar in content, although offered separately, and credit is not allowed toward a degree for both courses.

**Technical Courses**

Courses in the College of Technology with a course number suffix of "T" are primarily technical in nature and apply to the certificate.
Degree/Certificate Requirements

Catalog Governing Graduation

Students may graduate fulfilling University and departmental requirements in any University of Montana-Missoula catalog under which he or she has been enrolled during the six years prior to graduation. University or departmental requirements may change, however, to comply with accreditation requirements, professional certification and licensing requirements, etc. The student may meet major and minor requirements under different catalogs than the catalog under which he or she is meeting University requirements. Pharmacy students should consult the Professional Pharmacy Curriculum section in this catalog.

Students transferring to the University of Montana-Missoula may choose to graduate fulfilling requirements under the UM catalog in effect when they were enrolled at their original institution, provided the chosen catalog is not more than six years old at the time of graduation. Eligible students who choose an earlier catalog must notify the Admissions Office at the time of admission so their transfer work can be evaluated accordingly.

Applying for Certificate and Degree Candidacy

To become a candidate for a degree, the student must file formal application at the Registration Counter in Griz Central the beginning of the semester preceding the semester in which he or she expects to graduate. Deadline dates are specified in the Class Schedule. In the College of Technology, candidates for certificates and degrees must file a formal application with the Registrar's Office in the College at the beginning of the semester in which they expect to graduate.

Credits Required for a Certificate of Completion

See the specific course and credit requirements for certificate programs listed in the College of Technology and Linguistics sections of this catalog. See index. In addition, students in the College of Technology must complete successfully:

1. Mathematics one course from MAT 100T or above.
2. Communications and Human Relations PSY 105T or 110T and one COM course as required by the specific program. Some programs have these skills imbedded within other courses which will satisfy this requirement.

Credits Required for a Degree of Associate of Applied Science

See the specific course and credit requirements for the associate of applied science programs in the College of Technology section of this catalog. See index. In addition, students must complete successfully:

1. Mathematics one course from MAT 100T or above.
2. Organizational Psychology, PSY 110T, and one COM course as required by the specific program. Some programs have these skills imbedded within other courses which will satisfy this requirement.

Associate of Arts

A total of 60 credits is required for graduation with an Associate of Arts (A.A.) degree. The minimum grade average for graduation is 2.00 in courses taken on the traditional letter grade (A-F) basis. To receive an Associate of Arts degree all students must complete successfully all the general education requirements for a baccalaureate degree, except for the Upper-Division Writing Proficiency Assessment.

Bachelor Degrees

A total of 120 credits is required for graduation with a bachelor degree; except a greater number is required in teacher education programs, pharmacy, physical therapy and the Bachelor of Applied Science. See the School of Pharmacy and Allied Health Sciences section of this catalog.

Students may elect to earn two or more bachelor degrees. Those deciding to earn two or more degrees must complete all the requirements of the majors for each degree. In addition, students must earn for each degree a minimum of 30 credits beyond the number required for the first degree. The degrees may be earned concurrently or at different times.
Upper-Division Requirement
All students must complete a minimum of 39 credits in courses numbered 300 and above to meet graduation requirements for the first baccalaureate degree. Upper-division credits transferred from other four-year institutions will count toward the 39-credit requirement.

Residency Requirements for Degrees/Certificates
University of Montana credit is the credit earned in any course which has been approved to be listed in The University of Montana-Missoula catalog and which has been approved for offering by the department chair and dean of the school or college in which the course is taught. University of Montana-Missoula credit may be offered at any location.

Requirements for College of Technology Certificate of Completion and Associate of Applied Science Degree
A minimum of 51% of the required number must be earned from The University of Montana-Missoula.

Requirements for the Associate of Arts Degree
A minimum of 30 credits of the required number must be earned from The University of Montana-Missoula.

Requirements for the First Bachelor Degree
A first bachelor degree is defined as any bachelor degree earned by a student who has not previously earned a bachelor degree from The University of Montana-Missoula. Thus, the requirements below also apply to any student who previously earned a bachelor degree at another institution and now is seeking a bachelor degree from The University of Montana-Missoula.

a) A minimum of 30 credits of the required number must be earned from The University of Montana-Missoula.

b) A minimum of 30 credits of the required number must be earned in study on The University of Montana-Missoula campus.

c) Of the last 45 credits required for the degree, at least 30 of these must be earned from The University of Montana-Missoula. Students attending elsewhere on a University approved exchange may be exempt from this requirement with the prior written approval of their major department chair or dean.

Requirements for the Second Bachelor Degree
In regard to residency requirements, a second bachelor degree is defined as any bachelor degree earned by a student who previously had earned a bachelor degree from The University of Montana-Missoula.

A minimum of 20 credits of the required 30 credits must be earned in study on The University of Montana-Missoula campus.

Credit Maximums
The amount of credit which may be counted toward the minimum credit requirements for the bachelor and associate of arts degrees is limited in certain areas:

<table>
<thead>
<tr>
<th>Credit Maximums</th>
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</thead>
<tbody>
<tr>
<td>R.O.T.C. courses</td>
</tr>
<tr>
<td>(contracted students may present 24 credits)</td>
</tr>
<tr>
<td>Performance music</td>
</tr>
<tr>
<td>(Mus 100A, 115A, 116A, 117A, 215, 216, 218)</td>
</tr>
<tr>
<td>(Music majors and minors may present more)</td>
</tr>
<tr>
<td>Ensemble music</td>
</tr>
<tr>
<td>(Mus 107A-110, 113A-114A and 150A)</td>
</tr>
<tr>
<td>(Music majors and minors may present more)</td>
</tr>
<tr>
<td>Credit/No Credit credits</td>
</tr>
<tr>
<td>Omnibus credits</td>
</tr>
<tr>
<td>Correspondence credits</td>
</tr>
</tbody>
</table>

Credits attempted in these areas which are beyond the maximum applicable will remain on the students' permanent records but cannot be used toward graduation.

Grade Average Requirement
A minimum grade average of 2.00 in all work attempted at The University of Montana-Missoula is required for graduation.

Graduation with Honors or High Honors
Students will be awarded their certificates, associate of applied science, and bachelor degrees with honors if they receive the recommendation of their major department or school and the faculty of The University of Montana-Missoula. At the time of graduation they must have a 3.40 or higher grade average in the following four areas:

1) All work attempted at The University of Montana-Missoula.

2) The combination of all work attempted at The University of Montana-Missoula and all other work, including failing grades, transferred to this University.

3) All work attempted in the major field at The University of Montana-Missoula.

4) The combination of all work attempted in the major field at The University of Montana-Missoula and all other work in the major field, including failing grades, transferred to this University.

Students will be awarded their certificates, associate of applied science, and bachelor degrees with high honors if they have the recommendations mentioned above and, at the time of graduation, have a 3.70 or higher grade average in the four areas listed.

In the School of Law, the grade average for honors is computed on law credits only.
General Education Requirements

To receive a baccalaureate degree all students must complete successfully, in addition to any other requirements, the following General Education Requirements. (Students who have completed an approved lower-division general education program at an approved Montana institution of higher education, refer to the General Education for Transfer Students section of this catalog.)

All courses taken to satisfy General Education Requirements, both Competency Requirements and Distributional Requirements, must be taken for traditional letter grade (A-F).

Competency Requirements:

English Writing Skills:
The faculty of The University of Montana-Missoula requires that all graduates of the University possess the ability to write with clarity of thought and precision of language. Specifically, a graduate’s writing will:
- Communicate a unified message supported by evidence, examples or arguments;
- Develop ideas thoroughly and logically with clear connections among them;
- Have a purposeful organizational plan that befits the message;
- Respond appropriately and effectively to new or given information;
- Use language that is clear and precise;
- Possess a voice that is consistent and appropriate to the audience and purpose;
- Use correct spelling, punctuation and grammar.
To ensure that all graduates have acquired the writing skills outlined above, students should satisfy the following requirements in this order:
1. English (ENEX 101 or its equivalent);
2. One approved writing course;
3. The Writing Proficiency Assessment (WPA), to be taken between 45-90 credits;
4. Upper-division writing course(s) required by the major.

ENEX 101. All students must complete successfully English (ENEX) 101 unless exempted.

Students may be exempted from ENEX 101 by transferring credit verified as an equivalent of ENEX 101 or by score on the UM-Missoula placement exam. Except for those who transfer an equivalent course, students must take the placement exam. On the basis of this exam, students will be placed in ENEX 100 or ENEX 101; or will be exempted.

One Writing Course. All students, unless exempted, must pass an approved writing course (chosen from the following list of approved courses) before attempting the WPA. Students are exempted from this requirement by transferring more than 27 semester credits at the time of their initial registration at the University.

The following courses are designated as Writing courses for 2004-2005. Students are cautioned that approved courses may change from year to year. To be used for General Education, a course must be listed as approved in the catalog and in the Class Schedule for the semester a student registers for it.

Anthropology 340H, 359, 450
Asian Studies 210H, 313L, 314L, 340H, 432
Biology 405, 418, 419
Chemistry 334
Chinese 313L, 314L, 432
Communications 115
Computer Science 415E
Computer Technology 122E
Curriculum and Instruction 187, 318, 352E
Dance 334H, 494
Drama 320, 321,
Economics 350, 440
Environmental Studies 302, 305L, 327E, 367, 373A, 440, 427E
Forestry 220, 340, 342, 422, 489E
French 301, 311L, 312L, 408
Geography 333S, 401, 499
Geology 320N, 499
German 301, 302, 303H, 304H, 311L, 312L
Health and Human Performance 330, 340, 450
Health Sciences 440E
History 107H, 108H, 300, 385, 400, 401, 437, 446, 467, 470, 471, 478, 485
Information Systems 448
Japanese 210H, 311L, 312L, 431L
Journalism 270, 331, 333, 415, 489
Management 348, 444, 445, 446
Marketing 461
Mathematical Sciences 406
Microbiology 418, 419, 420, 421
Music 325H, 420, 421, 422, 423, 424, 425,
Native American Studies 200, 202L, 367H, 368H, 410L, 494
Pharmacy 412, 550
Philosophy 300E, 327E, 427E, 443E, 453, 461, 463
Political Science 300
Psychology 320, 400
Radio-Television 280, 360, 361, 494
Recreation Management 451, 482
Religious Studies 252L, 260H, 276
Russian 301
Social Work 310
Spanish 301, 311L, 312L, 408
University College 270
Wildlife Biology 245, 470
Women’s Studies 336

African American Studies 478
Upper-Division Writing Proficiency Assessment (WPA). All students (including transfer students) who have completed ENEX 101 (or its equivalent or have been exempted), a writing course (or its equivalent or have been exempted), and have completed at least 45 semester credits must take the WPA. Students must pass the WPA in order to graduate. The Assessment is designed to be a "gating exam" to ensure that the student is prepared for the writing required in upper-division major courses. Students are advised to satisfy the writing proficiency assessment prior to completing the upper-division writing requirement in their major.

Students should note the following:
- Students must take the assessment after 45 but no later than 90 credits.
- Transfer students may take the assessment concurrently with either their writing course or the writing requirement(s) in their major.

The WPA consists of a two-hour proctored examination written in response to a text released two weeks prior to the examination date. The assessment is offered seven times annually. For more information on the assessment and copies of the text students should see www.umt.edu/provost/writingassessment.

Upper-Division Writing Requirement. All students must meet the approved upper-division writing requirements specified in their majors. The writing courses offered in each major vary—some students may be required to take only one upper-division writing class offered by their major department; students in a different major may be required to take a group of courses that provide an integrated series of writing expectations; students in yet another major may be required to write a senior thesis. Students must check the writing requirements in the respective majors.

Students should refer to the preceding list of approved writing courses and the appropriate Class Schedule to determine which courses are designated as upper-division writing courses for 2004-2005. Students are cautioned that approved courses may change from year to year. To be used for General Education, a course must be listed as approved in the Class Schedule for the year a student registers for it.

Mathematical Literacy:

The faculty of The University of Montana-Missoula requires that all graduates of the University possess the ability to accomplish basic algebraic manipulations and achieve mathematical literacy at a level typically presented in college mathematics courses. More specifically, a graduate will demonstrate the ability to:
- Formulate real-world problems quantitatively
- Solve quantitative problems
- Interpret solutions to problems
- Make critical judgments regarding the validity of competing formulations and solutions.

To ensure that all graduates have achieved mathematical literacy, students must complete the following program:

1. All students must demonstrate basic skills in mathematics. The mathematical manipulative skills of all students entering The University of Montana-Missoula without credit for an equivalent course in mathematical literacy will be assessed using a placement score. Students then will be placed in an appropriate developmental course or courses in mathematics; MATH 100; a course in mathematical literacy: MATH 107, 109, 117, 121, 130, 150, or 152; or qualify for the Mathematical Literacy Examination.

2. All students must complete a course in mathematical literacy with a grade of C (2.00 quality points) or better: MATH 107, 109, 117, 121, 130 (or a mathematics course for which one of these courses is a prerequisite) or an equivalent unless exempted.

Students who qualify may take the Mathematical Literacy Examination. Passing the Mathematical Literacy Examination satisfies the General Education requirement for Mathematical Literacy.

A score of 50 or higher on the CLEP College Algebra Test or the CLEP College Algebra/Trigonometry Test, administered by the Testing Service, satisfies the General Education requirement for Mathematical Literacy.

Foreign Language/ Symbolic Systems:

Upon completion of the Foreign Language Competency a student will have knowledge of a language other than English sufficient to read and write elementary texts and, when the language is modern, to understand basic speech and to carry on simple conversations.

Upon completion of the Symbolic Systems Competency a student will have sufficient knowledge of a symbolic system to be able to perform elementary operations in the system, including correct notation. The system must have a rigorous and complexity comparable to a spoken language, signed language, math sequence, e.g., MATH 117 and 121, or music sequence, 161 and 162.

All students must complete successfully one of the following requirements.

1. Foreign Language: students must complete successfully the second semester of a foreign language at The University of Montana-Missoula (Arabic, Chinese, French, German, Greek, Japanese, Latin, Russian or Spanish 102; German 112) or demonstrate equivalent skill in any of these or other acceptable languages in testing administered by the Clinical Psychology Center and the Department of Modern and Classical Languages and Literatures. Native American language study may be presented for fulfillment of the symbolic systems requirement through certification by the Department of Modern and Classical Languages and Literatures. International students from non-English speaking countries may satisfy this requirement by presenting a TOEFL score of 580 or greater, or by successful completion of ESL/LING 250 or 450, or by presenting a department approved application for degree.

OR

2. Symbolic Systems: a student must complete successfully one of the following approved sequences in a symbolic system:

Any two of Computer Science 101, 131, 132, 201, 203, 204, 205, 355 (201 may be taken twice if it deals with two different languages) or Computer Technology 121.

Communication Studies 131, 132
Linguistics 270 or 470 and either 471 or 472 (and their cross-listings)
Mathematical Sciences 117, Forestry 201
Mathematical Sciences 117, Curriculum & Instruction/Health and Human Performance 486
Mathematical Sciences 117, Anthropology 381
Mathematical Sciences 117, Psychology 220
Mathematical Sciences 117, Sociology 202
Mathematical Sciences 150, Anthropology 381
Mathematical Sciences 150, Pharmacy 301, 432, 533
Mathematical Sciences 150, Psychology 220
Mathematical Sciences 152, Anthropology 381
Mathematical Sciences 152, Psychology 220
Two Mathematical Sciences courses numbered higher than 109
One Mathematical Sciences course numbered 150 or above
Music 111, 112, 137, 138
Music 161, 162
Philosophy 210, 211
Distributional Requirements:

Students must complete successfully 27 credits in the following six perspectives. A minimum of two credits is required from each perspective, except for Perspective 6 in which six credits are required. A maximum of six credits from each perspective will count toward the General Education requirement; credit taken above this limit will count toward graduation but not toward General Education.

At least one course completed from Perspectives 1 through 5 must be non-western. That course also will count toward that perspective. Upon completion of a non-western course, a student will be able to discuss some aspect of the creative works, values, ways of life and/or history of a non-western culture.

At least one course completed from Perspective 6 must include a laboratory experience.

The following courses have been approved for 2004-2005. Students are cautioned that approved courses may change from year to year. To be used for General Education credit, a course must be listed as approved in the Class Schedule for the semester a student registers for it.

**Perspective 1 Expressive Arts:**

These courses involve the student in the creation of a work of art or an artistic performance. They teach the skills involved in its creation as well as a conceptual basis for making qualitative judgements about the work.

Upon completion of this perspective, through the creation of original works of art or artistic performances, students will be able to:

1. apply the techniques and processes of the medium.
2. incorporate the structures and forms of the artistic language to convey meaning.
3. reflect upon and critically assess the merits of their work and the work of others.
4. perceive and articulate the relevance of artistic expression in the human experience.

Note that many of these courses are repeatable.

Communication Studies 111A
Communications 160A
English 210A, 211A 310A, 311A
Environmental Studies 373A
Media Arts 111A

**Perspective 2 Literary and Artistic Studies:**

These courses bring the student into contact with significant works, enhance critical abilities, and explore the historical, technical, emotional, philosophical or social questions the work may raise.

Upon completion of this perspective, a student will be able to:

1. analyze literary and artistic works with respect to internal structure, merit, and significance within a literary or artistic tradition.
2. understand intellectual substance of a work by identifying the author’s historical, philosophical, psychological, political, and/or social concepts and concerns.

3. critically assess the intellectual traditions reflected in a particular work.

Art 100L, 150L, 151L, 381L, 403L
Communication Studies 250L
Drama 101L, 166L 220L
Environmental Studies 305L
French 311L, 312L
German 311L, 312L, 313L, 361L
Honors College 121L
Media Arts 101L
Music 132L, 133L, 134L, 135L, 166L
Philosophy 340L
Religious Studies 252L
Russian 305L, 306L
Spanish 311L, 312L, 450L
Non-Western:
AS 313L, 314L, 432L
Chinese 313L, 314L, 432L
Dance 434L, 435L
English 429L
Japanese 311L, 312L, 431L
Liberal Studies 311L, 313L, 314L, 432L
Modern and Classical Literatures 311L, 312L, 313L, 314L, 380L, 431L, 432L
Native American Studies 202L, 410L

**Perspective 3 Historical and Cultural Studies:**

These courses present the historical or cultural context in which ideas can be illuminated, examine cultural development or differentiation in the human past and avoid focus on a narrow period, topic or geographical area. Courses are either western, emphasizing Greco-Roman, Judeo-Christian, European-American experiences; or nonwestern.

Upon completion of this perspective, a student will be able to:

1. evaluate documents within a historical and/or cultural framework.
2. synthesize ideas and information with regard to historical causes, the course of events, and their consequences.
3. analyze human behavior, ideas and institutions for historical and cultural meaning and significance.

African-American Studies 278H, 378H, 379H
Anthropology 100H, 324H
Dance 334H
Environmental Studies 167H
German 303H, 304H, 362H
Modern and Classical Literatures 100H, 231H, 301H, 302H, 303H, 330H, 331H, 360H
Music 324H, 325H
Native American Studies 324H
Philosophy 119H, 251H, 252H
Perspective 4 Social Sciences:
These courses bring the systematic study of society to bear on the analysis of social problems and structures while giving considerable attention to the ways in which conclusions and generalizations are developed and justified.

Upon completion of this perspective, a student will be able to:
1. describe the nature, structure and historical development of human organizations and/or relationships.
2. comprehend the role of theory in explaining social phenomena.
3. generate and/or interpret social science data.
4. assess and evaluate the significance of social phenomena.

Anthropology 180S, 250S, 328S, 343S, 385S, 420S, 473S

Business 103S
Business Administration 100S

Communications 150S
Economics 100S, 111S, 112S, 302S, 345S
Environmental Studies 270S
Forestry 280S, 380S
Geography 101S, 103S, 201S, 315S, 333S, 412S
Journalism 100S
Linguistics 473S
Management 340S
Military Science Leadership 101S
Political Science 146S
Political Science 100S, 120S
Psychology 100S, 240S, 260S, 265S, 330S, 335S, 350S, 351S
Psychology 100S, 110S
Recreation Management 110S, 370S
Religious Studies 130S,
Social Work 100S, 322S, 420S, 455S
Women’s Studies 275S

Non-Western:
Anthropology 220S, 251S, 326S, 329S, 341S
Asian Studies 202S, 212S, 213S, 214S
Communication Studies 451S

Perspective 5 Ethical and Human Values:
Students are required to take between 2 and 6 credits in Perspective 5.

Upon completion of a core course in ethical and human values, students should:
1. understand central ethical norms of society; understand the foundational moral reasoning and historical origins of these norms; be conversant with the treatment of moral issues according to these norms.
2. understand some of the limits of these norms and be familiar with some alternatives to them.
3. be able to defend held ethical commitments with the ability to identify and articulate the underlying ethical positions that inform them.

Upon completion of a specialized course in ethical and human values, students should:
1. be able to identify and interpret the codes, conventions, or particular value base of the profession or discipline under consideration;
2. be able to analyze those codes and conventions or value bases so to understand them within the context of the group and within larger society; and
3. have considered agency requirements for practitioners or stewards within the field;

Or
4. have explored, for at least one-half of the course time, the ethical dimensions of particular issues of a particular subject matter. Subject matter might include topics such as artistic expression, environment, forgiveness, non-violence, public policies, and terrorism, as well as issues that arise within professional contexts.

Core:
Curriculum and Instruction 352E
Forestry 489E
History 335E
Liberal Studies 325E
Modern and Classical Literatures 365E
Philosophy 200E, 201E, 300E
Political Science 150E, 350E

Specialized:
African-American Studies 368E
Anthropology 480E
Communications 210E
Computer Science 415E
Computer Technology 122E
Curriculum and Instruction 407E
Environmental Studies 327E, 427E
Health and Physical Education 475E
Health Science 440E
History 226E, 334E, 460E
Liberal Studies 350E
Military Science Leadership 402E
Pharmacy 514E
Philosophy 223E, 325E, 327E, 421E, 422E, 427E, 429E, 441E, 443E

28 - Academic Policies and Procedures
Political Science 130E, 353E, 433E
Social Work 410E
Surgical Technology 204E
Specialized Non-Western:
Native American Studies 301E, 303E
Religious Studies 301E

Perspective 6 Natural Sciences:
These courses present scientific conclusions about the structure and function of the natural world; demonstrate or exemplify scientific questioning and validation of findings.
Upon completion of this perspective, a student will be able to:
1. use both creative and critical scientific questioning, and validation of scientific findings.
2. use the methodology and activities scientists use to gather, validate and interpret data related to natural processes.
3. detect patterns, draw conclusions, develop conjectures and hypotheses, and test them by appropriate means and experiments.
4. identify laws and rules related to natural processes by quantitative measurement, scientific observation, and logical/critical reasoning.

Courses which include laboratory experience:
Astronomy 134N, 135N
Biology 100N, 102N, 104N, 107N, 120N, 312N, 313N
Chemistry 101N, 154N, 161N, 162N
Forestry 210N, 241N
Geology 101N
Microbiology 107N
Physics 121N, 122N, 221N, 222N
Science 119N
Science 225N, 226N

Courses which do not include laboratory experience:
Anthropology 260N, 261N, 265N, 267N, 460N
Astronomy 131N, 132N
Biology 101N, 103N, 105N, 106N, 121N, 201N, 265N
Chemistry 151N, 152N

Environmental Studies 101N
Forestry 170N, 240N, 271N
Geography 102N, 112N, 322N, 426N
Geology 100N, 102N, 103N, 105N, 106N, 109N, 320N
Health and Human Performance 236N
Microbiology 105N
Pharmacy 110N
Physics 141N
Psychology 270N
Science 115N, 150N
Wildlife Biology 105N

General Education for Transfer Students
Students transferring credits from other institutions must meet all requirements by transfer, by examination, or by completing courses at The University of Montana-Missoula. Courses taken at The University of Montana-Missoula to satisfy General Education must be taken for a traditional letter grade (A-F). According to Board of Regents policy, students who can demonstrate that they have completed an approved lower-division general education requirement at an approved Montana institution of higher education will be deemed to have completed general education requirements except for the upper-division writing proficiency assessment and the upper-division writing requirements in their majors.
Transfer students who believe they have completed an approved lower-division general education requirement at another Montana school should request that the registrar of the other school send a letter to the University Registrar’s Office certifying that the requirement has been met.
Students who have completed a bachelor degree at the University or elsewhere will be presumed to have completed the General Education Requirement.

Enrollment Services will evaluate all transfer credits for General Education credit. Students who wish to appeal that evaluation may petition the Graduation Appeals Subcommittee of the Academic Standards and Curriculum Review Committee, but such petitions must be initiated during the first semester of the student’s attendance following that evaluation.

Major and Minor Requirements

Major Requirements
Declaring a Major and Changing a Major
Students indicate on the application for admission the major or majors in which they are interested. Students undecided as to a field of interest may elect a General Studies major while making program and career decisions. Students must declare a major in a degree-granting program prior to obtaining upper-division status (60 credits). Students must complete a major in order to earn a degree or certificate.
Students may change their majors or minors by obtaining the proper approval on a change of major or minor form available from the Registration Counter in Griz Central in the Lommasson Center. Because of enrollment limitations, students must request a change to a program in the College of Technology by completing an application for admission and submitting it to the College. Students whose initial admission was to the College of Technology may change to a major outside the College by submitting an application for admission to Enrollment Services-Admissions & New Student Services in the Lommasson Center.

Credits Required for a Major
Students in a bachelor degree program must complete a minimum of 30 credits in their major. Most majors require more.
Students may elect to earn a single degree with more than one major. Students may complete a double major (two majors) or any number of majors. All requirements for the majors must be completed even though students will receive a single degree such as a Bachelor of Arts with majors in Psychology and Sociology. It is only necessary to complete the total credit requirement for a single bachelor degree.
Courses completed to satisfy the requirements of a major also may be applied toward the General Education Requirement if they appear on the list of approved courses at the time they are taken.

Students in programs in the College of Technology complete requirements as listed in the College section of this catalog. See index.

Credit Limitations in a Major
A maximum of 60 credits in the student's major may be counted toward the baccalaureate degree, except some options in Health and Human Performance and Education, majors in Computer Science, and majors in the Schools of Business Administration, Fine Arts, Journalism, Law, Pharmacy and Allied Health Sciences and the College of Forestry and Conservation are allowed more. Students with combined majors, as opposed to two majors, are allowed to apply 75 credits in the major.

Grade Average Requirement
A minimum grade average of 2.00 in all work attempted in the major at The University of Montana-Missoula is required for graduation.

Options
Groups of courses have been identified which lead to a specialization within one major or between two or more majors. These specializations are called options. The names of approved options will be recorded on the permanent records of those students who have satisfactorily completed the requirements as given in the catalog governing their graduation. A student desiring a particular option must satisfy the requirements of the major offering it. If one option is offered within two or more majors, the student must satisfy the requirements of only one.

Only courses listed within the supporting major count toward the 60-credit-limitation in the major. Courses in other fields do not count toward the maximum of 60 credits in the major even though they may be required or elected for the options.

If one major has two or more options, a student may satisfy the requirements for more than one option so long as the maximum credit limitations are observed.

Minor Requirements
Baccalaureate students may elect to complete one or more minors in fields outside their majors. Minors may be in fields unrelated to students' majors or they may be complementary or supportive of majors. A student may not take a minor in the same field of study as his or her major.

A student will not be required to satisfy the requirements of a minor in order to graduate unless that minor is required by the student's major department or school.

Courses completed to satisfy the requirements of a minor also may be applied toward the General Education Requirement if they appear on the list of approved courses at the time they are taken.

Credits Required for a Minor
To complete a minor, students must earn at least 18 credits in an approved minor listed in this catalog and complete a baccalaureate degree.

Students possessing a baccalaureate degree from an accredited college or university may earn a minor if they have been accepted by the University as an undergraduate degree student. In addition to meeting minor requirements, students must earn from The University of Montana-Missoula a minimum of 9 credits in the minor field and 15 credits overall.

Grade Average Requirement
A minimum grade average of 2.00 in all work attempted in the minor at The University of Montana-Missoula is required for graduation with the minor.

Teaching Minors
Teaching minors are separate entities from degree minors as described in this section. Teaching minors are identified and requirements listed in the School of Education section of this catalog.
Davidson Honors College

Betsy Wackernagel Bach, Interim Dean

The Davidson Honors College is a campus-wide association of faculty and students united by a common concern for academic and personal excellence. Its mission is to foster intellectual and civic values, and to support the best possible teaching and learning circumstances for participating faculty and students.

The College offers an academic and social home to motivated and talented students as they pursue their undergraduate education. Students from all major areas in the College of Arts and Sciences and the professional schools are welcome, as well as students undecided about a major. Honors is not a major in itself, but an enhancement to General Education in the liberal arts and sciences as well as to virtually all undergraduate majors on campus.

The new Honors College building, at the center of the campus, provides a large student lounge, study rooms, classrooms and a computer center for student use. Additionally, the new Instructional Technology Resource Center (ITRC), located in the Davidson Honors College lower level, provides Honors College faculty and students with a state-of-the-art technology resource for possible collaborative work. The Honors Students’ Association plans and conducts a variety of social and academic activities as well as community service projects throughout the year. A special Honors dormitory floor is available. The Davidson Honors College also sponsors The University of Montana Volunteer Action Services, an office that coordinates student service activities in the community and beyond, and supports the integration of community service experience into the academic curriculum.

Curriculum

As they pursue their undergraduate education, students in the Davidson Honors College are asked to focus on three broad themes:

-Community

-Communication

-Leadership

Honors students are encouraged to pursue these themes inside the classroom and out, in their work and their recreation, in volunteer service, membership in clubs and organizations, participation in campus and civic governance, in independent study, pursuit of their hobbies and interests, and in formal course work.

Honors courses are limited in enrollment to 20-25 students and usually are conducted in a discussion or seminar format, emphasizing critical thinking, the development of written and oral communication skills, direct contact with the faculty, and use of original texts or “hands-on,” participatory experience. These courses are taught by outstanding faculty selected according to their department’s standards of excellence. Course offerings vary somewhat and represent many academic departments and subject areas. Honors courses typically fulfill General Education and many common major requirements.

Some Honors courses are offered as a part of Learning Communities or Freshman Interest Groups. In these groupings, a cohort of students enrolls for the same two or three courses in a given semester. Each class meets separately with its own instructor, but the same students are in all classes. Frequently in contact with one another and dealing with the same issues daily, these students tend to have a more intense learning experience than those in individual classes.

At the junior and senior level students are offered a selection of honors seminars. These seminars are open to students from all disciplines. The aim of these seminars is to assist students in applying different methods of inquiry and research, in using the insights of various disciplines, in integrating the students’ knowledge, and in developing well-informed personal stances toward the material and issues studied.

In their last year, students complete an honors thesis or project, assuming responsibility, together with a faculty mentor, for a significant undertaking in the civic or intellectual world. This project may coincide with a departmental requirement, and is intended to prepare students to fulfill roles of intellectual, moral, cultural or social leadership as they realize their places in society.

Assessment of Personal and Academic Goals

A college education invites students to formulate goals and reflect on their progress toward attaining them. Davidson Honors College students are responsible for evaluating their aims and attainments from year to year in collaboration with an advisor. Entering students are asked to assess their abilities and resources and begin to formulate interests and aims in light of the themes of community, communication and leadership mentioned above.

Requirements

Davidson Honors College students are required to complete a minimum of seven honors courses, including HC 121L and a senior honors project (may be counted as one honors course). Details are available in the Davidson Honors College office or on the DHC web site.

It also is recommended that all students include in their curriculum at least one course or seminar or independent study project which includes an experience of volunteer community service.

To maintain good standing in the College, students must take at least one honors course per year and maintain an overall cumulative grade point average of 3.0 or above. Academic progress is reviewed each semester. Those with strong grades are commended, and those whose grades are below the 3.0 standard are given an academic warning. A student whose cumulative grade point average falls below 3.0 is placed on academic probation and remains in this status until the cumulative grade point average rises to 3.0 or higher. Suspension from the Honors College occurs when the term grade point average of a student on probation is below 3.0. A suspended student may be reinstated when the cumulative grade point average rises to 3.0 or higher.

Graduation through the Davidson Honors College requires a cumulative grade point average of 3.0 or higher, and 3.4 in the major field. Upon successful completion of the requirements, students will receive their bachelor degrees as "University Scholars" in their respective majors and have this noted on their diplomas. Graduation through the Davidson Honors College is not connected with the distinctions "with honors" and "with high honors" bestowed on the recommendation of major departments according to certain grade point averages and/or on the basis of exams or other means of assessment in the senior year.

Scholarships

The Davidson Honors College administers the Presidential Leadership Scholarships for incoming freshmen, and several other scholarship programs for currently enrolled students. For further information about these scholarship programs, contact the Honors College. Honors students and those transferring from other institutions are eligible for the general scholarship program. For further information, contact the Financial Aid Office.

The Honors College also coordinates University of Montana participation in the National Merit Scholarship program. Four-year awards are available to finalists who have indicated UM as their first choice for attending college, as well as to semi-finalists. Interested students should contact the Honors College for details as soon as they know their status in the competition.
Eligibility and Application

Admission to the Honors College is open to students who present evidence of strong motivation and abilities. Ordinarily, these can be attested to by standing in the upper 10 percent of the high school graduating class, or ACT composite scores of 27 or higher or SAT combined scores of 1150 or higher. Transfer students should have a grade point average of 3.4 or higher. These criteria are not absolute, however, and motivated students are encouraged to apply.

Applications are invited from non-traditional students, those from minority backgrounds, and those whose experience of formal education may not reflect their abilities and motivation. Evaluation of all applications will consider not only numerical data but character and life experience as well. Priority consideration will be given to applications received before February 1.

Admission to the Davidson Honors College is a separate process from admission to The University of Montana. To obtain an application form, contact:

The Davidson Honors College
The University of Montana
Missoula, MT 59812
Phone: (406) 243-2541
e-mail: dhc@selway.umt.edu
web page: http://www.dhc.umt.edu

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Honors College (HC)

U 121L Ways of Knowing 3 cr. Offered autumn and spring. A critical assessment of contrasting epistemological stances expressed in various views of God, nature and the self.

U 194 Introduction to Honors Variable cr. (R-6) Prereq., consent of instr. Interdisciplinary offerings by various faculty. Orientation to practical and theoretical issues facing students entering college.

U 195 Special Topics Variable cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196 Independent Study Variable cr. (R-6) Prereq., consent of instr.

U 198 Cooperative Education Experience Variable cr. (R-6) Prereq., consent of instr. Practical application of classroom learning during placements off campus.

U 295 Special Topics Variable cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 298 Cooperative Education Experience Variable cr. (R-6) Prereq., consent of instr. Practical application of classroom learning during placements off campus.

U 395 Special Topics Variable cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

U 398 Cooperative Education Experience Variable cr. (R-6) Prereq., consent of instr. Practical application of classroom learning during placements off campus.

U 496 Independent Study Variable cr. (R-3) Prereq., consent of instr.

U 498 Cooperative Education Experience Variable cr. (R-6) Prereq., consent of instr. Practical application of classroom learning during placements off campus.

U 499 Honors Thesis/Project Variable cr. (R-9) Prereq., consent of thesis/project director and dean of Honors College.

Faculty

Professor

Betsy Wackernagel Bach, Ph.D., University of Washington, 1985 (Interim Dean)

Adjunct Assistant Professor

Sean O’ Brien, Ph.D., University of Colorado, 1989 (Philosophy; Advisor)
The largest and most broadly based academic unit of the University, the College of Arts and Sciences fulfills the central purpose for which the University was chartered in 1893:

"To provide the best and most efficient manner of imparting...a liberal education and thorough knowledge of the different branches of literature, science and the arts."

A liberal education gives students the means to test ideas, beliefs and facts. It empowers them to a variety of academic disciplines that will broaden and deepen their perspectives and enable them as educated citizens to continue the learning process. It teaches them how to apply what they have learned. By studying the ways of thinking and expression that are intrinsic to the arts, humanities, and social and natural sciences, students are prepared in scientific methods, critical thinking, analysis, synthesis, and cogent expression, and are helped to develop intellectual skills, humanistic understanding and aesthetic appreciation. Such an education increases the usefulness of career planning and specialization by laying a foundation for lifelong values.

A particular strength of the College is the breadth of its disciplines and programs. This breadth makes possible a varied and flexible curriculum that advances both general programs and specialized education on the undergraduate and graduate levels. Another strength is the quality of the faculty. Its members have a distinguished record of teaching, publication, service to professional societies and national organizations, and participation in consulting, extension and outreach programs. Their commitment to undergraduate liberal education is demonstrated by the quality of the graduates the College has produced. The pre-professional education received here has enabled The University of Montana graduates to compete successfully for admission to graduate schools across the nation. A third strength of the College is its commitment to students as they pursue their academic studies at the University. This is reflected in close student/faculty relationships and in the continuous attention given by the College to the effect that policies, procedures, programs, and faculty and administrative structures have on students’ educational experience.
African-American Studies

African-American studies at The University of Montana-Missoula offers a broad historical link of African and African-American (including Latin America and the Caribbean) experiences and perspectives into the 21st century. The goal of the African-American Studies curriculum is to develop basic knowledge of, and appreciation for, the diverse experiences of the African diaspora, and their contributions to the nations into which they were incorporated. The interdisciplinary curriculum of African-American Studies includes course offerings from the following academic disciplines: anthropology, history, and performing arts, economics, geography, international studies, political science, Native American studies, Asian studies, psychology, and sociology. Some topics of study include: African heritage and cultural continuity among African-Americans; African-American identity issues and cultural variation; the history of African-American protest and resistance, including the abolitionist, anti-lynching, and civil rights movements; the Harlem Renaissance; the social dynamics of integration and segregation; and the various circumstances of, and prospects for, African-Americans in the 21st century.

Requirements for a Minor

The African-American studies minor is an interdisciplinary program requiring twenty-seven (27) credits drawn from a combination of disciplines—history, anthropology, English, sociology, geography, economics, and political science.

A. African-American Core Courses

12 credits required from the following:

AAS 195: Special Topics, Introduction to African American Studies
AAS 208H Discovering Africa
AAS 378H African American History to 1865
AAS 379H African American History Since 1865

6 credits required from the following electives:

AAS 195 Special Topics
AAS 278H African American Institutions and Perspectives
AAS 295 Special Topics: Abolitionism
AAS 395 Special Topics
AAS 408 Africa and the Black Diaspora
AAS 478 Martin, Malcolm and the Civil Rights Movement
AAS 493 Omnibus
AAS 495 Special Topics

B. Electives

9 credits required from at least two of the following fields:

Geography
277S Africa

History
283H Islamic Civilization: The Classical Age
359 Topics in 20th Century U.S. History
361H The American South: From Slavery to Civil Rights
362 African American Struggle for Equality
363H History of American Law
388H Africa to 1800
389H African since 1800
409 History of Southern Africa
470 Women and Slavery
471 Southern Women in Black and White

Sociology
200 Social Stratification
220S Race, Gender and Class
322 Sociology of Poverty

Political Science
326H Politics of Africa

Economics
350 Economic Development

English
337 African-American Literature

Anthropology
180S Race and Minorities
329S Social Change in Non-Western Societies
385S Indigenous Peoples and Global Development

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

African-American Studies (AAS)

U 195 Special Topics Variable cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 208H Discovering Africa 3 cr. Offered intermittently. Same as HIST 208H. Interdisciplinary study of the history of pre-colonial Africa, focusing on social, economic, political and cultural institutions and traditions including the wealth, diversity and complexity of ancient and classical African civilizations and cultures.

U 278H African American Institutions and Perspectives 3 cr. Offered intermittently. Study of social, political, economic and cultural institutions that Blacks developed and utilized in their struggles from slavery to freedom, and the ideological schools of thought and perspectives that have defined, and continue to define and shape, the Black experience and struggle.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 368E Gandhi and King: Ethics of Nonviolence 3 cr. Prereq: lower-division course in Perspective 5 or consent of instr. An examination of the writings of Gandhi and King in search of the ethical basis for their struggles for justice.

U 378H African American History to 1865 3 cr. Offered intermittently. Same as HIST 378H. Survey of the African American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism.

U 379H African American History Since 1865 3 cr. Offered intermittently. Same as HIST 379H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges.

U 388H Africa to 1880 3 cr. Offered intermittently. Same as HIST 388H. History of Africa from the earliest of times. Evolution of African societies and states, social, economic, political, and cultural developments; the dynamics, nature and consequences of Africa's interaction with Europe up to 1880.
Students must complete the undergraduate anthropology courses and the quantitative course with a letter grade of C (2.00) or better. Six additional credits must be selected from Subarea II, III, or IV.

Students must complete the undergraduate anthropology degree requirements by choosing 12 other elective credits in anthropology or approved cognate courses.
Forensic Anthropology Option

For a degree in anthropology with an option in forensic anthropology, the student must meet all the general requirements for the major and the following courses:

- **Fundamental Courses, 6 Credits:**
  - ANTH 261N Survey of the Forensic Sciences
  - SOC 230S Criminology or 235 Criminal Justice System

- **Upper-Division Courses, 6-9 Credits:**
  - ANTH 460N Human Variation
  - ANTH 353 Archaeological Field Methods or equivalent (Documented successful completion of a volunteer or paid experience in archaeological field methods.)
  - ANTH 462 Principles of Forensic Anthropology

**Additional Upper-Division Elective Credit in Anthropology from Subareas II, III, or IV, 9-12 Credits.** Students also are encouraged to take additional credits in Biology, Chemistry, Sociology, Pharmacy, and Psychology in consultation with their advisor. In particular, the following classes are appropriate:

- Anatomy & Morphology, BIOL 212N, 213N, 306, 403
- Cell & Molecular Biology, BIOL 221, 222; MCB 404, 405
- Chemistry, CHEM 161N, 162N, 341, 342, 221, 222
- Criminology/Sociology SOC 330S, 332, 333, 334, 335, 435, 438
- Pharmacology, PHAR 110N
- Psychology, PSYC 330S, 335S, 350S, 351S, 385, 423

Linguistic Option

For a degree in anthropology with an option in linguistics, the student must meet all the general requirements for the major and complete an additional 12 credits from the following courses:

- LING 471 Phonology and Morphology
- LING 472 Generative Syntax and Semantics
- LING 474 Language History, Variety, and Change
- LING 475 Linguistics Field Methods
- ANTH 473S Language and Culture
- ANTH 484 North American Indian Linguistics

Suggested Course of Study

Anthropology is a liberally based discipline and majors are urged to acquire a broad background especially in the natural and social sciences and the humanities. Recommended areas of study are biology, economics, English, geography, geology, history, communication studies, linguistics, Native American studies, philosophy, political science, psychology, religious studies, and sociology.

**Suggested course of study for students selecting the general curriculum in Anthropology without an option:**

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<tr>
<th>First Year</th>
<th>Second Year</th>
<th>Third Year</th>
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<td>ANTH 267N</td>
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<td>ANTH 343S</td>
<td>ANTH 250S</td>
<td>ANTH 220S</td>
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<td>Culture and Population</td>
<td>Introduction to Archaeology</td>
<td>Comparative Social Organization</td>
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<td>ANTH 388</td>
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<td>ANTH 260N</td>
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<td>Native American Health and Healing</td>
<td>Culture and Identity</td>
<td>Introduction to Physical Anthropology</td>
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<td>ANTH 420S</td>
<td>ANTH 460N</td>
<td>ANTH 270</td>
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<td>Human Behavioral Ecology</td>
<td>Human Variation</td>
<td>Introduction to Linguistics</td>
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<td>ANTH 444</td>
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<td>Culture, Health, and Healing</td>
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<td>ANTH 460N</td>
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**Subarea I: World Societies and Cultures**

- ANTH 251S Foundations of Civilization
- ANTH 330H Peoples and Cultures of the World
- ANTH 323H Native Peoples of Montana
- ANTH 351H Archaeology of North America
- ANTH 352 Archaeology of Montana
- ANTH 354H Mesoamerican Prehistory

**Subarea II: African-American Studies, Asian Studies, Native American Studies or Women’s Studies**

**Subarea III: Anthropology, History, or Sociology**

- ANTH 257 Human Variation
- ANTH 328S Culture Identity
- ANTH 460N Human Variation

**Subarea IV: Concepts and Issues**

- ANTH 326 Religious Belief System
- ANTH 327 Anthropology of Gender
- ANTH 328S Culture and Identity
- ANTH 329S Social Change in Non-Western Societies
- ANTH 340H Contemporary Issues of Southeast Asia
- ANTH 341S Contemporary Issues of Native Peoples
- ANTH 366 Primitology
- ANTH 367 Visual Anthropology, Primates
- ANTH 385S Indigenous Peoples and Global Development
- ANTH 446S Culture, Family Systems, and Marriage
- ANTH 470 Introduction to Linguistic Analysis
- ANTH 473S Language and Culture
- ANTH 484 North American Indian Linguistics

**Anthropology or cognate electives, 12 Credits**

**Upper-Division Writing Expectation**

The upper-division writing expectation must be met by taking an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

**Archaeology Option**

For a degree in anthropology with an option in archaeology, the student must meet all the general requirements for the major and the following courses:

- ANTH 333
- ANTH 355
- ANTH 450
- complete 6 credits in one of the following allied disciplines: biology, geography, or geology
- complete 6 credits in one of the following allied disciplines: computer science, environmental studies, forestry, history, or mathematical sciences.

**Cultural and Ethnic Diversity Option**

For a degree in anthropology with an option in cultural and ethnic diversity, the student must meet all the general requirements for the major and the following courses:

- ANTH 180S Race and Minorities
- ANTH 267N Human Genetics
- ANTH 328S Culture and Identity
- ANTH 460N Human Variation
- complete 6 credits, with advisor approval, in one of the following disciplines: anthropology, history, or sociology
- complete 6 upper-division credits, with advisor approval, in one of the following allied disciplines: African-American Studies, Asian Studies, Native American Studies or Women’s Studies.
## Requirements for a Minor

To earn a minor in anthropology the student must complete the core courses. Afterward, the student must complete one upper-division course in Subarea I and one upper-division course from Subareas II, III, or IV.

**Lower-Division Core Courses, 12 Credits**
- ANTH 220S Comparative Social Organization
- ANTH 250S Introduction to Archaeology
- ANTH 260N Introduction to Physical Anthropology
- ANTH 270 Introduction to Linguistics
- Subarea I, 3 Upper-Division Credits
- Subareas II, III, or IV, 3 Upper-Division Credits

## Courses

\( U = \) for undergraduate credit only, \( UG = \) for undergraduate or graduate credit, \( G = \) for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

### Anthropology (ANTH)

- **U 100H Introduction to Latin American Studies** 3 cr. Offered autumn. Same as MCLG 100H. Multi-disciplinary survey and introduction to Latin America from pre-Columbian times to the present.
- **U 101H Introduction to Anthropology** 3 cr. Offered autumn and spring. Offered intermittently in summer. A survey of anthropology which introduces the fundamental concepts, methods and perspectives of the field. The description and analysis of human culture, its growth and change. The nature and functions of social institutions.
- **U 180S Race and Minorities** 3 cr. Offered autumn even-numbered years. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.
- **U 195 Special Topics** Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- **U 198 Cooperative Education Experience** Variable cr. (R-12) Offered every term. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.
- **U 220S Comparative Social Organization** 3 cr. Offered autumn. Study of social organization of non-western societies; emphasis on variations in ecology, social structure, economic, political and religious beliefs and practices.
- **U 231 Indigenous World View Perspectives** 3 cr. Offered spring even-numbered years. Same as NAS 231. Examination of indigenous belief systems, with regard to world views, religious ceremonies, cultural ways and the impact that Anglo-European culture has had upon these systems. Focus on indigenous peoples of Australia, New Zealand, and Canada and the United States.
- **U 250S Introduction to Archaeology** 3 cr. Offered spring. What archaeologists do and how they reconstruct past human cultures. Methodological and theoretical approaches to understanding and explaining past human societies.
- **U 251S Foundations of Civilization** 3 cr. Offered spring. Focus on the worldwide evolution of human society from Stone Age hunter-gatherers to the beginnings of modern civilization. Approached through the colorful and exciting world of archaeologists and the sites they excavate.
- **U 260N Introduction to Physical Anthropology** 3 cr. Offered autumn. An introduction to human evolutionary biology including processes of evolution, primate studies, hominid paleontology, and human variation.
U 261N Survey of the Forensic Sciences 3 cr. Offered spring. A survey of the forensic sciences and related disciplines and their use in criminal investigations, the role of forensic scientists in the investigative process and as expert witnesses.

U 265N Human Sexuality 3 cr. Offered spring. Same as BIOL 265N. Biological, behavioral, and cross-cultural aspects of human sexuality to help students place their own sexuality and that of others in a broader perspective. Includes sexual anatomy, physiology, development, reproduction, diseases, sex determination, as well as gender development and current issues.


UG 270 Introduction to Linguistics 3 cr. Offered every autumn and spring. Offered intermittently in summer. Same as ENLI 270. Introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.

UG 293 Omnibus Variable cr. (R-10) Offered intermittently. Independent work under the University omnibus option. See index.

UG 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings relating to current problems or new developments in the discipline.

UG 323H Native Peoples of Montana 3 cr. Offered spring even-numbered years. The history and culture of the Indian tribes in Montana.

UG 324H Indians of Montana Since the Reservation Era 3 cr. Offered autumn odd-numbered years. Same as NAS 324H. Examination of the history of Montana Indians since the establishment of the reservations and contemporary conditions and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.

UG 326 Religious Belief Systems 3 cr. Offered autumn even-numbered years. Theories and practices concerning supernatural phenomena found among non-literate peoples throughout the world.

UG 327 Anthropology of Gender 3 cr. Offered spring odd-numbered years. Same as WS 327. Comparative study of the history and significance of gender in social life.

UG 328S Culture and Identity 3 cr. Offered autumn odd-numbered years. Prereq., ANTH 220S or consent of instr. The comparative study of identity formation along and across racial, ethnic, and ethno-national lines. Emphasis on issues of ethogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalities and differences in identity formation.

UG 329S Social Change in Non-Western Societies 3 cr. Offered spring odd-numbered years. Prereq., ANTH 220S or consent of instr. Study of the processes of change, modernization and development.

UG 330H Peoples and Cultures of the World 3 cr. (R-9) Offered autumn and spring even-numbered years. Study of the peoples of various geographic regions and their cultures.

UG 340H Contemporary Issues of Southeast Asia 3 cr. Offered autumn odd-numbered years. Prereq., ANTH 220S or AS 101H or AS 102H. Same as AS 340H. An examination of the major issues that affect the contemporary experience of the Southeast Asians.

UG 341S Contemporary Issues of American Indians 3 cr. Offered intermittently in spring. Same as NAS 341S. An examination of the major issues that affect the contemporary experiences of American Indians.

UG 342 Economic Anthropology 3 cr. Offered spring even-numbered years. Prereq., ANTH 101H or 220S or consent of instr. A comparative study of production, social reproduction, exchange and value cross-culturally and in historical perspective.

UG 343S Culture and Population 3 cr. Offered spring odd-numbered years. The relationship between population processes and culture to the human condition; survey data, methodologies, theories of demographic and culture change.

UG 351H Archaeology of North America 3 cr. Offered autumn even-numbered years. The origins, backgrounds and development of Pre-Columbian American peoples and cultures.

UG 352 Archaeology of Montana 3 cr. Offered spring even-numbered years. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.

UG 353 Archaeological Survey Variable cr. (R-12) Prereq., ANTH 101H, 220S and consent of instr. Offered any semester in which field parties are organized. A field course in Montana archaeology.

UG 354H Mesoamerican Prehistory 3 cr. Offered spring even-numbered years. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures.

UG 355 Artifact Analysis 3 cr. Offered spring odd-numbered years. Prereq., Anth 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.

UG 357H Archaeology of the Southwestern United States 3 cr. Offered spring odd-numbered years. The development of the prehistoric communities in the southwestern United States from ancient times to the dawn of history in the area.

UG 359 Seminars in Archaeology 3 cr. (R-6) Offered spring. In-depth research and discussion of selected areas in archaeology.

UG 365 Human Evolution 3 cr. Offered autumn even-numbered years. Prereq., ANTH 260N. An exploration of the fossil and archaeological records of the evolution of human beings, and of current methods and theories used in interpreting these data.

UG 366 Primatology 3 cr. Offered autumn odd-numbered years. Prereq., ANTH 260N. Review of the evolution, anatomy, and behavior of monkeys, apes, and other members of the order Primates.

UG 367 Visual Anthropology of Primates 1 cr. Offered autumn odd-numbered years. An exploration of primates using videos and films.

UG 381 Anthropological Data Analysis 3 cr. Offered autumn odd-numbered years. Prereq., college algebra or consent of instr. An analysis of the foundations of anthropological scaling and measurement.

UG 385S Indigenous Peoples and Global Development 3 cr. Offered autumn. Examination of the impact of global development on tribal and indigenous peoples. Topics include land issues, health, employment, and cultural change caused by global development. Exploration of how these societies are resisting or adapting to their changing world.

UG 387 Food and Culture 3 cr. Offered intermittently. Examination of the ways culture shapes the satisfaction of a biological need; food production, preparation, choices, customs, taste, taboos, beverages, spices and food distribution around the globe.

UG 388 Native American Health and Healing 3 cr. Offered autumn. Same as NAS 388. Examination of traditional and contemporary uses of medicine in Native American societies. Issues discussed will be the current health status of American Indians, the relationship between medicine and culture, and introduction to various techniques for assessing health status of American Indian populations.

UG 393 Omnibus 1-9 cr. (R-9) Offered intermittently. Independent work under the University omnibus option. See index.
U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-9) Offered intermittently. Prereq., 9 credits in anthropology; consent of faculty supervisor and cooperative education officer. Practical application of classroom learning through internship in a number of areas such as museology, cultural resource management, and forensics.

UG 420S Human Behavioral Ecology 3 cr. Offered spring even-numbered years. Study of the evolution of human behavior in cross-cultural perspective.

UG 430 Social Anthropology 3 cr. Offered autumn. Prereq., ANTH 101H and 220S. The principles and theories of social organizations and institutions.

UG 431 Ethnographic Field Methods 3 cr. Offered spring. Prereq., ANTH 220S, 381, or consent of instr. Introduction to socio-cultural anthropological methods including participant observation, interviewing and narrative techniques and analysis of qualitative data.

UG 444 Culture, Health and Healing 3 cr. Offered autumn odd-numbered years. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.

UG 446S Culture, Family Systems and Marriage 3 cr. Offered autumn odd-numbered years. The comparative study of human patterns of marriage, family systems, inheritance, descent, kinship, and demography.

UG 450 Archaeological Theory 3 cr. Offered autumn. Prereq., ANTH 250S. Historical trends and current major theories and methods in archaeology.

UG 451 Cultural Resource Management 3 cr. Offered spring. Introduction to the laws and practice of cultural resource/heritage property management. Focus on the methods and techniques for protecting and using cultural remains to their fullest scientific and historic extent. Also emphasis on responsibility to work with long range management of properties for the greatest scientific, historic, and public benefit.

UG 452 Architecture of the Frontier West 3 cr. Offered spring. Introduction to the methods and techniques of recording and analyzing standing cultural resources. Includes a field project and draws from buildings listed in the National Register of Historic Places.

UG 453 Cultural Resource Research Methods 3 cr. Offered intermittently. Prereq., ANTH 450, 451, or 452. Location and use of sources of information for developing and building contexts for the consideration of cultural resource significance.

UG 456 Historic Sites Archaeology 3 cr. Offered intermittently. Prereq., ANTH 101H and consent of instr. The location and evaluation of historic sites in the Northwest.

UG 457 Archaeology of the Pacific Northwest 3 cr. Offered spring even-numbered years. Introduction to the study of archaeology in the Pacific Northwest region inclusive of the Northwest Coast and Columbia/Fraser-Thompson Plateau. Understanding hunter-gatherer adaptations, evolution of social complexity, and ancient history of contemporary native peoples in the region.

UG 458 Archaeology of Hunter-Gatherers 3 cr. Offered spring even-numbered years. Introduction to the archaeological study of hunter-gatherer societies. Primary emphasis on archaeological method and theory.

UG 459 Archaeology of the Arctic and Subarctic 3 cr. Offered autumn odd-numbered years. Introduction to the study of Arctic and Subarctic archaeology emphasizing the Pleistocene and Holocene prehistory of North America and eastern Siberia. Understanding of methodological problems associated with archaeology in a northern context, the evolution of Inuit, Eskimo, Aleut and Athapaskan cultures, and hunter-gatherer adaptations to northern interior and coastal environments.

UG 460N Human Variation 3 cr. Offered every spring. Prereq., ANTH 260N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features.

UG 461 Forensic Science and Technology 3 cr. Offered spring. Examination of the forensic sciences and their use in criminal investigations: roles of forensic scientists, police officers, attorneys, and others in criminal investigation; rigors of being an expert witness; application to wildlife and conservation issues; careers in forensic sciences.

UG 462 Principles of Forensic Anthropology 3 cr. Offered spring. Prereq., ANTH 260N. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting humans rights abuses.

UG 463 Osteology 3 cr. Offered autumn. Prereq., ANTH 462N and consent of instr. A study of the human skeleton, the nature of bone, skeletal analysis, and writing professional reports.

UG 465 Human Identification 3 cr. Offered intermittently. Prereq., ANTH 462 or consent of instr. An exploration of techniques for conservation and replication of skeletal elements, facial reconstruction, and other techniques for identification of individuals from their skeletal remains.

UG 470 Introduction to Linguistic Analysis 3 cr. Same as ENLI 470, LING 470 and MCLX 470. An introduction to the field of modern linguistics and to the nature of language. Emphasis is on linguistic analysis.

UG 473S Language and Culture 3 cr. Offered intermittently. Prereq., ANTH 270 or 470. Same as LING 473S. Technical study of relationships between grammatical categories and world view.

UG 480E Ethics and Anthropology 3 cr. Offered spring. Prereq., ANTH 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.


UG 483 Anthropological Museology 3 cr. Offered spring odd-numbered years. Prereq., ANTH 101H. Introduction to anthropological museums, museum work and museum theory.

UG 484 North American Indian Linguistics 3 cr. Offered intermittently. Prereq. ANTH 270 or 470. Same as LING 484. Analysis and characteristics of American Indian languages in historical perspective.

UG 485 Advanced Anthropological Statistics 3 cr. Prereq., introductory course in statistics or consent of instr. Focus on techniques used for microcomputer-based data management and multivariate analysis.

UG 494 Seminars in Ethnology and Linguistics 3 cr. (R-6) Offered intermittently. Prereq., consent of instr. Offered alternate years.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of instr.

G 500 Contemporary Anthropological Thought 3 cr. Offered autumn. A review of major contributions to current anthropological theory, with an emphasis on the application of theory to anthropological problems. Significant advances in
general theory, symbolic anthropology, critical theory, cultural studies, and postmodernism.

G 564 Advanced Forensic Anthropology 3 cr. (R-6) Offered intermittently in spring. Prereq., ANTH 463 and 462 or the equiv. and consent of instr. Review of traditional methods and exploration of new methods of skeletal analysis, as applied to cases from the forensic collection.

G 570 Seminar in Linguistics 3 cr. (R-12) Offered autumn even-numbered years. Prereq., ANTH 270. Same as LING 570. Advanced topics in linguistic analysis.

G 581 Applied Anthropology 3 cr. Offered spring even-numbered years. Study of ways in which anthropological skills may be used in non-academic fields.

G 583 Theories and Concepts in Physical Anthropology 3 cr. Offered autumn. Prereq., graduate standing. Comprehensive review of major concepts, theories, and recent publications in physical anthropology; designed to prepare graduates to evaluate new hypotheses, and to design and teach introductory physical anthropology classes.

G 584 Seminar in Archaeology 3 cr. Offered spring. Topic varies.

G 585 Seminar in Ethnology 3 cr. (R-6) Offered autumn odd-numbered years. Topic varies.

G 586 Seminar in CRM: Proposal Preparation and Contract Management 3 cr. Offered spring odd-numbered years. Prereq., graduate standing. Hands-on training in the production of proposals in response to Requests for Proposals or RFPs. Emphasis on contract management issues associated with project planning, employee management, contingency management, legal issues, multiple project management, and archaeological marketing and survival strategies.

G 587 Seminar in Cultural Resource Management 3 cr. Offered autumn. Prereq., graduate standing. Exploration of critical issues in cultural resource management (CRM) emphasizing the regulatory basis for federal CRM, public archaeology, and indigenous people’s issues. Hands-on training in the design and production of federal planning documents.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Applied Science

The Bachelor of Applied Science degree program provides opportunities for individuals who have completed approved Associate of Applied Science degree programs. The degree provides additional educational preparation to strengthen students’ planned or previous training and improve career advancement opportunities.

See the College of Technology section of this catalog for descriptions of Associate of Applied Science degree programs offered at The University of Montana-Missoula.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Requirements are identified in two categories: (1) completion of an A.A.S. degree approved by the Montana Board of Regents with a 2.50 grade average, and (2) completion of a planned program of academic course work that is officially approved by the student’s assigned Degree Program Committee and the University Bachelor of Applied Science Committee.

The student Degree Program Committee will include at least two faculty members, one from an appropriate baccalaureate program academic discipline and the other in the student’s technical or closely related specialization.

For all approved A.A.S. programs students are allowed 50 lower-division technical credits to apply toward the B.A.S. degree.

After completing 15 credits of general education requirements, students develop a proposed degree plan of academic course work for review and approval by the Student Degree Program Committee and the B.A.S. Committee. Students are admitted to the B.A.S. program after the plan of academic course work has been approved by the assigned Degree Program and B.A.S. Committees.
**General Requirements:**
A. Successful completion of an approved Associate of Applied Science program.
B. Successful completion of 77 credits as identified under specific requirements of which 39 credits must be in courses numbered 300 and above.

**Specific Requirements**
A. Competency - General Education
   1. English Writing Skills
      a. Complete successfully ENEX 101 or be exempt by receiving an acceptable score on the writing placement exam.
      b. Complete successfully six credits in courses designated as writing, including at least three credits at the 300 or above level.
      c. Complete successfully the Upper-Division Writing Proficiency Assessment.
   2. Mathematical Literacy
      Complete successfully one mathematics course numbered greater than 100, with a grade of C or P or better, or demonstrate equivalent skill by competency testing.
   3. Foreign Language/Symbolic Systems
      a. Complete successfully the second semester of a foreign language at The University of Montana-Missoula or demonstrate equivalent skill in a foreign language.
      OR
      b. Complete successfully one of the approved sequences in a symbolic system.

**Asian Studies**

**Alan Sponberg, Chair**
The Asian Studies Program offers undergraduates at The University of Montana-Missoula an opportunity to study Asian lands, peoples, cultures and languages. The program encompasses the geographic areas of East, Southeast, South, Central and Southwest Asia, with particular emphasis on China and Japan.

The Asian Studies Program is administered by the Asian Studies Executive Committee, an interdisciplinary group of faculty with teaching and research interests in Asia. The Executive committee works closely with the dean of the College of Arts and Sciences and the Maureen and Mike Mansfield Center at The University of Montana-Missoula. The program draws its faculty from the College of Arts and Sciences, professional schools and the Mansfield Center.

Students may choose from two programs. The first is a major in Liberal Studies with an option in Asian Studies. The second is a major in another discipline with a minor in Asian Studies.

Students admitted to either of the two programs must register with the chair of the Asian Studies program. Students are encouraged to plan their course sequence at least one year in advance in consultation with their assigned Asian Studies faculty advisor.

**Additional Asian Studies Courses**
- DAN 435L Arts and Culture of Bali
- ECON 336 US-Asian Relations
- HIST 283H Islamic Civilization: Classical Era
- HIST 284H Islamic Civilization: Modern Era
- HIST 380H Modern China
- HIST 381H Modern Japan
- HIST 387L Iran Between Two Revolutions
- JPNS 411 Modern Japanese Writers and Thinkers
- JPNS 431L Post-War Japanese Literature
- MCLG/JPNS 311L Classical Japanese Literature in English
- MCLG/JPNS 312L Japanese Literature from Medieval to Modern in English Translation
- MCLG/JPNS 386 History of Japanese Language
- MCLG/LS 380L Chinese Folktales
- PSC 328H Politics of China
- PSC 329H Politics of Japan
- PSC 420 Comparative Legal Systems
- RELS 232H Introduction to Buddhism
- RELS 233 Traditions of Buddhist Meditation
- RELS 360 Classics of Buddhist Literature

**B. Perspectives - General Education**
Complete successfully 27 credits in the six identified perspectives. A minimum of two credits is required from each perspective, except perspective 6 in which six credits are required. A maximum of six credits from each perspective will count toward the general education distribution requirement:
1. Perspective 1 - Expressive Arts
2. Perspective 2 - Literary and Artistic Studies
3. Perspective 3 - Historical and Cultural Studies
4. Perspective 4 - Social Science
5. Perspective 5 - Ethical and Human Values
6. Perspective 6 - Natural Science

**C. Supportive**
Complete successfully 30 credits in a field or fields related to or supportive of special and individual needs of the student and the student’s Associate of Applied Science degree program, 21 of which must be numbered 300 and above.

**Courses**
U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit, R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

**Applied Science (APS)**
U 396 Independent Study 1-6 cr. (R-6) Offered intermittently.

**Special Degree Requirements**
First Program: Major in Liberal Studies with an option in Asian Studies
The following requirements must be met to complete this program:
1. Completion of the Liberal Studies core curriculum. (See the Liberal Studies section of this catalog.)
2. Six credits in introductory Asian Studies courses (100-level courses or Study Abroad in Asia) including AS 101H or 102.
3. Twelve credits in foundational Asian Studies courses (200-level courses), including Asian Studies 201H and 202S.
4. At least 30 credits in upper-level courses (300-level courses and above), of which at least six credits must be in the humanities and six in the social sciences.

5. Language Requirement: Two years (or equivalent proficiency) in an Asian language appropriate to the student's academic goals and approved by the academic advisor. Students who plan to pursue graduate work are strongly advised to complete three years, including at least one study abroad in Asia experience.

Requirements for a Minor

Second Program: Major in any discipline with a minor in Asian Studies

1. Six credits in introductory Asian Studies courses (100-level courses), including AS 101H or 102.
2. Twelve credits in foundational Asian Studies courses (200-level courses).
3. Nine credits in upper-level courses (300-level courses and above), of which at least three credits must be in humanities and three in social sciences.
4. No language courses are required. Students are encouraged to include at least one study abroad in Asia experience.

Courses

U=for undergraduate credit only, UG=for undergraduate or graduate credit, G=for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Asian Studies (AS)

U 101H Introduction to Asian Studies 3 cr. Offered autumn. An introduction to Asia, its geography, cultures and ways of thinking, presented in geographical and historical context, with an emphasis on the modern period. A cultural-geographical overview followed by modules that focus on specific themes, each set in a particular Asian region.

U 102H Introduction to Asian Studies 3 cr. Offered spring. Continuation of AS 101H except with different thematic modules, allowing a broader introduction to Asia’s regions. The cultural-geographical overview approached using different materials and emphases.

U 195 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 201H East Asian Civilizations 3 cr. Offered autumn. Same as HIST 201H. An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.

U 202S South Asia/Land and People 3 cr. Offered intermittently. Same as GEOG 202S. The physical setting of South Asia, its history, culture and socio-economic organization. Examines regional differences, changing social patterns and the relationship between people and the environment.

U 210H Japanese Culture and Civilization 3 cr. Offered autumn. Same as JPN, LS and MCLG 210H. The historical religious, artistic, literary and social developments in Japan from earliest times to the present.

U 211H Chinese Culture and Civilization 3 cr. Offered intermittently. Same as LS and MCLG 211H. A comprehensive study of Chinese culture and civilization in the manifold aspects of anthropology, sociology, economics, art, literature, religion, and philosophy.

U 212S Southeast Asian Culture and Civilization 3 cr. Offered intermittently. Same as LS and SOC 212S. Introduction to the history, geography, cultures, social organization, and contemporary events of Southeast Asia.

U 213S The Middle East 3 cr. Offered autumn odd-numbered years. Same as GEOG and LS 213S. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change, pre-history, patterns of cultural and historical change, issues of socio-economic, religious, and political diversity, and the broader political significance of the region.

U 214S Central Asian Culture and Civilization 3 cr. Offered autumn. Same as GEOG, HIST, LS 214S. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.

U 295 Special Topics Variable cr. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 313L Classical Chinese Poetry in English Translation 3 cr. Offered intermittently in spring. Same as CHIN, LS and MCLG 313L. The works of major Chinese poets to 1300 A.D.

U 314L Traditional Chinese Literature in English Translation 3 cr. Offered intermittently in spring. Same as CHIN, LS and MCLG 314L. Highlights of Chinese literature to 1800; includes philosophy, poetry, prose, and fiction.

UG 340H Contemporary Issues of Southeast Asia 3 cr. Offered autumn odd-numbered years. Same as ANTH 340H. Prereq., ANTH 220S or AS 101H or AS 102H. An examination of the major issues that affect the contemporary experience of Southeast Asians.

U 365 South Asian Traditions: Hinduism 3 cr. Offered spring even-numbered years. Same as CHIN, LS and RELS 365. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism's transformation and impact beyond South Asia.

U 395 Special Topics Variable cr. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.


UG 495 Problems in Asian Studies Variable cr. (R-12) Seminar designed for students with an option in Asian Studies. Regional or temporal focus may vary, depending on the discipline and expertise of the instructor.

Faculty

Professors

Rhea Ashmore, Ed.D., The University of Montana, 1981 (Curriculum and Instruction)
Timothy Bradstock, Ph.D., Harvard University, 1984 (Modern and Classical Languages and Literatures)
Maureen Fleming, Ph.D., Southern Illinois University, 1969 (Management)
Jeffrey Gritzner, Ph.D., University of Chicago, 1986 (Geography)
Louis D. Hayes, Ph.D., University of Arizona, 1966 (Political Science)
Peter Koen, Ph.D., University of Colorado, 1973
Dennis O'Donnell, Ph.D., Pennsylvania State University, 1974 (Economics)
Daniel Pletscher, Ph.D., Yale University, 1982 (Forestry)
Division of Biological Sciences

Donald P. Christian, Associate Dean for the Biological Sciences

The Division of Biological Sciences offers undergraduate and graduate programs representing the full range of the biological sciences. The Division offers bachelor degrees in biology (with a broad array of formal options including botanical sciences, cellular and molecular biology, ecology, human biological sciences, natural history, zoological sciences, biological education and general sciences education), medical technology, microbiology including microbial ecology, and wildlife biology (a cooperative program administered by the College of Forestry and Conservation). The Division also advises students in pre-medical and other pre-health sciences, and offers a series of courses during the summer at the University’s Flathead Lake Biological Station (see separate listing in this section). The Division is one of the leading research units in the University. Research programs in the Division provide abundant opportunities for students to enhance their educational experience by participating in research. Several sources of funding are available to support undergraduate student research, and the Division participates in the University undergraduate research symposium each spring.

Graduate degrees offered by the Division of Biological Sciences include Master of Science degrees in biochemistry, microbiology, and organismal biology and ecology. Doctor of Philosophy degrees in biochemistry/microbiology, organismal biology and ecology, and biomolecular structure and dynamics are offered. The Division participates in the graduate (M.S. and Ph.D.) program in wildlife biology, administered by the College of Forestry and Conservation. Information on graduate study and program requirements is available from the Graduate School or the Division of Biological Sciences.

The Division of Biological Sciences is committed to providing coursework and experiences for non-science majors. The world faces many problems and opportunities that include significant biological components. Courses for non-science majors have the goal of fostering understanding of the process of science and enhancing biological knowledge as it relates to environmental, medical, social, and other issues. A number of introductory courses are open both to majors and non-majors. In addition, the Division offers courses designed specifically for non-majors: elementary medical microbiology, introductory ecology, Montana wildlife, and others.

Degree requirements and courses are described below (see the College of Forestry and Conservation for information about wildlife biology).
Biochemistry

Courses

U = for undergraduate credit only, UG=for undergraduate or graduate credit, G=for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Biochemistry (BIOC)

UG 380 Fundamentals of Biochemistry 4 cr. Offered autumn. Prereq., Chem 222. Fundamental biochemistry; chemistry and metabolism of biomolecules, energy relationships in metabolism; storage, transmission, and expression of genetic information.

UG 481 Biochemistry 3 cr. Offered autumn. Prereq., CHEM 222, CHEM 370 or 372 or equiv. Primarily for science majors. The chemistry and metabolism of biomolecules, with emphasis on the structure and function of proteins, carbohydrates, lipids and nucleic acids and the associated bioenergetics. Credit not allowed for both BIOC 380 and BIOC 481-482.
UG 482 Biochemistry 3 cr. Offered spring. Prereq., BIOC 481 or equiv. Continuation of BIOC 481. Metabolism, especially macromolecule biosyntheses, the chemistry and regulation of the transfer and expression of genetic information, protein synthesis and molecular physiology. Credit not allowed for both BIOC 380 and BIOC 481-482.

UG 485 Biochemistry Laboratory 2 cr. Offered autumn. Prereq. or coreq., BIOC 481. Experiments are designed to illustrate biochemical principles and techniques. Primarily for science majors.

UG 486 Biochemistry Research Laboratory 3 cr. Offered spring. Prereq., BIOC 380 or 481. Same as CHEM 486. Applications of biochemical principles to modern molecular biology and biochemical techniques. Includes cloning a gene, making site-directed mutants; then will express, purify, and characterize the protein product.

UG 495 Special Topics 1-10 cr. (R-10) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 497 Advanced Undergraduate Research 1-10 cr. (R-10) Offered every term. Prereq., junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded pass/not pass.

U 499 Undergraduate Thesis 3-6 cr. (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded pass/not pass.

G 561 RNA Structure and Function 1 cr. (R-8) Offered every semester. Prereq., BIOC 482, BIOL 221, and consent of instr. Exploration of current scientific literature and new data that focuses on RNA biochemistry. Emphasis on literature relevant to research on RNA viruses and ribosomes and protein synthesis.

G 570 Introduction to Research 2 cr. Offered autumn. Prereq., graduate standing. Same as MICB 570. Required course for biochemistry and microbiology graduate students. Students are acquainted with faculty research projects. Instruction in basic research techniques, research equipment. Introduction to relevant scientific research literature. Six hours in each research laboratory of faculty in biochemistry/microbiology program.

G 580 Training Seminar 1 cr. (R-2) Offered autumn and spring. Prereq., graduate standing or consent of instr. Same as MICB 580. A one-semester offering required of all new students.

G 581 Physical Biochemistry 3 cr. Offered autumn even-numbered years. Prereq., CHEM 370 or 372, BIOC 482. Techniques of physical chemistry used in studying biological structure and function of macromolecules. Emphasis is on spectroscopic methods, hydrodynamic methods and x-ray and other scattering and diffraction techniques.

G 582 Proteins and Enzymes 4 cr. Offered spring odd-numbered years. Prereq., CHEM 370 or 372 and BIOC 482. Exploration of the structure/function relationship in proteins and enzymes. Fundamentals of protein chemistry focusing on areas of current research. Topics include protein folding, post-translational modifications, enzyme kinetics, and enzyme mechanisms.

G 583 Lipids and Membranes 3 cr. Offered intermittently. Prereq., CHEM 370 or 372 and BIOC 482 or equiv. Same as MICB 583. The chemistry and biochemical properties of lipids and their functions in biological systems. The structure and function of biological membranes are emphasized.

G 584 Nucleic Acids 3 cr. Offered autumn. Prereq., BIOC 482 and CHEM 370 or 372 or consent of instr. The structure and function of nucleic acids with emphasis on their role in transfer of genetic information, mechanisms of biosynthesis and manipulation of nucleic acids for recombinant DNA technologies.

G 586 Advanced Molecular Biology 3 cr. Offered intermittently. Prereq., BIOC 482. Current research in the molecular biology of the gene using primary literature and review articles. Topics include: protein-DNA interactions; RNA polymerases; transcription; splicing and editing; regulation of gene expression; regulation of replication; in vivo selection.

G 594 Professional Seminar 1 cr. (R-4) Offered autumn and spring. Prereq., graduate standing or consent of instr. Same as MICB 594. Presentation of current research in biochemistry and molecular biology by senior graduate students, faculty, and invited outside speakers.

G 595 Special Topics 1-3 cr. (R-6) Offered intermittently. Prereq., graduate standing and consent of instr. Experimental offering of new courses by resident or visiting faculty.

G 597 Research Variable cr. (R-18) Offered intermittently.

G 599 Thesis 1-10 cr. (R-10) Offered intermittently. Prereq., masters student in biochemistry. Laboratory research for and preparation of a masters thesis.

G 600 Advanced Cellular Biochemistry 4 cr. Offered every spring. Prereq., BIOC 380 or 482, or consent of instr. Same as PHAR 600. Exploration on a molecular level the regulation of structure, function, and dynamics of eukaryotic cells. Topics include membranes, cytoskeleton, transcription, translation, signal transduction, cell motility, cell proliferation, and programmed cell death.

G 685 Advanced Biochemistry and Molecular Biology Laboratory 1-3 cr. (R-9) Offered autumn and spring. Prereq., BIOC 482 or equiv. and consent of instr. Introduction to research techniques in biochemistry and molecular biology.

G 699 Dissertation 1-10 cr. (R-20) Offered intermittently. Prereq., doctoral student in biochemistry. Laboratory research for and preparation of a doctoral dissertation.

Biological Station

Jack A. Stanford (Bierman Professor of Ecology), Director

The University of Montana-Missoula operates its Flathead Lake Biological Station as a year-round research facility and academic center in ecological sciences. The Station is located on 80 acres at Yellow Bay on Flathead Lake, some 85 miles north of Missoula near Kalispell and Glacier National Park. Up to 110 students can room in cabins and the G. W. Prescott dorm/apartment facility; board is provided by the station’s commissary. Several large academic and office structures complement the state-of-the-art Freshwater Research Laboratory at this field campus.

During the annual 8-week summer session, formal courses are offered which emphasize field investigations of the rich flora and fauna of the diverse aquatic and terrestrial habitats found at or near the Station. Faculty from UM and other universities throughout the United States and Canada teach the field-oriented courses of the summer program. The formal courses each carry three to five semester credits for either advanced
undergraduate or graduate academic programs. Biological Station courses may substitute for major program requirements in the Division of Biological Sciences and Wildlife Biology. Advanced students are encouraged to take up to 5 credits of independent research under the direction of one of the FLBS faculty members. Credits are transferable to most universities in the United States and Canada. Students must have completed introductory courses in biology, ecology and chemistry before enrolling in courses of the program.

Biology courses offered at the Biological Station are selected on a yearly basis from the following two- and four-week courses:

- 340 & 341 Ecology and Ecology Lab
- 355 Ecology of Mammals
- 356 Ecology of Birds
- 448 Terrestrial Plant Ecology
- 449 Plant-Animal Interactions
- 453 Lake Ecology
- 454 River Ecology
- 455 Groundwater and Riparian Ecology
- 456 Aquatic Vertebrate Ecology and Conservation
- 494 Seminar in Ecology and Resource Management
- 495 Field Ecology
- 497 Research in Ecology
- 499 Undergraduate (Senior) Thesis
- 597 Research in Ecology

In addition to these summer courses, the Biological Station offers opportunities for graduate studies in aquatic biology and ecology. After formal admission to a graduate degree-granting program, research programs leading to M.S. or Ph.D. degrees can be designed by the student, academic departments at the University and the Director of the Station. Research assistantships are often available for students working on advanced degrees at FLBS. Numerous scholarships are also available annually for students enrolled at UM.

**Enrollment Procedures**

Students interested in participating in the annual summer academic program must apply before May 24. Application forms are available from the Biological Station or may be obtained in the Division of Biological Sciences office at UM.

Students interested in pursuing graduate work at FLBS should apply in writing to Graduate Admissions, Division of Biological Sciences, The University of Montana-Missoula, Missoula, 32 Campus Drive #4824, 59812-4824, or contact the Director.

For detailed information about academic and research opportunities at the Flathead Lake Biological Station, please visit the station web page (www.umt.edu/biology/flbs) or contact:

**Flathead Lake Biological Station**

The University of Montana
311 Bio Station Lane
Polson, MT 59860-9659
Phone: (406) 982-3301
Fax: (406) 982-3201
E-Mail: flbs@selway.umt.edu
Web Page: www.umt.edu/biology/flbs

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**Biology**

The Division offers an undergraduate degree in biology that provides a solid foundation in core areas of the biological sciences and in supporting physical sciences and mathematics. Several options are provided within the biology degree.

**Options in botanical sciences, cellular and molecular biology, ecology, and zoological sciences** allow specialization in biological subdisciplines and are appropriate background for certain employment opportunities and for continued graduate or professional study:

- **Botanical sciences**: Study of plant life with an emphasis on ecology and evolution.
- **Cellular and molecular biology**: For students wishing to concentrate on cellular and physiological aspects of biology.
- **Ecology**: For students wishing to emphasize ecology and environmental areas of biology.
- **Human biological sciences**: Provides a strong background in the biological sciences for students pursuing a career in the health sciences professional programs, although some programs may require additional coursework in certain areas.
- **Natural history**: Designed especially for students wishing to combine basic natural history and biological sciences with another field such as art, journalism, or creative writing. Option is not suitable for students planning a traditional career in the biological sciences.
- **Zoological sciences**: Option includes courses in various aspects of animal life including form, development, physiology, evolution, and ecology.
- **Teacher preparation in biology, Teacher preparation in general science**: Two separate options designed for students seeking careers in secondary or biology science teaching.

**High School Preparation**: In addition to general University admission requirements, chemistry, mathematics through precalculus, and a modern foreign language are recommended.

**Special Degree Requirements**

Refer to graduation requirements listed previously in the catalog. See index.

**Upper-Division Writing Expectation**: To meet the Upper-Division Writing Expectations of the Bachelor of Arts in Biology, students must successfully complete BIOL 341 or MICB 420 and one course selected from BIOL 304, 306, 316, 366, 403, 405, 406, 410, 444, 480 or MICB 404, 410 or a senior thesis (BIOL 499 minimum 3 credits).

**Option in Botanical Sciences**

Forty-three credits in biology including BIOL 101N-102N, 103N-104N, 221, 223, 316, 340-341, 350, and 444; a minimum of six credits selected from BIOL 418, 430, or 448 and the remaining three credits at the 300 to 400 level emphasizing biological science.

**Chemical sciences**: MATH 150 and 241 are required, however the prerequisite courses MATH 117 and 121 may be needed. For 210; CHEM 151N-152N, 154N or 151N-152N, 154N plus 221-222-223-224; and PHYS 121N-122N or 221N-222N also are required.

**Option in Cellular and Molecular Biology**

Forty-three to forty-four credits in biology and microbiology including BIOL 101N-102N, 103N-104N, 221, 223, 301, 340, and 440; MICB 300-301, 404, 410, 420; one physiology course chosen from BIOL 345, 444 or 460, or MICB 450; and two lab courses chosen from MCB 309, 405, 407, 411, 421, 422, 423, 451, 497 and BIOC 486. Upper-division courses in
Biochemistry are acceptable electives within the Cellular and Molecular Biology option.

MATH 150 and 241 are required; however, the prerequisite course MATH 121 may be needed. BIOC 481-482; CHEM 161N-162N, 221-222-223-224-234, 341, 370; PHYS 121N-122N or 221N-222N also are required.

**Option in Ecology**

Thirty-seven to forty-two credits in biology and microbiology including BIOL 101N-102N-103N-104N, 221, 223, 340-341; one ecology course chosen from BIOL 366, 446, 448, 453, 454, 455, 456, or MICB 422, 423; one physiology course chosen from BIOL 345, 444 or MICB 450 and 451; and one course chosen from BIOL 304, 306, 308, 316, 355, 356, 405, 406, 410, 449 or 480.

MATH 150 and 241 are required, however the prerequisite courses MATH 117 and 121 may needed. CHEM 151N-152N, 154N; PHYS 121N-122N or 221N-222N also are required and select from the following two choices: CHEM 341, or MATH 444 and 447.

**Option in Human Biological Sciences**

Forty-two to forty-five credits in biology including BIOL 101N-102N-103N-104N, 221, 223, 301, 312N, 313N, 340-341, 460; MICB 300-301 (or MICB 302) and the remaining credits at the 300 or 400 level.

One year of chemistry (CHEM 151N, 152N-154N) or two years of chemistry (CHEM 161N, 162N, 221-222-223-224-224); MATH 150, 241; PHYS 121N, 122N or 221N, 222N; PSYC 100S, 240S or 330S also are required.

Recommended Courses: Some graduate schools in the health professions also may require course work in these areas: BIOL 400, General Pathology; BIOL 380 or 481, 482, Biochemistry; COMM 111A, Introduction to Public Speaking; HHP 236N, Nutrition; SOC 110S, Principles of Sociology.

**Option in Natural History**

Forty-two to forty-four credits in biology including BIOL 101N-102N-103N-104N, 221, 223, 316, 340-341, 350, 410; one course chosen from 304, 306, 355, 356; one course chosen from 405 or 406.

CHEM 151N-152N, 154N and GEOL 100N-101N are required. Students also must complete at least 20 credits in in cognitive areas of anthropology, chemistry (excluding CHEM 151N-152N, 154N), geography, geology (excluding GEOL 100N-101N), forestry, mathematics, physics/astronomy, and wildlife biology. No more than 10 credits from any one of these areas can be applied toward the 20-credit requirement. Students interested in combining this option with another subject area may, with the advisor’s permission, substitute 20 credits in English-writing, journalism, photography, art, foreign language, business management, or other appropriate field.

**Option in Zoological Sciences**


MATH 150 and 241 are required; however, the prerequisite courses MATH 117 and 121 may be needed. CHEM 151N-152N, 154N or 161N-162N, 221-222-223-224 and PHYS 121N-122N or 221N-222N also are required.

**Teacher Preparation in Biology**

Option in Biological Education Major Teaching Field of Biology: This option is designed for students seeking an endorsement in the major teaching field of biology.

A student must complete thirty-four credits in biology and microbiology including BIOL 101N-102N-103N-104N, 221, 223, 340-341, 444; MICB 300-301 and one course chosen from BIOL 301 or 345.

MATH 150 or 152 and 241 are required; however, the prerequisite courses MATH 117 and 121 may be needed. CHEM 151N-152N, 154N; PHYS 121N; C&I 426; and one course chosen from GEOL 109N or 301 also are required.

For endorsement teaching biology, a student also must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

Biology qualifies for a single-field endorsement. However, there is a limited demand in most Montana high schools for teachers with a single endorsement in biology, and students are advised to complete the requirements for a second teaching endorsement (major or minor).

Minor Teaching Field of Biology: For an endorsement in the minor teaching field of biology, a student must complete BIOL 101N-102N, 103N-104N, 221, 223; MICB 300-301; C&I 426; GEOL 109N or GEOL 301; MATH 150 or 152, 241; and CHEM 151N-152N, 485. A student also must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

**Teacher Preparation in General Science**

Extended Major Teaching Field of General Science: A student is awarded a B.A. with a major in biology with an ecology option by completing the following 60 credits in astronomy, biology, chemistry, geology, mathematics, and physics: ASTR 131N, 134N; BIOL 101N-102N, 103N-104N, 221, 223, 340-341; CHEM 152N, 161N-162N, 485; GEOL 100N-101N, 301; MATH 150 or 152, 241 (the prerequisite courses MATH 117 and 121 may be needed); and PHYS 121N-122N or 221N-222N, C&I 426 also are required.

Highly recommended are BIOL 345, MICB 300-301, and CHEM 101N.

For an endorsement in the extended major teaching field of General Science, a student must gain admission to Teacher Education and Student Teaching, complete C&I 426 and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

**Suggested Course of Study**

**Biological Education Option**

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 101N-102N Principles of Biology and Laboratory</td>
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<tr>
<td>BIOL 103N-104N Diversity of Life and Laboratory</td>
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<tr>
<td>CHEM 151N General and Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 152N Organic and Biological Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 154N General Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150 Applied Calculus</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
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<tr>
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**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
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<tr>
<td>BIOL 223 Genetics and Evolution</td>
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<tr>
<td>C&amp;I 200 Exploring Teaching</td>
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<td>GEOL 109N Environmental Geoscience</td>
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<td>MATH 241 Statistics</td>
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<tr>
<td>MICB 300-301 General Microbiology &amp; Laboratory</td>
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<td>Lower-division writing course</td>
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**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIOL 340-341 Ecology and Laboratory</td>
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<tr>
<td>BIOL 345 Principles of Physiology (or BIOL 301 in spring)</td>
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### Botanical Sciences Option with One Year of Chemistry

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<td><strong>First Year</strong></td>
<td>BIOL 101N-102N Principles of Biology and Laboratory</td>
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<tr>
<td></td>
<td>BIOL 103N-104N Diversity of Life and Laboratory</td>
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<td></td>
<td>CHEM 151N General and Inorganic Chemistry</td>
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<td>CHEM 152N Organic and Biological Chemistry</td>
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<td>CHEM 154N General Chemistry Laboratory</td>
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<td>ENEX 101 Composition</td>
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<td></td>
<td>MATH 150 Applied Calculus</td>
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<tr>
<td></td>
<td>MATH 241 Statistics</td>
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<td></td>
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<tr>
<td><strong>Second Year</strong></td>
<td>BIOL 221 Cell and Molecular Biology</td>
<td>4</td>
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<tr>
<td></td>
<td>BIOL 223 Genetics &amp; Evolution</td>
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<tr>
<td></td>
<td>BIOL 350 Rocky Mountain Flora</td>
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<tr>
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<td>FOR 210 Soils</td>
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<td>PHYS 121N-122N General Physics I, II</td>
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<tr>
<td><strong>Third Year</strong></td>
<td>BIOL 316 Plant Form and Function</td>
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<td>BIOL 340-341 Ecology and Laboratory</td>
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<tr>
<td><strong>Fourth Year</strong></td>
<td>BIOL 430 Biogeography</td>
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<tr>
<td></td>
<td>BIOL 444 Plant Physiology</td>
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<td>BIOL 448 Terrestrial Plant Ecology</td>
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<tr>
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### Botanical Sciences Option with Two Years of Chemistry

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<tr>
<td><strong>First Year</strong></td>
<td>BIOL 101N-102N Principles of Biology and Laboratory</td>
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<td></td>
<td>BIOL 103N-104N Diversity of Life and Laboratory</td>
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<tr>
<td></td>
<td>CHEM 151N General and Inorganic Chemistry</td>
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<td>CHEM 152N Organic and Biological Chemistry</td>
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<td></td>
<td>CHEM 154N General Chemistry Laboratory</td>
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<td>ENEX 101 Composition</td>
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<td></td>
<td>MATH 150 Applied Calculus</td>
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<td></td>
<td>MATH 241 Statistics</td>
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<td></td>
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<td><strong>Second Year</strong></td>
<td>BIOL 221 Cell and Molecular Biology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>BIOL 223 Genetics &amp; Evolution</td>
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<td></td>
<td>CHEM 221-222-223-223 Organic Chemistry and Laboratory</td>
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<td><strong>Third Year</strong></td>
<td>BIOL 316 Plant Form and Function</td>
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<td>BIOL 340-341 Ecology and Laboratory</td>
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<td><strong>Fourth Year</strong></td>
<td>BIOL 430 Biogeography</td>
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<td>BIOL 444 Plant Physiology</td>
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<td>BIOL 448 Terrestrial Plant Ecology</td>
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### 52 - College of Arts and Sciences - Division of Biological Sciences - Biology

**Ecology Option**

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<tbody>
<tr>
<td>MICB 450 Microbial Physiology</td>
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<td>MICB 451 Microbial Physiology Laboratory or</td>
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<td>309, 402, 405, 411, 422, 423, 497, or BIOC 486</td>
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**Ecology Option**

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<th>Course</th>
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<tbody>
<tr>
<td>BIOL 101N-102N Principles of Biology and</td>
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<tr>
<td>Laboratory</td>
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<tr>
<td>BIOL 103N-104N Diversity of Life and</td>
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<tr>
<td>Laboratory</td>
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<tr>
<td>CHEM 151N General and Inorganic Chemistry</td>
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<td>CHEM 152N Organic and Biological Chemistry</td>
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<tr>
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<tr>
<td>MATH 150 Applied Calculus</td>
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<tr>
<td>MATH 241 Statistics</td>
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**Ecology Option for Teacher Preparation in General Science**

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<tr>
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<tr>
<td>Laboratory</td>
<td></td>
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<tr>
<td>BIOL 103N-104N Diversity of Life and</td>
<td>5</td>
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<td>Laboratory</td>
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<td>CHEM 161N-162N College Chemistry</td>
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<td>MATH 150 Applied Calculus</td>
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<td>PSYC 100S Introduction to Psychology</td>
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### Human Biological Sciences Option with One Year of Chemistry

**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIOL 101N or 302 Field Experience</td>
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<tr>
<td>C&amp;I 306 Instructional Media and Computer</td>
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<td>Applications</td>
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<tr>
<td>C&amp;I 407E Ethics and Policy Issues</td>
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<tr>
<td>C&amp;I 410 Exceptional and Classroom Management</td>
<td>3</td>
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<tr>
<td>C&amp;I 426 Teaching Science in the Middle and</td>
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<tr>
<td>Secondary School</td>
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<tr>
<td>C&amp;I 427 Literary Strategies in Content Area</td>
<td>3</td>
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<tr>
<td>CHEM 485 Laboratory Safety</td>
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<tr>
<td>HHP 233 Health Issues of Children and</td>
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<tr>
<td>Adolescents</td>
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**Fifth Year**

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<td>C&amp;I 494 Professional Portfolio</td>
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### Upper-division writing course

- General Education: 3

### Upper-division Biology

- C&I 1303 Educational Psychology and Measurement: 3
- GEOL 301 Environmental Geology: 3
- PHYS 121N-122N General Physics I, II: 5
- Upper-division biology writing course: 3
- General Education: 3

### Second Year

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
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<tr>
<td>BIOL 223 Genetics and Evolution</td>
<td>4</td>
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<tr>
<td>PHYS 121N-122N or 221N-222N General Physics</td>
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<td>Lower-division writing course</td>
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### Third Year

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<th>Course</th>
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<tbody>
<tr>
<td>BIOL 340-341 Ecology and Laboratory</td>
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<tr>
<td>BIOL 345 Principles of Physiology or 444</td>
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<tr>
<td>or MICB 450 and 451</td>
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<tr>
<td>BIOL 366 Freshwater Ecology or 446, 448,</td>
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<td>453, 454, 455, 456, or MICB 422, 423</td>
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### Fourth Year

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<td>BIOL 306 Mammalogy or 304, 306, 308, 316,</td>
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<td>MATH 444 Statistical Methods</td>
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<td>MATH 447 Computer Data Analysis</td>
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### Third Year

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<th>Course</th>
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<tr>
<td>PSYC 100S Introduction to Psychology</td>
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<td><strong>Total</strong></td>
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##BIOL 312N, 313N Anatomy and Physiology I and II: 4

##BIOL 301 Developmental Biology: 3

##BIOL 340-341 Ecology: 5

##MICB 302 Medical Microbiology: 3

##Upper-division elective: 3

##Elective: 2

### Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIOL 306 Mammalogy or upper-division Biology, Microbiology, Biochemistry elective: 4</td>
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<td>BIOL 403 Vertebrate Design and Evolution or upper-division Biology, Microbiology, Biochemistry elective that meets the UD biology Writing requirement: 4</td>
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<tr>
<td>BIOL 460 Medical Physiology</td>
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### Human Biological Sciences Option with Two Years of Chemistry

<table>
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<tr>
<th>Year</th>
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<tbody>
<tr>
<td>First Year</td>
<td>BIOL 101N-102N Principles of Biology and Laboratory</td>
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<tr>
<td></td>
<td>BIOL 103N-104N Diversity of Life and Laboratory</td>
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<tr>
<td></td>
<td>CHEM 161N-162N College Chemistry</td>
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<td>ENEX 101 Composition</td>
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<td></td>
<td>MATH 150 Applied Calculus</td>
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<tr>
<td></td>
<td>PSYC 100S Introduction to Psychology</td>
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<td>General Education</td>
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<td>Electives</td>
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<tr>
<td>Second Year</td>
<td>BIOL 221 Cell and Molecular Biology</td>
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<td></td>
<td>BIOL 223 Genetics and Evolution</td>
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<tr>
<td></td>
<td>CHEM 221-222-223-223 Organic Chemistry and Laboratory</td>
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<td></td>
<td>MICB 300-301 General Microbiology and Laboratory</td>
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<td></td>
<td>MATH 241 Statistics</td>
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<tr>
<td>Third Year</td>
<td>BIOL 312N, 313N Anatomy and Physiology I and II</td>
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<td>BIOL 301 Developmental Biology</td>
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<td></td>
<td>BIOL 345 Principles of Physiology or other upper-division biology, microbiology</td>
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<td>PHYS 121N-122N General Physics I, II</td>
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<td>PSYC 330S Abnormal Psychology or PSYC 240S (if 240S, must have 3 more upper-division credits)</td>
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<td>BIOL 340-341 Ecology and Laboratory</td>
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<td></td>
<td>BIOL 460 Medical Physiology</td>
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<td></td>
<td>MICB 410 Immunology or other upper-division biology, microbiology, or biochemistry elective that meets the biology writing requirement</td>
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### Natural History Option

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<td>First Year</td>
<td>BIOL 101N-102N Principles of Biology and Laboratory</td>
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<tr>
<td></td>
<td>BIOL 103N-104N Diversity of Life and Laboratory</td>
</tr>
<tr>
<td></td>
<td>CHEM 151N General and Inorganic Chemistry</td>
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<td></td>
<td>CHEM 152N Organic and Biological Chemistry</td>
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<td></td>
<td>CHEM 154N General Chemistry Laboratory</td>
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<td>ENEX 101 Composition</td>
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<tr>
<td></td>
<td>MATH 150 Applied Calculus</td>
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<td>MATH 241 Statistics</td>
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<tr>
<td>Second Year</td>
<td>BIOL 221 Cell and Molecular Biology</td>
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<td>BIOL 223 Genetics &amp; Evolution</td>
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<td></td>
<td>CHEM 300-301 General Microbiology and Laboratory</td>
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<td></td>
<td>MATH 117 Probability and Linear Mathematics</td>
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### Zoological Sciences Option with One Year of Chemistry

<table>
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<tr>
<th>Year</th>
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<tbody>
<tr>
<td>First Year</td>
<td>BIOL 101N-102N Principles of Biology and Laboratory</td>
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<tr>
<td></td>
<td>BIOL 103N-104N Diversity of Life and Laboratory</td>
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<tr>
<td></td>
<td>CHEM 151N General and Inorganic Chemistry</td>
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<td></td>
<td>CHEM 152N Organic and Biological Chemistry</td>
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<tr>
<td></td>
<td>CHEM 154N General Chemistry Laboratory</td>
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<td></td>
<td>ENEX 101 Composition</td>
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<tr>
<td></td>
<td>MATH 150 Applied Calculus</td>
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<tr>
<td></td>
<td>MATH 241 Statistics</td>
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<td></td>
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<tr>
<td>Second Year</td>
<td>BIOL 221 Cell and Molecular Biology</td>
</tr>
<tr>
<td></td>
<td>BIOL 223 Genetics &amp; Evolution</td>
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<td>PHYS 121N-122N General Physics I, II</td>
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<td>Lower-division writing course</td>
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<td>Third Year</td>
<td>BIOL 301 Developmental Biology</td>
</tr>
<tr>
<td></td>
<td>BIOL 340-341 Ecology and Laboratory</td>
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<tr>
<td></td>
<td>BIOL 345 Principles of Physiology or other upper-division biology, microbiology</td>
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<td>General Education</td>
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<tr>
<td></td>
<td>Upper-division electives</td>
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<td>Elective</td>
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<tr>
<td>Fourth Year</td>
<td>BIOL 306 Mammalogy and 304, 355, 405, 406, 446, 449, 456, 480 or both 400 and 401</td>
</tr>
<tr>
<td></td>
<td>BIOL 403 Vertebrate Design and Evolution</td>
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<tr>
<td></td>
<td>BIOL 410 Insect Biology</td>
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### Zoological Sciences Option with Two Years of Chemistry

<table>
<thead>
<tr>
<th>Year</th>
<th>Courses</th>
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<tbody>
<tr>
<td>First Year</td>
<td>BIOL 101N-102N Principles of Biology and Laboratory</td>
</tr>
<tr>
<td></td>
<td>BIOL 103N-104N Diversity of Life and Laboratory</td>
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<tr>
<td></td>
<td>CHEM 151N General and Inorganic Chemistry</td>
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<td>CHEM 152N Organic and Biological Chemistry</td>
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<td>CHEM 154N General Chemistry Laboratory</td>
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<td>ENEX 101 Composition</td>
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<td></td>
<td>MATH 150 Applied Calculus</td>
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<td></td>
<td>MATH 241 Statistics</td>
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### Upper-division credits

- First Year: 3
- Second Year: 5
- Third Year: 4
- Fourth Year: 4
- Natural History Option: 3
- Zoological Sciences Option with One Year of Chemistry: 3
- Zoological Sciences Option with Two Years of Chemistry: 3

### Electives

- First Year: 2
- Second Year: 4
- Third Year: 1
- Fourth Year: 1
- Natural History Option: 2
- Zoological Sciences Option with One Year of Chemistry: 2
- Zoological Sciences Option with Two Years of Chemistry: 2

### General Education

- First Year: 1
- Second Year: 1
- Third Year: 1
- Fourth Year: 1
- Natural History Option: 1
- Zoological Sciences Option with One Year of Chemistry: 1
- Zoological Sciences Option with Two Years of Chemistry: 1

### Upper-division electives

- First Year: 6
- Second Year: 4
- Third Year: 3
- Fourth Year: 3
- Natural History Option: 6
- Zoological Sciences Option with One Year of Chemistry: 3
- Zoological Sciences Option with Two Years of Chemistry: 3
Second Year

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
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<td>BIOL 223 Genetics and Evolution</td>
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<tr>
<td>CHEM 221N-222N-223N-224N Organic Chemistry</td>
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<tr>
<td>General Education</td>
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Third Year

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<th>Course</th>
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<tbody>
<tr>
<td>BIOL 301 Developmental Biology</td>
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<tr>
<td>BIOL 340-341 Ecology and Laboratory</td>
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<tr>
<td>BIOL 345 Principles of Physiology</td>
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<tr>
<td>PHYS 121N-122N General Physics I, II</td>
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Fourth Year

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<tr>
<td>BIOL 306 Mammology and 304, 308, 355, 405,</td>
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<td>406, 449, 456, 480 or both 400 and 401</td>
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<tr>
<td>BIOL 403 Vertebrate Design and Evolution</td>
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<td>BIOL 410 Insect Biology</td>
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Requirements for a Minor

To earn a minor in biology, the student must complete a minimum of 25 credits in biology including BIOL 101N-102N, 103N-104N, 221 and 223 and 8 credits in biology, biochemistry or microbiology at the 300-400 level. All courses must be taken for a traditional letter grade.

Courses

- **U** = for undergraduate credit only, **UG** = for undergraduate or graduate credit, **G** = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

**Biology (BIOL)**

- **U 100N The Science of Life** 3 cr. Offered autumn. Contemporary exploration of the organization and complexity of living organisms and the systems in which they live. The central question of biology—relationship between form and function, acquisition and use of energy, and continuity between generations will be addressed through lectures and laboratory investigations. Credit not allowed toward a major in biology. Credit not allowed for both BIOL 100N and 101N.

- **U 101N Principles of Biology** 3 cr. Offered autumn. Unifying principles of biological structure function relationships at different levels of organization and complexity. Energy, substances, organisms. Reproduction, genetics, development, evolution, ecosystems, the inter-relationships of the human species to the rest of life. Credit not allowed for both BIOL 100N and 101N.

- **U 102N Principles of Biology Laboratory 1** cr. Offered autumn. Coreq., BIOL 101N. A series of laboratory experiences illustrating basic biological principles including growth, reproduction, development, genetics and physiological processes.

- **U 103N Diversity of Life** 3 cr. Offered spring. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.

- **U 104N Diversity of Life Laboratory 2** cr. Offered spring. Coreq., BIOL 103N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.

- **U 105N Elementary Microbiology** 3 cr. Offered autumn. Coreq., BIOL 107N recommended. Same as MICB 105N. The structure, function and classification of bacteria, molds, yeasts, rickettsiae and viruses, and their practical significance to agriculture, food, drug, fermentation and other industries. Credit not allowed toward a major in microbiology.

- **U 106N Elementary Medical Microbiology** 3 cr. Offered spring. Infectious diseases, including concepts of virulence, resistance, prevention and control of microbial diseases in the individual and in the community. If laboratory experience is desired, the student may enroll concurrently in BIOL 107N. Credit not allowed toward a major in microbiology.

- **U 107N Elementary Microbiology Laboratory** 1 cr. Offered autumn and spring. Prereq. or coreq., BIOL 105N or 106N. Same as MICB 107N. Observation of live microorganisms, their characteristics and activities. Experience with microbiological techniques. Credit not allowed toward a major in microbiology.

- **U 120N General Botany** 3 cr. Offered spring. Prereq., consent of instr. Introduction to the plant kingdom including anatomy, physiology and ecology.

- **U 121N Introductory Ecology** 4 cr. Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.

- **U 195 Special Topics Variable cr. (R-6)** Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- **U 198 Cooperative Education Experience Variable cr. (R-9)** Offered intermittently. Prereq., consent of Division. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

- **U 201N Montana Wildlife** 3 cr. Offered spring. Prereq., one course in biology. Interpreting biological patterns associated with selected Montana wildlife species, including mammals, birds, reptiles and amphibians.

- **U 221 Cell and Molecular Biology 4 cr. Offered autumn. Prereq., BIOL 101N or equiv. and one year of college chemistry. Description and analysis of biological structures and processes at the cellular and subcellular levels including molecular genetics, energy, metabolism and cell differentiation.


- **U 265N Human Sexuality 3 cr. Offered spring. Same as ANTH 265N. Biological, behavioral, cross-cultural aspects of human sexuality to help students place their own sexuality and that of others in a broader perspective. Includes sexual anatomy, physiology, development, reproduction, diseases, determination, as well as gender development and current issues.

- **U 295 Special Topics Variable cr. (R-6)** Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- **U 298 Cooperative Education Experience Variable cr. (R-9)** Offered intermittently. Prereq., consent of Division. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

- **UG 301 Developmental Biology** 3 cr. Offered spring. Prereq., BIOL 221; BIOL 223 recommended. An analysis of the origin and development of form and patterns in organisms, stressing the processes of growth and differentiation in plants and animals.

- **UG 302 Comparative Vertebrate Embryology** 2 cr. Offered spring. Coreq., BIOL 301. A laboratory course
emphasizing comparative embryological development of vertebrates.

UG 304 Ornithology 4 cr. Offered spring. Prereq., BIOL 103N, 104N and 223. The classification, structure, evolution, behavior and ecology of birds.

UG 306 Mammalogy 4 cr. Offered autumn. Prereq., BIOL 103N, 104N and 223. The evolution, systematics, anatomy, physiology and ecology of mammals.


U 312N Anatomy and Physiology I 4 cr. Offered autumn. Prereq. or coreq., CHEM 151N or CHEM 161N; BIOL 101N, 102N strongly recommended. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of the integumentary, musculoskeletal, nervous and endocrine systems.

U 313N Anatomy and Physiology II 4 cr. Offered spring. Prereq., BIOL 312N. The fundamental facts and concepts of the anatomy and physiology of the circulatory, respiratory, digestive, urinary and reproductive systems.

UG 315 Peer Advising 1 cr. (R-6) Offered every term. Prereq., junior standing or current enrollment in BIOL 223. Supervised training and internship for peer advisors who will gain knowledge and ability to communicate degree requirements and relate the various degree offerings to professional and career goals. No more than two credits are allowed toward upper-division major requirements.


U 339 Listening to Ecology 2 cr. Offered autumn. Preparatory readings and attendance at seminars on a wide variety of ecological and wildlife management topics followed by critiques.

UG 340 Ecology 3 cr. Offered autumn and spring. Prereq., BIOL 223 and one year of college mathematics including MATH 241 or equiv. Analysis of the distribution and abundance of plants and animals. Includes individual, population and community-level processes (e.g., population growth and regulation, competition, predation, succession, nutrient cycling, energy flow and community organization).


UG 345 Principles of Physiology 3 cr. Offered autumn. Prereq., BIOL 221 or equiv. Animal physiology with emphasis on functional processes of organisms. Physiological mechanism involved in coordination, movement, metabolism, respiration, circulation, excretion and temperature regulation at the molecular, tissue and organ or organ system levels.

U 350 Rocky Mountain Flora 3 cr. Offered every term. Prereq., one college-level course in BIOL or consent of instr. Elements of the evolution, geography and natural affinities of flowering plants. Identification using a manual of native plants of Montana.

UG 355 Ecology of Mammals 4 cr. Prereq., BIOL 223 or equiv. Offered summers only at Flathead Lake Biological Station. The identification, natural history and behavior of mammals.

UG 356 Ecology of Birds 4 cr. Prereq., BIOL 223 or equiv. Offered summers only at Flathead Lake Biological Station. The identification, natural history, and behavior of western Montana birds.


U 395 Special Topics Variable cr. (R-10) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 397 Research 1-10 cr. (R-10) Offered every term. Prereq., consent of instr. Independent research under the direction of a faculty member. Graded pass/not pass.

U 398 Cooperative Education Experience 1-12 cr. (R-12) Offered intermittently. Provides extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 400 General Parasitology 2 cr. Offered autumn. Prereq., BIOL 223. Parasitism as a biological phenomenon, origin of parasitism, adaptations and life cycles, parasite morphology, fine structure, physiology, parasites and their environment.

UG 401 General Parasitology Laboratory 2 cr. Offered autumn. Coreq., BIOL 400. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.

UG 403 Vertebrate Design and Evolution 4 cr. Offered autumn. Prereq., BIOL 103N, 104N and 223 and PHYS 121N or 221N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.

UG 405 Animal Behavior 3 cr. Offered spring. Prereq., BIOL 223, senior standing or consent of instr. The description and evolutionary interpretation of animal behavior under natural conditions. Laboratory involves observation and recording of animal behavior.

UG 406 Insect Behavior and Evolution 4 cr. Offered spring. Prereq., BIOL 223; BIOL 405 preferred. Diversity of insect behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of insect groups and societies. Discussion sections examine both landmark and recent literature.


UG 410 Insect Biology 4 cr. Offered spring. Prereq., BIOL 103N, 104N and 223. Offered spring. The classification, morphology, anatomy, development, life-history, behavior and ecology of insects. Labs include identification of major insect groups, internal and external anatomy and student collections.

UG 413 Field Ecology 3 cr. (R-9) Offered autumn. Prereq., BIOL 340 and 341, MATH 241, or equiv. and consent of instr. Field-based experience with the methods of developing and conducting research in field ecology. Independent research projects during an extended field trip required, followed by data analysis, a written report and an oral report during the subsequent semester.

UG 415 Field Methods in Fisheries Biology and Management 1-4 cr. Offered autumn. Prereq., BIOL 308; consent of instr. Same as WBIOL 441. Field instruction by practicing biologists in techniques for evaluating and managing aquatic habitats and fish populations.

UG 418 Fungal Biology 3 cr. Offered autumn even-numbered years. Prereq., BIOL 103-104 and 221-223 or MIBC 300 or consent of instr. Same as MIBC 418. Reviews the definition, evolution, genetics, physiology, and ecology of
fungi (including organisms in the Chromista), provides overview of all fungal phyla (Chytridiomycota, Zygomycota, Ascomycota, Basidiomycota, Hypnochtyriomycota, Labyrinthulomycota, Oomycota), and highlights the importance of fungi to human affairs (food production, fungal pathogens).

UG 419 Diversity of Microorganisms 3 cr. Offered spring odd-numbered years. Prereq., BIOL 221, 223. Same as MICB 419. An inquiry-based, combined lecture and laboratory course. Examination of the diversity of life at the microbial level based on broad concepts and testable hypotheses that are examined in the laboratory using state-of-the-art techniques.


UG 421 Plant Systematics Laboratory 1 cr. Offered autumn. Prereq. or coreq., BIOL 420. Analysis of variation in plant populations using morphological and molecular methods.

UG 430 Plant Biogeography 3 cr. Prereq., consent of instr. Offered alternate years. Description of the distribution of plants and animals at global, continental and regional scales. Analysis of ecological and historical factors influencing distribution and association.

UG 440 Biological Electron Microscopy 2 cr. Offered spring. Prereq., senior standing or consent of instr. Theory of electron microscopy, recent developments in transmission and scanning electron microscopy. Limited experience with the instruments.

UG 444 Plant Physiology 4 cr. Offered spring. Prereq., BIOL 103N-104N, 120N or 316. The chemical and physical basis of water relations, photosynthesis, mineral nutrition, respiration, vegetative and reproductive growth of plants.


UG 448 Terrestrial Plant Ecology 4 cr. Offered autumn. Prereq., an introductory college course in ecology. The interrelationships between plants and plant communities and their natural environment.

UG 449 Plant-Animal Interactions 4 cr. Offered summers only at Flathead Lake Biological Station. Prereq., a college course in ecology. Concepts and techniques for understanding the interdependent relationships between plants and animals. Emphasis given to ecological and behavioral studies.

UG 453 Lake Ecology 3 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 223, CHEM 162N and a college course in ecology. The biogeochemical processes that characterize the lakes and ponds of western Montana.

UG 454 River Ecology 3 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 223, CHEM 162N and a college course in ecology. The biogeochemical processes that characterize the streams and rivers of western Montana.

UG 455 Groundwater and Riparian Ecology 3 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 223, CHEM 162N and a college course in ecology. Principles and methods for identifying and understanding surface and groundwater interactions in a watershed context. Emphasis on the ecology of groundwater and riparian food webs.

UG 456 Aquatic Vertebrate Ecology and Conservation 3 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 223, CHEM 162N and a college course in ecology. Concepts and techniques for sustaining the natural ecological integrity of vertebrate communities of lakes, streams and wetlands. Focus is on field studies of fishes and amphibians.

UG 460 Medical Physiology 3 cr. Offered spring. Prereq., C (2.00) or better in BIOL 312N, 313N, one year college chemistry or consent of instr. An advanced course in human physiology for students preparing for careers in health care.

UG 471 Teaching Anatomy and Physiology I 3 cr. Offered autumn. Prereq., BIOL 212N and 213N or equiv. and consent of instr. Advanced instruction in dissection of cadavers, the preparation of laboratory demonstrations and materials, and in the teaching of anatomy and physiology laboratories.

UG 472 Teaching Anatomy and Physiology II 3 cr. Offered spring. Prereq., BIOL 212N and 213N or equiv. and consent of instr. Continuation of BIOL 471. Advanced instruction in dissection of cadavers, the preparation of laboratory demonstrations and materials, and in the teaching of anatomy and physiology laboratories.

UG 480 Conservation Genetics 3 cr. Offered autumn. Prereq., BIOL 223. Genetic basis for solving biological problems in conservation including the genetics of small populations, the application of molecular genetic techniques to conservation biology and case studies of the application of genetics to conservation problems.

UG 486 Field Techniques in Mammalogy 2 cr. Offered every term. Prereq., BIOL 306 or equiv. and consent of instr. A “hands-on” approach to lab and field techniques employed for the study of mammals. Includes mark/recapture live trapping methods, remote cameras, and tracking plates of non-invasive censusing.

UG 493 Omnibus 1-10 cr. Offered intermittently. Prereq., consent of instr. Independent work under the University omnibus option. See index.

UG 494 Seminar in Biology 1 cr. (R-3) Offered intermittently. Prereq., consent of instr.

UG 495 Special Topics Variable cr. (R-10) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 497 Advanced Undergraduate Research 1-10 cr. (R-10) Offered every term. Prereq., junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded pass/not pass.

UG 498 Cooperative Education Experience 1-12 cr. (R-12) Offered intermittently. Prereq., consent of the Division. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 499 Undergraduate Thesis 3-6 cr. (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded pass/not pass.

G 501 Graduate Issues and Policies 1 cr. Prereq., graduate standing in biological sciences. Discussion of issues of importance to new graduate students, including the philosophy of graduate education, the mentor-student relationship, the role of the teaching assistant, handling ethical quandaries, library resources and bibliographic searches, animal use policies and issues, proposal writing and the publication process. Review of ongoing research by faculty in the organismal biology and ecology program.

G 502 Teaching Biology 3 cr. Prereq., graduate standing or consent of instr. Offered alternate years. Examination of current literature on appropriate instruction and classroom management techniques, philosophies of science education reform movements, developing innovative investigations, and classroom assessment strategies. Recommended for teaching
assistants and students pursuing faculty careers at pre-college and college levels.

G 510 Avian Ecology 3 cr. (R-6) Offered intermittently. Prereq., graduate standing in EVST, BIOL, WBIO; upper-division course in ecology; or consent of instr. Review of recent developments in avian ecology with special emphasis on scientific methodology.

G 511 Behavioral Ecology 3 cr. Prereq., BIOL 340, graduate standing, or consent of instr. Offered alternate years. Review and discussion of recent studies dealing with behavioral aspects of ecology, including such topics as territoriality, mate choice, social systems, habitat selection, foraging theory and migration.

G 513 Community Ecology 3 cr. Prereq., BIOL 340 or equiv., consent of instr. Offered alternate years. Current concepts of species interactions, succession, food webs, temporal and spatial patterns and quantitative characterization of community structure.

G 517 Advanced Plant Ecology 3 cr. Prereq., upper-division course in ecology or consent of instr. Offered alternate years. Review and discussion of recent advances in plant ecology.

G 519 Fire Ecology 3 cr. Offered autumn even-numbered years. Prereq., graduate standing or consent of instr. Review of fundamental principles and recent advances in fire ecology with the primary focus on biological effects.

G 522 Readings in Morphology, Physiology and Ecology 1 cr. (R-8) Prereq., graduate standing and consent of instr. Review and discussion of current literature in the fields of morphology, physiology, and ecology.

G 524 Physiological Plant Ecology 3 cr. Prereq., BIOL 340 and 444. Offered alternate years. The physiological basis of plant adaptation and response to the environment.


G 530 Advanced Topics in Physiology 1-4 cr. (R-8) Prereq., consent of instr. Offered alternate years. Topics vary but emphasize aspects of comparative or environmental physiology of animals and/or plants.

G 541 Electron Microscopy Laboratory Variable cr. (R-6) Prereq. or coreq., BIOL 440 or equiv. Practical laboratory experience in the preparation of various biological materials, hands-on operation of the transmission electron microscope.

G 550 Pollution Ecology 3 cr. Prereq., college ecology course or consent of instr. Same as EVST 550. Environmental fate and biological effects of water pollutants, especially in aquatic ecosystems. Pollution reduction and prevention strategies; related law and policies.

G 551 Environmental Field Study 1-3 cr. (R-3) Prereq. or coreq., BIOL 550 or EVST 540 or 560. Same as EVST 551. Designing, executing, and interpreting environmental studies. Project oriented.

G 561 Population Genetics Seminar 1-2 cr. (R-12) Prereq., consent of instr. or graduate standing. Current topics in population genetics, evolutionary biology, molecular evolution and related topics.


G 594 Seminar in Biology 1 cr. (R-6) Prereq., graduate standing or consent of instr. A review and discussion of current research in biology. Topics vary.

G 595 Special Topics 1-8 cr. (R-8) Prereq., graduate standing and consent of instr. Experimental offering of new courses by resident or visiting faculty.

G 596 Independent Study 1-8 cr. (R-8) Prereq., consent of instr. Credit for independent research project unrelated to thesis or dissertation.

G 597 Research 1-8 cr. (R-12) Prereq., consent of instr. Library work involved with preparation o a thesis or dissertation proposal.

G 598 Cooperative Education Experience 1-8 cr. (R-8) Prereq., consent of the Division, graduate standing. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Thesis 1-10 cr. (R-10) Prereq., masters student in biology. Field and laboratory research on, and writing of, a student's masters thesis.

G 699 Dissertation 1-10 cr. (R-20) Prereq., doctoral student in biology. Credit for field and laboratory research on, and writing of, a student's doctoral dissertation

Medical Technology

Michael Minnick (Professor of Biological Sciences), Advisor

Medical Technology is a combined study of chemistry, physiology and microbiology. A medical technologist is capable of performing, under the supervision of a pathologist or other qualified physician or laboratory director, the various chemical, microscopic, bacteriologic and other medical laboratory procedures used in the diagnosis, study and treatment of disease. Medical technologists are in demand in hospital laboratories, physicians' offices, research institutions and in federal and state health departments. Although certification is essential for clinical practice, persons receiving a B.S. in Medical Technology also are qualified bacteriologists and can obtain positions in many laboratories as technicians. The degree also is an excellent foundation for those students planning to go on to professional schools in the health sciences or graduate school in the molecular biosciences.

Four years are required to earn the degree of Bachelor of Science in Medical Technology. The first two years are devoted to the development of a sound foundation in chemistry and biology. The last two years are designed to develop efficiency in the fields of microbiology and clinical methods. The student is encouraged to obtain an understanding of social science and cultural subjects.

To be certified by the Board of Registry a student, after satisfying the minimum course requirements, serves a clinical internship of at least 12 consecutive months in an approved school of medical technology endorsed by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) and American Society of Clinical Pathology (ASCP) of the American Medical Association. Schools of medical technology are located in every state, the District of Columbia, Puerto Rico and the Canal Zone. After completing the internship and passing the Registry examination, the student receives a diploma from the Board of Registry with the professional designation of Medical Technologist M.T. (SCP).

The University of Montana-Missoula has two coursework options for the medical technology degree:

Option A is a 4+1 curriculum in which the student completes the bachelor's degree and applies for a clinical internship only if desired. Student who choose the 4+1 curriculum have the option to do a clinical internship at our affiliate by applying the
fall of their senior year at UM. Details and application forms can be obtained online at the following website address: http://www.umt.edu/Medtech/default.htm. Internship applications are due by October 22 for enrollment the following May.

**Option B** is a 3+1 curriculum designed to fast-track students who definitely wish to become practicing medical technologists. The first three years of the 3+1 curriculum are completed at UM, while the fourth year is more applied and incorporates both classroom learning and a clinical internship at our medical school affiliate (University of North Dakota) in cooperation with clinical sites located in Montana and the Midwest. The degree and certification are granted after successful completion of the fourth year.

**High School Preparation:** In addition to the general University requirements for admission, it is recommended that high school preparation include algebra, geometry, trigonometry, chemistry, and a foreign language.

**Special Degree Requirements**

Refer to graduation requirements listed previously in the catalog. See index.

In addition to the General Education requirements, the following courses are required for either option leading to a Bachelor of Science in Medical Technology: Thirty or more credits (300-level or above) in biology, biochemistry and microbiology including MICB 300-301, 410-411, 412-413, 420, BIOC 380; BIOL 221, 223, 312N, 400; CHEM 161N-162N, 221-223 and MATH 150. The 4+1 option also requires CHEM 222-224, 341; MICB 309, 406-407 and PHYS 121N-122N. The 3+1 option also requires CLS 460, 461, 462, 463, 464, 465, 467, 468, 470, 471, 472, 473, 474, 475, 476, 477, 480, 481, 482, 483, and 485.

To meet the Upper-Division Writing Expectations of the Bachelor of Science in Medical Technology, students must successfully complete one of MICB 404, 418, 419, 420, or 421 or complete three courses selected from MICB 410, 411, 412, or 450.

**Suggested Course of Study**

**Option A (4+1)**

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Courses

U=for undergraduate credit only, UG=for undergraduate or graduate credit, G=for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Clinical Laboratory Science (CLS)

U 460 Clinical Immunohematology I 1 cr. Offered summer. Prereq., consent of medical technology advisor. Practical application of modern transfusion techniques, component therapy, and quality assurance.

U 461 Clinical Chemistry Theory 2 cr. Offered summer. Prereq., consent of medical technology advisor. Overview of clinical chemistry theory, principles, procedures, and correlations. Topics include instrumentation, carbohydrates, proteins, lipids, enzymes, liver function, blood gases, electrolytes, renal function, endocrinology, therapeutic drug monitoring and toxicity.

U 462 Clinical Laboratory I 1 cr. Offered summer. Prereq., consent of medical technology advisor. Theory and practice of phlebotomy in the clinical setting, specimen processing, review of state and federal regulations, safety and biohazard compliance, interpersonal relationship skills.

U 463 Clinical Hemostasis 2 cr. Offered summer. Prereq., consent of medical technology advisor. Physiological mechanisms of normal human hemostasis as well as hereditary and acquired bleeding and thrombotic defects are discussed. Laboratory techniques for obtaining blood, screening procedures, specific assays and procedures to monitor anticoagulant therapy.


U 465 Clinical Body Fluids 1 cr. Offered summer. Prereq., consent of medical technology advisor. Body fluid physiology, pathology, laboratory measurement and case study analysis. Focus on laboratory technologies, principles of operation of various laboratory instruments and quality management in the clinical setting.

U 466 Clinical Immunohematology Theory 1 cr. Offered summer. Prereq., consent of medical technology advisor. Theory of modern transfusion techniques, component therapy, and quality assurance.

U 467 Clinical Microbiology Theory and Laboratory 2 cr. Offered summer. Prereq., consent of medical technology advisor. Study of groups of medically important bacteria correlated to laboratory practice in identification. Includes antibiotic susceptibility testing, quality control, and methods of identification; rapid, automated and traditional methods.

U 470 Clinical Immunohematology II 2 cr. Offered autumn. Prereq., consent of medical technology advisor. Techniques and modern transfusion practices at the clinical affiliate. Review of the basic and advanced information in blood banking with correlation between laboratory testing and patient care.

U 471 Clinical Chemistry I 3 cr. Offered autumn. Prereq., consent of medical technology advisor. Applied theory and practice in clinical chemistry at the clinical affiliate. Review of the basic and advanced information in clinical chemistry with correlation between laboratory testing and patient care.

U 472 Clinical Hematology I 2 cr. Offered autumn. Prereq., consent of medical technology advisor. Morphologic evaluation of blood smears, interpretive correlation of hematologic findings and the pathophysiology of disorders of the hematopoietic system.

U 473 Clinical Laboratory II 1 cr. Offered autumn. Prereq., consent of medical technology advisor. Focus on performing phlebotomy techniques, hemostasis procedures and laboratory safety. Communication skills, attitude and work performance will be evaluated.

U 474 Clinical Microbiology I 2 cr. Offered autumn. Prereq., consent of medical technology advisor. Techniques and practices in clinical microbiology at the clinical affiliate. Psychomotor skills, performance and understanding of the procedure methodologies, along with the relationship of test results to the patient disease/care.

U 475 Clinical Laboratory III 1 cr. Offered autumn. Prereq., consent of medical technology advisor. Observation, practice or research in specialized areas or settings at the clinical affiliate.

U 476 Clinical Immunology I cr. Offered autumn. Prereq., consent of medical technology advisor. Applied theory and practice in clinical immunology and serology at the clinical affiliate.

U 477 Medical Mycology I cr. Offered autumn. Prereq., consent of medical technology advisor. Comparative morphology, physiology and pathogenicity of medically important fungi. Laboratory methods for identification, emphasize interpretation and evaluation of results including the recognition of contaminating organisms.

U 480 Financial and Quality Management of the Clinical Laboratory 3 cr. Offered spring. Prereq., consent of medical technology advisor. A capstone course designed to provide senior CLS students with the skills to manage a clinical laboratory. Brings together previous content with a focus on laboratory profitability, quality management and quality improvement.

U 481 Clinical Chemistry II 2 cr. Offered spring. Prereq., consent of medical technology advisor.

U 482 Clinical Immunohematology II 2 cr. Offered spring. Prereq., consent of medical technology advisor. Techniques and modern transfusion practices at the clinical affiliate. Psychomotor skills, performance and understanding of the procedure methodologies, along with the relationship of test results to the patient disease/care.

U 483 Clinical Hematology II 3 cr. Offered spring. Prereq., consent of medical technology advisor. Techniques and practices in clinical hematology at the clinical affiliate. Psychomotor skills, performance and understanding of the procedure methodologies, along with the relationship of test results to the patient disease/care.

U 485 Clinical Microbiology II 2 cr. Offered spring. Prereq., consent of medical technology advisor. Techniques and practices in clinical microbiology at the clinical affiliate. Psychomotor skills, performance and understanding of the procedure methodologies, along with the relationship of test results to the patient disease/care.
Microbiology

Microbiology is the study of microorganisms, including the bacteria, yeasts, molds, viruses, protozoa and other microscopic parasites. Two options are available. The microbiology degree emphasizes microbial structure, function, and interactions and relationships with humans. The microbial ecology option emphasizes microbial structure, function, and interactions and relationships with the environment and other organisms including higher plants and animals.

A B.S. in microbiology is offered as a general degree or with an option in microbial ecology. Initial work provides the student with a working knowledge of the basic principles of the physical and biological sciences and mathematics. The remaining study is devoted to a more intense and broadened training in microbiology and allied fields, and may include independent study which offers the student an opportunity to prepare for graduate work.

Special Degree Requirements

Refer to the graduation requirements listed previously in the catalog. See index.

In addition to the General Education requirements, the following courses must be completed for the Bachelor of Science in Microbiology: Thirty-two or more credits (300-level or above) in biology, biochemistry and microbiology including BIOL 304-306, 410, 417, 420, and 481; four laboratory courses selected from MICB 309, 405, 411, 413, 415, 417, 421, 451, 453, 454, 455, or MATH 153, 251, 444, 447, or MICB 404, 410, 411, 417, 419, 421, 451, 497. CHEM 221, 222, 223, 224 are recommended courses.

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<tbody>
<tr>
<td>BIOL 101N-102N Principles of Biology and Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 103N-104N Diversity of Life and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 161N-162N, College Chemistry and Laboratory</td>
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</tr>
<tr>
<td>MATH 150N Applied Calculus</td>
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</tr>
<tr>
<td>PHYS 101N-102N Physics</td>
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Second Year

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<th>Course</th>
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<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
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</tr>
<tr>
<td>BIOL 223 Genetics &amp; Evolution</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 221-222, 223-224 Organic Chemistry and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>MICB 300-301 General Microbiology and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>Lower-Division Writing Course</td>
<td>3</td>
</tr>
<tr>
<td>Elective</td>
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Third Year

<table>
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<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>BIOL 380 and upper-division elective or 481-482 Biochemistry</td>
<td>3-4</td>
</tr>
<tr>
<td>MICB 410-411 Immunology and Laboratory*</td>
<td>5</td>
</tr>
<tr>
<td>MICB 412-413 Medical Bacteriology and Laboratory*</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 121N-122N General Physics</td>
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</tr>
<tr>
<td>Electives</td>
<td>2</td>
</tr>
</tbody>
</table>

Forth Year

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>BIOL 340 Ecology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 341 Quantitative Analysis and Instrumental Methods</td>
<td>4</td>
</tr>
<tr>
<td>MICB 404-405 Molecular Genetics and Laboratory*</td>
<td>4</td>
</tr>
<tr>
<td>MICB 420 Virology</td>
<td>3</td>
</tr>
<tr>
<td>MICB 450-451 Microbial Physiology and Laboratory*</td>
<td>4</td>
</tr>
<tr>
<td>General Education</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>16</td>
</tr>
</tbody>
</table>

*Laboratory requirement: MICB 301 plus four (4) other labs.

Requirements for a Minor

To earn a minor in microbiology, the student must complete MICB 300-301, 302 or 412-413, 410-411 and eight credits selected from MICB 404, 420-421, 450-451; BIOL 400, 401.

Courses

U=for undergraduate credit only, UG=for undergraduate or graduate credit, G=for graduate credit, R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Microbiology (MICB)

U 105N Elementary Microbiology 3 cr. Offered autumn. Coreq., MICB 107N recommended. Same as BIOL 105N. The
structure, function and classification of bacteria, molds, yeasts, rickettsiae and viruses, and their practical significance to agriculture, food, drug, fermentation and other industries. Credit not allowed toward a major in microbiology.

U 107N Elementary Microbiology Laboratory 1 cr. Offered autumn and spring. Prereq. or coreq., MICB 105N. Same as BIOL 107N. Observation of live microorganisms, their characteristics and activities. Experience with microbiological techniques. Credit not allowed toward a major in microbiology.

UG 300 General Microbiology 3 cr. Offered spring. Prereq., CHEM 161N, 162N; prereq. or coreq., CHEM 221, BIOL 221. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterility, antimicrobial agents, microbial diversity.

UG 301 General Microbiology Laboratory 2 cr. Offered spring. Prereq. or coreq., MICB 300. Basic microbiology procedures and techniques.

UG 302 Medical Microbiology 3 cr. Offered autumn. Microbial structure and functions, pathogenic microorganisms, virology, immunology. Credit not allowed toward a major in microbiology.

UG 303 Hematology 3 cr. Offered autumn. Prereq., junior level or consent of instr., MICB 300. Study of blood and diseases of the circulatory system. Blood banking and serology.

UG 404 Microbial Genetics 3 cr. Offered spring. Prereq., MICB 300 and 301. The molecular genetics of prokaryotic organisms including: structure and replication of the prokaryotic chromosome; gene expression; mutagenesis and DNA repair; plasmids and other tools of genetic engineering; transmission of genetic material and recombination in prokaryotes; regulation of gene expression in prokaryotes; recombinant DNA and biotechnology.

UG 405 Molecular Genetics Laboratory 1 cr. Offered spring. Prereq. or coreq., MICB 404. Experiments in molecular genetics: mutagenesis, recombination, recombinant DNA.

UG 406 Clinical Diagnosis 2 cr. Offered spring. Prereq., MICB 412-413. Principles of blood chemistry, urinalysis, hematology and other clinical parameters of disease and health.

UG 407 Clinical Diagnosis Laboratory 1 cr. Offered spring. Prereq., MICB 406, 412-413. Clinical diagnostic methods.

UG 408 Seminar 1 cr. (R-3) Offered autumn and spring. Prereq., senior standing in natural sciences. Recent topics in microbiology and related subjects.

UG 410 Immunology 3 cr. Offered autumn. Prereq., MICB 300-301. Modern concepts and methods in immunology.

UG 411 Immunology Laboratory 2 cr. Offered autumn. Coreq., MICB 410. Modern techniques for analysis of immune responses.

UG 412 Medical Bacteriology and Mycology 3 cr. Offered spring. Prereq., MICB 300, 301. A study of the pathogenic bacteria and fungi and the diseases they produce.

UG 413 Medical Bacteriology and Mycology Laboratory 2 cr. Offered spring. Prereq. or coreq., MICB 412. Laboratory study of pathogenic bacteria and fungi.

UG 418 Fungal Biology 3 cr. Offered autumn even-numbered years. Prereq., BIOL 103-104 and 231-222 or MICB 300 or consent of instr. Same as BIOL 418. Reviews the definition, evolution, genetics, physiology, and ecology of fungi (including organisms in the Chromista), provides overview of all fungal phyla (Chytridiomycota, Zygomycota, Ascomycota, Basidiomycota, Hypohymyomycota, Labyrinthomycota, Oomycota), and highlights the importance of fungi to human affairs (food production, fungal pathogens).

UG 419 Diversity of Microorganisms 3 crs. Offered spring odd-numbered years. Prereq., BIOL 221, 223. Same as BIOL 419. An inquiry-based, combined lecture and laboratory course. Examination of the diversity of life at the microbial level based on broad concepts and testable hypotheses that are examined in the laboratory using state-of-the-art techniques.

UG 420 Virology 3 cr. Offered spring. Prereq., MICB 410. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses.

UG 422 Microbial Ecology: Principles 4 cr. Offered spring. Prereq., BIOL 221-222, MICB 300-301 or consent of instr. Focus on the huge diversity of microbes abundant in nearly every environment on earth, the essential roles they play in shaping our biosphere, and the interactions and relationships between microbes and all other forms of life. Includes a 3-day field camp for sampling and laboratory investigation of environmental samples.

UG 423 Microbial Ecology: Applications 4 cr. Offered spring. Prereq., BIOL 221-222, MICB 300-301 or consent of instr. Real-world applications of microbial ecology and environmental microbiology with a focus on understanding and utilizing diverse microbial capabilities for useful ends. Provides a foundation for careers in environmental health, bioremediation, food microbiology, biotechnology, biogeochemistry, industrial processes, waste management, etc.

UG 450 Microbial Physiology 3 cr. Offered autumn. Prereq., MICB 300-301. Microbial structure and function, physiological diversity, microbial metabolism, role of microbial activity in the environment.

UG 451 Microbial Physiology Laboratory 1 cr. Offered autumn. Coreq., MICB 450. Experimental approaches to analysis of microbial structure, composition and metabolism.

UG 490 Medical Technology Internship 1-16 cr. Offered every term. Prereq., consent of instr.

UG 495 Special Topics 1-10 cr. (R-10) Offered intermittently. Experimental offerings of new courses, experimental offerings of visiting professors, or one-time offerings of current topics.

UG 497 Advanced Undergraduate Research 1-10 cr. (R-10) Offered every term. Prereq., MICB 300, junior or senior standing and consent of instr. Independent research under the direction of a faculty member. Graded pass/not pass.

UG 498 Cooperative Education Experience 1-12 cr. (R-12) Offered intermittently. Prereq., consent of the Division. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 499 Undergraduate Thesis 3-6 cr.. Graded pass/not pass. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give an oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded pass/not pass.

G 502 Advanced Immunology 3 cr. Offered autumn even-numbered years. Advanced topics and immunological techniques used in modern immunology.

G 509 Advanced Virology 3 cr. Offered spring odd-numbered years. Prereq., MICB 420-421. Students are presented with research papers that have been pivotal to the understanding of important molecular or genetic concepts in virology.

G 560 Medical Parasitology 2 cr. Offered spring. Prereq., BIOL 400 or equiv. Offered alternate years. Epidemiology, pathology, immunology, diagnosis and treatment of protozoan and helminth parasites of humans. Stress current advances in parasitology.

G 530 Grant Writing 2 cr. Offered spring. Prereq., graduate standing. Same as BIOC 530. Required course for biochemistry and microbiology graduate students. Students become acquainted with the grant writing process by writing
grants that have received University approval for submission based on student research projects.

G 540 Microbial Pathogenesis 3 cr. Offered spring. Prereq., graduate standing. Current concepts in microbial pathogenesis. Focus on microbial virulence factors leading to disease and host responses to infection.

G 545 Advanced Topics in Microbial Ecology 1 cr. Offered every term. Prereq., graduate standing or consent of instr. Discussion of selected themes of the ecology of microorganisms with a focus on the recent primary literature.

G 546 Experimental Microbial Ecology 1 cr. Offered every term. Prereq., graduate standing or consent of instr. Focus on experimental design, methods, and presentation of experimental results in the area of microbial ecology.

G 570 Introduction to Research 2 cr. Offered autumn and spring. Prereq., graduate standing. Required course for biochemistry and microbiology graduate students. Students are acquainted with faculty research projects. Instruction in basic research techniques, research equipment. Introduction to relevant scientific research literature. Six hours in each research laboratory of faculty in biochemistry/microbiology program.

G 580 Training Seminar 1 cr. (R-2) Offered autumn and spring. Prereq., graduate standing or consent of instr. Same as BIOC 580. A one semester offering required of all new students.

G 583 Lipids and Membranes 3 cr. Offered intermittently. Prereq., CHEM 370 or 372 and BIOC 482 or equiv. Same as BIOC 583. The chemistry and biochemical properties of lipids and their functions in biological systems. The structure and function of biological membranes are emphasized.

G 594 Professional Seminar 1 cr. (R-4) Offered autumn and spring. Prereq., graduate standing or consent of instr. Same as BIOC 594. Presentation of current research in biochemistry and molecular biology by senior graduate students, faculty, and invited outside speakers.

G 595 Special Topics 1-3 cr. (R-6) Offered intermittently. Prereq., graduate standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 597 Research Variable cr. (R-18) Offered intermittently. Prereq., graduate standing, one semester residence.

G 599 Thesis 1-10 cr. (R-10) Offered intermittently. Prereq., masters student in microbiology. Laboratory research for and preparation of a masters thesis.

G 685 Advanced Molecular Biology Laboratory 1-3 cr. (R-3) Offered autumn. Prereq., graduate standing. Modern molecular biology techniques.


Pre-Medical Sciences

Ralph C. Judd (Professor of Biological Sciences), Director

Health care continues to be one of the most rapidly expanding areas of our society. Careers in the health professions have expanded, both in numbers and in the variety of opportunities. The rewards of a career in health care include excellent salaries, stability of employment, geographic mobility, and the opportunity to help other people. The pre-medical sciences program is an advising program that helps students become well-informed, well-prepared applicants to programs in allopathic medicine, chiropractic medicine, dentistry, naturopathic medicine, optometry, osteopathic medicine, physician assistant, podiatry and veterinary medicine.

Students may select any major as a field of study which must include specific preprofessional courses. When selecting a major consider that your undergraduate years may be your last opportunity to pursue in depth a nonscience subject of interest. Professional schools are most concerned with the overall quality, scope and difficulty of undergraduate work and not the major.

Preprofessional courses are designed to provide a strong foundation in the sciences, highly developed communicative skills and a solid background in the social sciences and humanities. Curriculum guides outlining minimal course requirements established by professional schools are available from the Pre-medical Sciences Director.

The minimal requirements should be completed by the end of the third year of study or prior to taking the admission test required by professional schools. Since specific subject requirements vary among institutions, students should discuss their academic plans with the Pre-medical Sciences Director. Individuals with weak math and science preparation should consider a five year undergraduate program beginning with remedial courses in math, English, and reading skills.

Admission to a professional school is very competitive. Students must maintain a B-plus grade-point average in college if they expect to be admitted. All required courses must be taken for letter grades. In addition, the applicant must place high on an admissions test which has been designed to measure basic academic ability in the natural sciences, reading ability and problem solving skills. These examinations are ordinarily taken during the junior year.

Besides academic accomplishments and admission exam scores, acceptance by a professional school is also dependent upon letters of recommendation and personal interviews conducted by the professional school. It is important that students consult with the Pre-medical Sciences Director and with an academic advisor in their major each year to make sure that they can satisfy the necessary requirements for graduation within the time available. The Director can also discuss procedures, counsel and support the student during the process of applying to a professional school.

High School Preparation: High school students contemplating a career in the health professions should have three to four years of mathematics, courses in chemistry and physics and considerable background in literature and social science.
Mark S. Cracolice, Chairman

Chemistry is the central science which involves the study of atoms and molecules their structures, their combinations, their interactions, and the energy changes accompanying chemical processes.

The Department offers the following degrees: B.S., B.A., M.S., and Ph.D.

A departmental honors program has been established for chemistry majors who attain a strong scholastic record. This program is based upon independent study and research with the direction of individual faculty members. In many cases financial support is available on a part-time research fellowship basis from research grants obtained by individual faculty members or from departmental endowment funds.

Prospective students desiring further information on any program of the Department of Chemistry should contact the Chair (website: www.umt.edu/chemistry/).

High School Preparation: In addition to the general University admission requirements, it is strongly recommended that a student take four years of mathematics, four years of science, and a foreign language.

Refer to graduation requirements listed previously in the catalog. See index.

Special Degree Requirements

All chemistry majors must use the traditional letter grade option in registering for their required science and mathematics courses. The beginning mathematics course for a particular student depends upon a placement examination administered by the Department of Mathematical Sciences. Students are reminded of the University requirements that 39 of the 120 credits presented for graduation must be at the 300 or higher level, and that at least a 2.0 GPA must be earned in all credits attempted in the major.

Bachelor of Science (American Chemical Society Certified)

The courses required for the B.S. degree provide a solid education in chemistry for the professional chemist and in preparation for graduate work in most areas of chemistry. These requirements meet the latest certification standards of the American Chemical Society.

Course Credits
CHEM 161N-162N College Chemistry and Laboratory 10
CHEM 221-222 Organic Chemistry 6
CHEM 223 Organic Chemistry Laboratory for Majors 2
CHEM 264 Organic Chemistry Laboratory for Chemistry Majors (preferred) or 224 Organic Chemistry Laboratory 2
CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation) 3
CHEM 341 Quantitative Analysis & Instrumental Methods 4
CHEM 342 Instrumental Analysis & Physical Measurements 4

CHEM 371-372 Physical Chemistry I, II 8
CHEM 452 Inorganic Chemistry 3
CHEM 494 Undergraduate Chemistry Seminar 1
BIOC 481-482 Biochemistry 6
BIOC 485 Biochemistry Laboratory or equivalent laboratory experience 2
BIOC 221 Cell and Molecular Biology 4

Advanced electives in chemistry or biochemistry (from CHEM 395, 453, 455, 465, 466, 495, 3 credits maximum of 497, 3 credit maximum of 499, or from suitable 300 or 400-level BIOC, BIOL, or MICB courses) 3

Cognate courses:
CS 172–Computer Modeling (or similar computing experience with consent of chemistry advisor) 3
MATH 152-153 and 251 Calculus I, II, III 12
MATH 311 Ordinary Differential Equations and Systems or MATH 221 Linear Algebra 3
PHYS 221N-222N General Physics I and II 10
Modern foreign language 10
ENEX 101 3

At the time of graduation a recipient of this degree must have completed two semesters of one modern foreign language, which, as a departmental requirement, may be taken credit/no credit.

Bachelor of Science with a major in Chemistry, Option in Biochemistry (American Chemical Society Certified)

The Chemistry B.S. degree with the option in biochemistry forms a solid base for advanced work in biochemistry including graduate school. These requirements meet the latest certification standards of the American Chemical Society.

Course Credits
CHEM 161N-162N College Chemistry and Laboratory 10
CHEM 221-222 Organic Chemistry 6
CHEM 223 Organic Chemistry Laboratory 2
CHEM 264 Organic Chemistry Laboratory for Chemistry Majors (preferred) or 224 Organic Chemistry Laboratory 2
CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation) 3
CHEM 341 Quantitative Analysis & Instrumental Methods 4
CHEM 342 Instrumental Analysis & Physical Measurements 4

CHEM 371-372 Physical Chemistry I, II 8
CHEM 452 Inorganic Chemistry 3
CHEM 494 Undergraduate Chemistry Seminar 1
BIOC 481-482 Biochemistry 6
BIOC 485 Biochemistry Laboratory or equivalent laboratory experience 2
BIOC 221 Cell and Molecular Biology 4

Advanced electives in chemistry or biochemistry (from CHEM 395, 453, 455, 465, 466, 495, 3 credits maximum of 497, 3 credit maximum of 499, or from suitable 300 or 400-level BIOC, BIOL, or MICB courses) 3

Cognate courses:
CS 172–Computer Modeling (or similar computing experience with approval of chemistry advisor) 3
MATH 152-153 and 251 Calculus I, II, III 12
PHYS 221N-222N (preferred) or 121N-122N General Physics I and II 10
64- College of Arts and Sciences - Department of Chemistry

CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry I ........................................... 3-4
CHEM 452 Inorganic Chemistry ........................................... 3
CHEM 494 Undergraduate Chemistry Seminar .......................... 1
BIOC 481-482 Biochemistry ........................................... 6
BIOL 101N-102N Principles of Biology and Laboratory or equivalent ........................................... 4
BIOL 221 Cell and Molecular Biology ........................................... 4
MICB 300 General Microbiology or MICB 302 Medical Microbiology ........................................... 4
Electives from CHEM 371, 372, 395, 453, 455, 465, 466, 3 credits maximum of 497; BIOL 485, 486; BIOL 212, 213, 301, 440, 460, 3 credits maximum of 497; MICB 301, 404, 410, 420, 3 credits maximum of 497 ........... 12
Cognate courses:
MATH 150 Applied Calculus or MATH 152 Calculus I ........... 4
MATH 158 Applied Differential Equations or MATH 153 Calculus II ........................................... 3-4
PHYS 121N-122N or 221N-222N General Physics I, II ........... 10

Bachelor of Science with a major in Chemistry, Option in Environmental Chemistry

Course Credits
CHEM 161N-162N College Chemistry and Laboratory ........... 10
CHEM 221-222 Organic Chemistry and Laboratory ........... 6
CHEM 223 Organic Chemistry Laboratory ............................... 2
CHEM 264 Organic Chemistry Laboratory for Chemistry Majors or 224 Organic Chemistry Laboratory ........... 2
CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation) ........... 3
CHEM 341 Quantitative Analysis & Instrumental Methods# ........................................... 3
CHEM 342 Instrumental Analysis & Physical Measurements ........... 4
CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry I ........................................... 3-4
CHEM 452 Inorganic Chemistry ........................................... 3
CHEM 494 Undergraduate Chemistry Seminar .......................... 1
BIOC 481 Biochemistry ........................................... 3
BIOL 101N-102N Principles of Biology and Laboratory or equivalent ........................................... 4
BIOL 221 Cell and Molecular Biology ........................................... 4
BIOL 223 Genetics and Evolution ........................................... 4
GEOL 100N-101N General Geology and Laboratory ........... 3
GEOL 327 Geochemistry ........................................... 3
Electives from CHEM 371, 372, 453, 455, 465, 466; 3 credits maximum of 497; BIOL 340, 453, 454, 455, 497, 3 credits maximum of 497; GEOL 320, 382, 431, 480, 3 credits maximum of 497; MICB 300, 416, 3 credits maximum of 497; MATH 445; Modern Foreign Language (5 credits maximum) ........... 8
MATH 150 Applied Calculus or 152 Calculus I ........... 4
MATH 158 Applied Differential Equations or 153, Calculus II ........................................... 3-4
MATH 444, 447 Statistics ........................................... 4
PHYS 121N-122N or 221N-222N General Physics I, II ........... 10

Bachelor of Science with a major in Chemistry, Option in Pharmacology

Course Credits
CHEM 161N-162N College Chemistry and Laboratory ........... 10
CHEM 221-222 Organic Chemistry and Laboratory ........... 6
CHEM 223 Organic Chemistry Laboratory ............................... 2
CHEM 264 Organic Chemistry Laboratory for Chemistry Majors or 224 Organic Chemistry Laboratory ........... 2
CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation) ........... 3
CHEM 341 Quantitative Analysis & Instrumental Methods# ........................................... 4
CHEM 342 Instrumental Analysis and Physical Measurements ........... 4
CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry I ........................................... 3-4
CHEM 452 Inorganic Chemistry ........................................... 3
CHEM 494 Undergraduate Chemistry Seminar .......................... 1
BIOC 481-482 Biochemistry ........................................... 6
BIOL 101N-102N Principles of Biology and Laboratory or equivalent ........................................... 4
BIOL 221 Cell and Molecular Biology ........................................... 4
MICB 302 Medical Microbiology ........................................... 3
PHAR 341-342 Applied Anatomy and Physiology ........... 8
PHAR 443-444 Pharmacology and Toxicology ........... 8
Electives from CHEM 371, 372, 453, 455, 465, 466; 3 credits maximum of 497; BIOL 3 credits maximum of 497; PHAR 421, 422, 3 credits maximum of 497 ........... 3
Cognate courses:
MATH 150 Applied Calculus or 152 Calculus I ........... 4
MATH 158 Applied Differential Equations or MATH 153 Calculus II ........................................... 3-4
PHYS 121N-122N or 221N-222N General Physics I, II ........... 10

Bachelor of Arts Degree

The courses required for the B.A. degree provide a less extensive training in chemistry than do the courses required for the American Chemical Society certified B.S. degree. This is to allow the student to supplement his or her program with courses that meet his or her specific needs. Thus this degree provides the core of traditional preparation in chemistry together with latitude for combination with an interdisciplinary field or the Teacher Preparation program. It is strongly advised that students using this degree obtain faculty advice in planning their program.

Course Credits
CHEM 161N-162N College Chemistry and Laboratory ........... 10
CHEM 221-222 Organic Chemistry and Laboratory ........... 6
CHEM 223 Organic Chemistry Laboratory ............................... 2
CHEM 264 Organic Chemistry Laboratory for Chemistry Majors or 224 Organic Chemistry Laboratory ........... 2
CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation) ........... 3
CHEM 341 Quantitative Analysis & Instrumental Methods# ........................................... 3
CHEM 342 Instrumental Analysis & Physical Measurements ........... 4
CHEM 371-372 Physical Chemistry ........................................... 8
CHEM 494 Undergraduate Chemistry Seminar ........... 1
* Advanced electives ........................................... 15
Cognate courses:
CS 172 Introduction to Computer Modeling (or similar computing experience with approval of Chemistry advisor) ........... 3
MATH 152, 153, 251 Calculus I, II and III ........... 12
PHYS 221N-222N (preferred) or 221N-222N General Physics I and II ........... 10
Modern Foreign Language ........................................... 10
ENEX 101 Composition ........................................... 3
*As preparation for teaching at the secondary level, students should elect CHEM 452, 453, and 485, BIOL 380, MATH 241, SCI 350 and teaching certification requirements including CS&I 426 and Sci 590. A student should consult his or her chemistry advisor for other options.

At the time of graduation a recipient of this degree must have completed two semesters of one foreign language. The Department of Chemistry waives the foreign language requirement for a student who completes the B.A. degree in preparation for secondary teaching and who meets the requirements for teaching certification, including the student teaching requirement. These students still must meet the
foreign language/symbolic systems competency requirement (likely via MATH 152 and 153) for General Education as described in the Academic Policies and Procedures section of this catalog.

**Teacher Preparation in Chemistry**

Major Teaching Field of Chemistry: For an endorsement in the major teaching field of Chemistry, a student must complete the requirements for the above B.A. degree with a major in Chemistry with appropriate electives but without the foreign language requirement, and with the addition of CHEM 452, 453, and 485. Students also must complete BIOL 380, MATH 241, Sci 350, and C&I 426, gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

Minor Teaching Field of Chemistry: For an endorsement in the minor teaching field of Chemistry, a student must complete CHEM 101N, 161N-162N, 221-222-223, 341, 370 or 371, and 485; BIOL 380, CS 101 or 172, MATH 150 and 241, PHYS 121N-122N or PHYS 221N-222N, and SCI 350. Students also must complete C&I 426, gain admission to Teacher Education and Student Teaching and meet other requirements for certification as a secondary teacher (see the School of Education section of this catalog).

**Suggested Course of Study**

### For B.S. Degree (American Chemical Society Certified)

| First Year |
|-----------------|-----------------|-----------------|
| CHEM 161N-162N College Chemistry | 5 | S |
| CS 172 Computer Modeling | - | 3 |
| MATH 152-153 Calculus I, II | 4 | 4 |
| ENEX 101 Composition | 3 | - |
| Electives and General Education | 3 | 3 |
| **Total** | **15** | **15** |

| Second Year |
|-----------------|-----------------|-----------------|
| CHEM 221-222 Organic Chemistry | 3 | 3 |
| CHEM 223 Organic Chemistry Laboratory | 2 | 3 |
| CHEM 264 (or 224) Organic Chemistry Laboratory | - | 2 |
| MATH 251 Calculus III | 4 | - |
| MATH 311 Ordinary Differential Equations and Systems or MATH 221 Linear Algebra | - | 3 |
| PHYS 221N-222N General Physics | 5 | 5 |
| Electives and General Education | - | 3 |
| **Total** | **14** | **16** |

| Third Year |
|-----------------|-----------------|-----------------|
| CHEM 334 Chem Literature & Scientific Writing | - | 3 |
| CHEM 341 Quantitative Analysis & Instrumental Methods | - | 4 |
| CHEM 342 Instrumental Analysis and Physical Measurements | - | 4 |
| CHEM 371-372 Physical Chemistry I, II | 4 | 4 |
| General Education (one upper-division) | 9 | 6 |
| **Total** | **17** | **17** |

| Fourth Year |
|-----------------|-----------------|-----------------|
| CHEM 452-453 Inorganic Chemistry | 3 | 3 |
| CHEM 455 Inorganic Chemistry Laboratory | 3 | 3 |
| CHEM 494 Undergraduate Chemistry Seminar | 1 | 1 |
| Advanced CHEM elective | 3 | 3 |
| General Education | - | 3 |
| Foreign language | 5 | 5 |
| Upper-division elective | - | - |
| **Total** | **17** | **14** |

### For B.S. Degree, Option in Biological Chemistry

| First Year |
|-----------------|-----------------|-----------------|
| CHEM 161N-162N College Chemistry | 5 | 5 |
| MATH 150 Applied Calculus or 152 Calculus I | 4 | - |
| MATH 158 Applied Differential Equations or MATH 153 Calculus II | - | 3-4 |
| BIOL 101N-102N Principles of Biology and Laboratory or equivalent | - | 4 |
| ENEX 101 Composition | 3 | - |
| Electives and General Education | - | 6 |
| **Total** | **16** | **14-15** |

| Second Year |
|-----------------|-----------------|-----------------|
| CHEM 221-222 Organic Chemistry | 3 | 3 |
| CHEM 223 Organic Chemistry Laboratory | 2 | - |
| CHEM 264 (or 224) Organic Chemistry Laboratory | - | 2 |
| PHYS 121N-122N or 221N-222N General Physics I and II | 5 | 5 |
| BIOL 221 Cell and Molecular Biology | 4 | - |
| Electives and General Education | - | 6 |
| **Total** | **14** | **16** |

| Third Year |
|-----------------|-----------------|-----------------|
| BIOL 481-482 Biochemistry | 3 | 3 |
| CHEM 452 Inorganic Chemistry | - | 3 |
| CHEM 494 Undergraduate Chemistry Seminar | - | 1 |
| Electives and General Education | 9 | 12 |
| **Total** | **15** | **16** |

### For B.S. Degree, Option in Environmental Chemistry

| First Year |
|-----------------|-----------------|-----------------|
| CHEM 161N-162N College Chemistry | 5 | 5 |
| MATH 150 Applied Calculus or 152 Calculus I | 4 | - |
| MATH 158 Applied Differential Equations or MATH 153 Calculus II | - | 3-4 |
| BIOL 101N-102N Principles of Biology and Laboratory or equivalent | - | 4 |
| ENEX 101 Composition | 3 | - |
| Electives and General Education | - | 6 |
| **Total** | **14** | **15** |

| Second Year |
|-----------------|-----------------|-----------------|
| CHEM 221-222 Organic Chemistry | 3 | 3 |
| CHEM 223 Organic Chemistry Laboratory | 2 | - |
| CHEM 264 (or 224) Organic Chemistry Laboratory | - | 2 |
| PHYS 121N-122N or 221N-222N General Physics I and II | 5 | 5 |
| BIOL 221 Cell and Molecular Biology | 4 | - |
| GEOL 100N-101N General Geology and Laboratory | 3 | - |
| **Total** | **14** | **17** |

| Third Year |
|-----------------|-----------------|-----------------|
| CHEM 334 Chem Literature & Scientific Writing | - | 3 |
| CHEM 341 Quantitative Analysis & Instrumental Methods | - | 4 |
### For B.S. Degree, Option in Pharmacology

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry</td>
<td>5</td>
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<tr>
<td>MATH 150 Applied Calculus or 152 Calculus I</td>
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<tr>
<td>MATH 158 Applied Differential Equations or MATH 153 Calculus II</td>
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<tr>
<td>BIOL 101 Principles of Biology and Laboratory or equivalent</td>
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<tr>
<td>ENEX 101 Composition</td>
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<td>Electives and General Education</td>
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### Second Year

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<tr>
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<tbody>
<tr>
<td>CHEM 221-222 Organic Chemistry</td>
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<tr>
<td>CHEM 223 Organic Chemistry Laboratory</td>
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<tr>
<td>CHEM 264 (or 224) Organic Chemistry Laboratory</td>
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<tr>
<td>PHYS 121N-122N or 221N-222N General Physics I and II</td>
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<td>BIOL 221 Cell and Molecular Biology</td>
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<tbody>
<tr>
<td>CHEM 334 Chem Literature &amp; Scientific Writing</td>
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<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
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<tr>
<td>CHEM 342 Instrumental Analysis and Physical Measurements</td>
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<td>CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry I</td>
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<tr>
<td>MLCB 302 Medical Microbiology</td>
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<tr>
<td>PHAR 341-342 Applied Anatomy and Physiology</td>
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### Fourth Year

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<tr>
<td>BIOC 481-482 Biochemistry</td>
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<td>CHEM 452 Inorganic Chemistry</td>
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<td>CHEM 494 Undergraduate Chemistry Seminar</td>
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<td>PHAR 443-444 Pharmacology and Toxicology</td>
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### Total Credits

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### For B.A. Degree

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<tr>
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<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry</td>
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<tr>
<td>CS 172 Introduction to Computer Modeling</td>
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<tr>
<td>ENEX 101 Composition</td>
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<tr>
<td>MATH 152-153 Calculus I and II</td>
<td>4</td>
<td>4</td>
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<tr>
<td>General Education or electives</td>
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<td><strong>Total</strong></td>
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<tbody>
<tr>
<td>CHEM 221-222 Organic Chemistry</td>
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<tr>
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<td>2</td>
<td>2</td>
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<tr>
<td>CHEM 264 (or 224) Organic Chemistry Laboratory</td>
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<tr>
<td>MATH 251 Calculus III</td>
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### Fourth Year

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<thead>
<tr>
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<tbody>
<tr>
<td>CHEM 334 Chem Literature &amp; Scientific Writing</td>
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<td>CHEM 341 Quantitative Analysis and Instrumental Methods</td>
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<td>4</td>
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<tr>
<td>CHEM 342 Instrumental Analysis and Physical Measurements</td>
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<tr>
<td>CHEM 371-372 Physical Chemistry</td>
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<tr>
<td>Electives and General Education</td>
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### Total Credits

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<td>Third</td>
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<td>Fourth</td>
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### Requirements for a Minor

To earn a minor in chemistry the student must complete CHEM 151N or 161N, CHEM 221-222, 223, 341, 370 or 371, and at least 4 credits from one of the following groups:

(a) CHEM 342, 372, 432, 453, 455, 465, 466
(b) if the student’s major does not require biochemistry, BIOC 380 or 481-482

For teaching minor requirements, see the Teacher Preparation in Chemistry section above.

### Courses

- **U** = for undergraduate credit only, **UG** = for undergraduate or graduate credit, **G** = for graduate credit. **R** after the credit indicates the course may be repeated for credit to the maximum indicated after the **R**.

#### Chemistry (CHEM)

- **U 101N Chemistry for the Consumer 3 cr.** Offered spring. An introduction to chemistry that emphasizes the influence of chemistry on one's everyday life. Common household products, such as soap, aspirin, toothpaste, face cream and fertilizers are prepared in the lab.

- **U 104 Preparation for Chemistry 3 cr.** Offered autumn. An introduction to chemistry for those who believe they have an inadequate background to enroll in CHEM 151N or 161N. Not appropriate toward chemistry requirement in any major.

- **U 151N General and Inorganic Chemistry 3 cr.** Offered autumn and spring. First semester of an introduction to general, inorganic, organic and biological chemistry.

- **U 152N Organic and Biological Chemistry 3 cr.** Offered autumn and spring. Second semester of an introduction to general, inorganic, organic and biological chemistry.

- **U 154N Organic and Biological Chemistry Laboratory 2 cr.** Offered autumn and spring. Prereq., "C-" or equiv in CHEM 151N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.

- **U 155N Inorganic and Organic Chemistry 3 cr.** Offered autumn and spring. Prereq., "C-" or equiv in CHEM 151N or consent of instr. Includes laboratory.

- **U 161N College Chemistry 5 cr.** Offered autumn and summer. Prereq., "C-" or better in CHEM 161N or consent of instr. A continuation of CHEM 161N. Includes Laboratory.
U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 221 Organic Chemistry 3 cr. Offered autumn. Prereq., CHEM 152N or 162N. The chemical and physical properties of organic compounds.

U 222 Organic Chemistry 3 cr. Offered spring. Prereq., CHEM 221. Continuation of 221.

U 223 Organic Chemistry Laboratory 2 cr. Offered autumn. Coreq., CHEM 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.

U 224 Organic Chemistry Laboratory 2 cr. Offered spring. Prereq., CHEM 223; prereq. or coreq., CHEM 222.

U 264 Organic Chemistry Laboratory for Chemistry Majors 2 cr. Offered spring. Prereq., CHEM 223; coreq., CHEM 222. Second semester of organic chemistry laboratory for chemistry majors only. Incorporates largescale techniques and instrumental organic analysis.

U 295 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 297 Special Problems and Honors Research Variable cr. (R-10) Offered autumn and spring. Prereq., one semester of chemistry and consent of instr. Laboratory investigations and research in the laboratory of a faculty member.

U 334 Chemistry Literature and Scientific Writing 3 cr. Offered spring. Prereq., CHEM 222 and chemistry major. Presentation and discussion of current literature in chemistry. Use of library and search tools. Workshop for developing and improving skills in scientific writing and evaluation. Use of on-line data bases and the interface of these with PC-based word processing and scientific graphics programs.

U 341 Quantitative Analysis and Instrumental Methods 4 cr. Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.


U 370 Applied Physical Chemistry 3 cr. Offered spring. Prereq., CHEM 152 or 162 and MATH 150. Basic thermodynamics and chemical kinetics with applications in the biological and environmental sciences. Credit not allowed for both 370 and 371.

U 371 Physical Chemistry I 4 cr. Offered autumn. Prereq., CHEM 162, MATH 251, PHYS 122 or 222. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHEM 370 and 371.


U 380 Teaching Chemistry Using Peer-Led Team Learning 1 cr. Offered every term. Prereq., CHEM 161N-162N with B or better and consent of instr. Methods of peer-led team learning as applied to general chemistry instruction. Review of concepts from general chemistry. Student leaders mentor a team of general chemistry students in working toward constructing chemistry knowledge and developing problem-solving skills.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-9) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 441 Techniques of Glass Manipulation 1 cr. Offered spring. Fabrication and repair of laboratory glassware. Basic operations include cutting glass, bending, end seals, joining (same and different diameters), T-seals, bulbus, ring or inner seals, condensers.

UG 442 Physical Chemistry of Natural Waters 3 cr. Offered autumn odd-numbered years. Prereq., CHEM 341 or consent of instr. Application of physical chemistry principles for understanding and modeling chemical processes in natural waters. Focus on calculations to describe the equilibrium composition of freshwater and marine environments.

UG 452 Inorganic Chemistry 3 cr. Offered autumn. Prereq., CHEM 222 and 370 or 371 or consent of instr. Theory and principles of inorganic chemistry and a systematic coverage of descriptive inorganic chemistry in the context of the Periodic Table.

UG 453 Descriptive Inorganic Chemistry 3 cr. Offered spring. Prereq., CHEM 221-223, 370 or 371-372. A survey of the chemistry of the elements including transition metal reaction mechanisms, redox chemistry, organometallic chemistry, bioinorganic chemistry.

UG 455 Inorganic Chemistry Laboratory 2 cr. Offered spring. Prereq., CHEM 224 and 370 or 371 and consent of instr. Preparation of inorganic and coordination compounds. Isolation and characterization by ion exchange, column chromatography, IR, UV-VIS, derivatives, MP, and BP.

UG 465 Organic Spectroscopy 3 cr. Offered intermittently. Prereq., CHEM 370 or 371 and one year of organic chemistry or consent of instr. Theory and interpretation of the NMR, IR, UV, and mass spectra of organic compounds with the goal of structure identification.

UG 466 FT-NMR Operation for Undergraduate Research 1 cr. Offered intermittently. Prereq., CHEM 221-223; research project using NMR; consent of instr. Operation of the FT-NMR spectrometer and brief background of NMR spectroscopy.

UG 485 Laboratory Safety 1 cr. Offered spring. Prereq., one year of college chemistry. Awareness of and methods of control of hazards encountered in laboratory work. Awareness of legal constraints on work with chemicals. Sources of information regarding chemical hazards.

UG 486 Biochemistry Research Laboratory 3 cr. Offered spring. Prereq., BIOC 380 or 481. Same as BIOC 486. Applications of biochemical principles to modern molecular biology and biochemical techniques. Includes cloning a gene, making a site-directed mutant; then will express, purify, and characterize the protein product.

U 494 Undergraduate Chemistry Seminar 1 cr. (R-2) Offered spring. Prereq., junior or senior standing in chemistry. Required for all chemistry majors. Outside speakers and senior chemistry majors will present seminars on their research or a suitable literature topic.

U 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

U 497 Special Problems and Honors Research Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Laboratory investigations and research in the laboratory of a faculty member.
carbanions, radicals and carbenes as reactive intermediates.

diversity, drug screening and dereplication, combinatorial
oxidation, reduction; organometallic,

biochemistry, and pathway manipulation to produce

production

spring

conformational

literature.

isotope

Theory, method development, and application of analytical

Product

reacions, synthetic strategies and total synthesis.

reactions ·ana ·mech a 1 isms ·that

undergraduate

forms of chromatography; electrophoresis.

an

Offered

analysis,

principles and reactions in natural systems: Fate of chemical

preparation:· for

survey of research methodologies and experimental designs,

Analysis of current award-winning publications.

G 541 Environmental Chemistry 3 cr. Offered

intermittently. Prereq., CHEM 503 with C or better.

Preparation for conducting research in chemical education.

Survey of research methodologies and experimental designs,

G 544 Applied Spectroscopy 3 cr. Offered intermittently.

Prereq., CHEM 342 or consent of instr. The function and

application of optical (ultraviolet to infrared) chemical

instrumentation. Specific topics include optics, light sources,
detectors and a wide variety of spectrochemical methods with

an emphasis on methods not typically covered in

undergraduate instrumental analysis courses.

G 553 Inorganic Chemistry and Current Literature 4 cr.

Offered spring. Prereq., CHEM 452. A survey of the

elements including transition metal reaction mechanisms,

redox chemistry, organometallic chemistry, bioinorganic

chemistry. Oral and written presentations on primary

literature.

G 561 Bioorganic Chemistry of Antibiotic and Natural

Product Biosynthesis 3 cr. Offered spring odd-numbered

years. Prereq., one year of organic chemistry; preferred

prereq. or coreq., biochemistry. Comprehensive study of the

bioorganic chemistry of antibiotic and natural product

production in bacteria, plants, and higher animals, focusing

on polyketide, shikimate, alkaloid, terpene, and nitrogen-containing/non-alkaloid compounds. Natural product

diversity, drug screening and dereplication, combinatorial

biochemistry, and pathway manipulation to produce “non-
natural” natural products.

G 562 Organic Structure and Mechanism 3 cr. Offered

spring even-numbered years. Prereq., one year of organic

chemistry. Topics may include: stereochemistry,

conformational analysis, aromaticity, transition state theory,
isotope effects, solvent effects, substitution and elimination

reactions, and mechanisms that involve carbocations,
carboniums, radicals and carbenes as reactive intermediates.

G 563 Organic Synthesis 3 cr. Offered intermittently.

Prereq., CHEM 221, 222. Theoretical treatise of the

common methods used in organic synthesis including:
oxidation, reduction, organometallics, C-C bond forming

reactions, synthetic strategies and total synthesis.

G 564 Organic Reactions 3 cr. Offered spring odd-numbered years. Prereq., one year of organic chemistry. Reactions such as alkylation of nucleophile carbons, reactions of carbon nucleophiles with carbonyl groups, functional group interconversions by nucleophilic substitution reactions, electrophilic additions to carbon-carbon multiple bonds, and select oxidations/reductions.

G 566 FT-NMR Operation for Graduate Researchers 1 cr. Offered intermittently. Prereq., CHEM 221-223; research project using NMR; consent of instr. Operation of the FT-NMR spectrometer and brief background of NMR spectroscopy.

G 568 Organometallic Chemistry 3 cr. Offered intermittently in autumn. Prereq., CHEM 221, 222, 452, 453. Survey of the reactivity and structure of main group and transition metal organometallic compounds with an emphasis on applications to organic synthesis and catalysis.

G 569 Medicinal Chemistry 3 cr. Offered intermittently.

Prereq., CHEM 221, 222; BIOC 380 or equiv. Same as

PHAR 621. Introduction to the historical and contemporary
discoveries in medicinal chemistry.

G 573 Advanced Physical Chemistry 3 cr. Offered

autumn. Prereq., CHEM 371-372. Fundamental principles of

physical chemistry and special applications.

G 580 Advanced Graduate Student Research Seminars 1 cr.

(R-10) Offered every term. Prereq., consent of instr.

Formal oral and written presentations of research results and

selected literature topics in a designated area.

G 581 Chemical Biology 3 cr. Offered autumn even-numbered years. Prereq., consent of instr. Synthesis and structure of native and modified biomolecules such as antisense phosphothioate oligonucleotides, modified nucleosides and nucleotides designed for antiviral activity, and PNA (protein nucleic acids). Emphasis on the interaction of biomolecules and “small” organic and inorganic molecules and their chemical impact on native structure and function.

G 593 Professional Project 3 cr. Offered autumn and

spring. Prereq., consent of instr.

G 595 Special Topics Variable cr. (R-9) Offered

intermittently. Prereq., consent of instr. Experimental

offerings of visiting professors, experimental offerings of new

courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-9) Offered

autumn and spring. Prereq., consent of instr.

G 597 Research Variable cr. (R-open) Offered autumn and

spring. Prereq., consent of instr.

G 598 Cooperative Education Experience Variable cr.

(R-8) Offered autumn and spring. Prereq., consent of departement. Extended non-classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Thesis Variable cr. (R-6) Offered autumn and

spring. Prereq., consent of instr.

G 630 Seminar 1 cr. (R-open) Offered autumn and spring.

Prereq., graduate standing in chemistry or biochemistry, or

consent of instr.

G 640 Introductory Graduate Seminar 1 cr. (R-open)

Offered autumn. Prereq., graduate standing in chemistry or biochemistry or consent of instr. Seminar to acquaint new graduate students with departmental research.

G 650 Graduate Chemistry Seminar 1 cr. (R-open)

Offered spring. Prereq., graduate standing.

G 697 Research Variable cr. (R-open) Offered autumn and

spring. Prereq., consent of instr.

G 699 Dissertation Variable cr. (R-10) Offered autumn and spring.
College of Arts and Sciences - Department of Communication Studies - 69

Faculty

Professors
Mark S. Cracolice, Ph.D., University of Oklahoma, 1994 (Chair)
Richard J. Field, Ph.D., University of Rhode Island, 1968
Donald E. Kiely, Ph.D., University of Connecticut, 1965
Edward Rosenberg, Ph.D., Cornell University, 1970
J.B.A. (Sandy) Ross, Ph.D., University of Washington, 1976
Garon C. Smith, Ph.D., Colorado School of Mines, 1983
Edward E. Waali, Ph.D., University of Wyoming, 1970

Associate Professors
Michael D. DeGrandpre, Ph.D., University of Washington, 1990
John Gerdes, Ph.D., University of California, Riverside, 1982
Christopher P. Palmer, Ph.D., University of Arizona, 1991
Nigel D. Priestley, Ph.D., Southampton University, 1991
Kent Sugden, Ph.D., Montana State University, 1992
Trina J. Valencich, Ph.D., University of California, Irvine, 1974 (Adjunct)

Lecturer
Holly A. Thompson, Ph.D., Kansas State University, 1982 (Adjunct)

Research Associate Professors
William R. Laws, Ph.D., The Johns Hopkins University, 1977
Robert Yokelson, Ph.D., Yale University, 1991

Research Assistant Professors
Earle R. Adams, Ph.D., Montana State University, 1994
Brooke D. Martin, Ph.D., Dartmouth College, 1998

Emeritus Professors
James W. Cox, Ph.D., Montana State University, 1969
Ralph J. Fessenden, Ph.D., University of California, 1958
R. Keith Osterheld, Ph.D., University of Illinois, 1950
Geoffrey N. Richards, Ph.D., D.Sc., University of Birmingham, 1964
John M. Stewart, Ph.D., University of Illinois, 1944
Wayne P. Van Meter, Ph.D., University of Washington, 1959
George W. Woodbury, Jr., Ph.D., University of Minnesota, 1964

Department of Communication Studies

Alan L. Sillars, Chair

Communication studies is a growing discipline that is engaged in both social-scientific and humanistic approaches to the analysis, understanding and improvement of human communication. The discipline traces its roots to ancient Greek and Roman studies of the functions of public discourse in society, but in the twentieth century communication came to embrace the studies of interpersonal and small group interaction, human relations in organizations, media and society, and intercultural interaction. Although interdisciplinary in spirit, the discipline has a core of knowledge, theory and concepts concentrating on such things as symbols, messages, interactions, networks, and persuasive campaigns. Uniting the field is the belief that the role of communication in human experience is basic to comprehending complex situations and problems in the modern world. The discipline has roles in both the broad traditions of liberal arts education and in the development and refinement of practical skills.

The Department of Communication Studies at The University of Montana-Missoula focuses on three broad areas of study: interpersonal interaction and human relationships, organizational communication, and rhetoric and public discourse. The knowledge and skills the student may acquire in each of these areas are important to functioning effectively in one's personal life, at work, and as a citizen of the larger society in a rapidly changing world.

The program in Communication Studies helps to prepare students for such diverse professions as: public relations officer, marketing analyst, human resources or personnel manager, community mediator, political speech writer, health communication trainer, social services director, or student services coordinator. Also, undergraduate and graduate study can assist the student in pursuing advanced studies for law, the ministry, and higher education.

Admission Requirements
To be admitted to the communication studies major, a student must satisfy the following requirements:
1. Overall G.P.A. of 2.5.
2. Completion of COMM 111A and two other lower-division COMM courses.

Students who intend to major in communication studies but who have not yet met the above requirements are admitted to the program as pre-communication majors. Pre-communication majors may enroll in 100- and 200-level courses only. Students must be fully admitted as communication studies majors to enroll in 300- and 400-level courses. Before a student can graduate, he or she must meet the requirements to become a communication studies major.

Special Degree Requirements
Refer to graduation requirements listed previously in the catalog. See index.

Core Requirements
To graduate with a degree in communication studies, the student must complete 35 total communication credits with 18 of those credits in courses numbered 300 or above. A maximum of 6 credits in COMM 360 and a maximum of 6 credits in COMM 398 may count toward a major in communication studies. In addition, the following courses are required:
1. a course in statistics
2. COMM 110S Introduction to Interpersonal Communication
3. COMM 111A Introduction to Public Speaking
4. COMM 230S Introduction to Organizational Communication
5. COMM 250L Introduction to Rhetorical Theory
6. COMM 460 Research Methods

To meet the Upper-division Writing Expectation for a major in Communication Studies, students must successfully complete one of the following courses: COMM 377, COMM 410, COMM 420, COMM 441, COMM 452, COMM 455, COMM 480, COMM 481 or another course approved for this purpose by the University curriculum committee.

Allied Fields

The major is advised to take courses in other academic units throughout the University that will provide an increased understanding of communication, such as anthropology, English, linguistics, management, political science, psychology, social work, and sociology. Of particular interest to students interested in helping professions and associated content areas (e.g., children, families, aging) is the human and family development minor.

Students interested in new communication technology and its use within organizations should consider the media arts minor. Students are encouraged to consider double majors and minors in a variety of fields that might complement their communication degree.

Organizational Communication Option

Students who elect to concentrate in organizational communication must complete:
1. All the core requirements listed previously.
2. At least 4 courses from the following: COMM 240S (Communication in Small Groups), COMM 321 (Introduction to Public Relations), COMM 322 (Public Relations Writing), 420 (Advanced Organizational Communication), 412S (Communication and Conflict), and 451S (Intercultural Communication).
3. 4 courses from the following list: ANTH 220S, BADM 100S, MGMT 340S; MGMT 344, 368, 440; MKTG 360, 363; SOC 110S, 306S, 320; PSC 361 or 460.

All courses should be selected in consultation with a department faculty advisor.

Communication and Human Relationships Option

Students who elect to concentrate in communication and human relationships must complete:
1. All the core requirements listed previously.
2. At least 5 courses from the following: COMM 202S (Nonverbal Communication), 380 (Gender and Communication), 410S (Communication in Personal Relationships), 411 (Family Communication), 412S (Communication and Conflict), 451S (Intercultural Communication), and 452 (Cultural Codes).
3. At least 4 courses from the following list: AAS 327; ANTH 327, 328S, 446S; C&I 355; HFD 412; NAS 342H; PSYC 116S, 240S, 245, 345, 346, 350S, 358; SOC 210S, 275S, 300, 330S, 340, 395, 421; SW 322S or 422.

All courses should be selected in consultation with a faculty advisor. Students electing this option are encouraged to minor in Human and Family Development.

Rhetoric and Public Discourse Option

Students who elect to concentrate in rhetoric and public discourse must complete:
1. All the core requirements listed previously.
2. At least 4 courses from the following: COMM 241S (Persuasive Communication), 242 (Argumentation), 350 (Persuasive Speaking and Criticism), 375 (Rhetoric, Nature and Environmentalism), 380 (Gender and Communication), and 455 (Rhetorical Criticism and Theory), 480 (The Rhetorical Construction of “Woman”), and 481 (The Rhetoric of U.S. Women’s Activism).
3. At least 4 courses from the following: ENLT 120L, EVST 167H, 367, 420, 427E; HIST 152H, 301H, 335E, 357, 358, 362, 364, 370H, 371H; PHIL 210, 211, 429E, 471; PSC 150E, 341, 342, 352, 353, 461, 471 or 472; SOC 470.

All courses should be selected in consultation with a faculty advisor.

Suggested Course of Study

First Year
- COMM 110S Introduction to Interpersonal Communication .......................... A S
- COMM 111A Introduction to Public Speaking ................................................. - 3
- COMM 250L Introduction to Rhetorical Theory ............................................. - 3
- ENEX 101 Composition .................................................................................. 3
- MATH 117 Probability and Linear Mathematics ............................................. 3 - 9
- General Education ......................................................................................... 9 - 15
- Total ................................................................................................................ 14 - 15

Second Year
- COMM electives ............................................................................................ - 9
- MATH 241 or PSYC 220 or SOC 202 .............................................................. 3-4
- or HHP 486 ....................................................................................................... -
- General Education ......................................................................................... 10
- Electives .......................................................................................................... 3 - 6
- Total ................................................................................................................ 16-17 - 15

Third Year
- COMM Writing course ................................................................................... 3
- COMM 460 Communication Research Methods ........................................... 3
- Upper-division COMM electives .................................................................... 6
- Upper-division electives ............................................................................... 12
- Electives .......................................................................................................... 6
- Total ................................................................................................................ 15 - 15

Fourth Year
- Upper-division COMM electives .................................................................... 3
- Upper-division electives ............................................................................... 9
- Electives .......................................................................................................... 2 - 11
- Total ................................................................................................................ 15 - 14

Requirements for a Minor

To be admitted to the communication studies minor, a student must satisfy the following requirements:
1. overall G.P.A. of 2.5.
2. completion of COMM 111A and two other lower-division COMM courses.

Students who intend to minor in communication studies but who have not yet met the above requirements are admitted as pre-communication minors. Pre-communication minors may enroll in 100- and 200-level courses only. Students must be fully admitted as communication studies minors to enroll in 300- and 400-level courses.

Once admitted to earn a minor, the student must complete a minimum of 20 credits in communication studies courses, with at least 9 credits in communication studies courses numbered 300 and above. A maximum of 6 credits in COMM 360 may count toward a minor in communication studies.
Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Communication Studies (COMM)

U 110S Introduction to Interpersonal Communication 3 cr. Offered autumn. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills.

U 111A Introduction to Public Speaking 3 cr. Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COMM 160A.

U 131 American Sign Language I 3 cr. Offered autumn. Focus on receptive and expressive discourse and the cultural features that shape the language. Vital aspects of language, deaf culture and community. Credit not allowed toward a major in minor in Communication Studies.

U 132 American Sign Language II 3 cr. Offered spring. Prereq., COMM 131. Further study of American Sign Language, its grammar, syntax and cultural features. Development of competence and fluency in ASL. Credit not allowed toward a major or minor in Communication Studies.

U 173 Language Culture and Society 3 cr. Offered intermittently. Same as LING 173. A survey of the elements of language (structure, meaning, and sound) including language use in its social and cultural contexts.

U 195 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 202S Nonverbal Communication 3 cr. Offered intermittently. Nonverbal code systems and how they function in human communication including gestures, facial expressions, personal space, and others.

U 220 Professional Communication 3 cr. Offered intermittently. Principles and practices of effective interviewing in a variety of professional situations including screening of clients and job candidates, performance appraisal, and data-gathering. Advanced public speaking in professional contexts.

U 230S Organizational Communication 3 cr. Offered intermittently. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.

U 240S Communication in Small Groups 3 cr. Offered autumn and spring. Theory and research related to communication patterns, cohesion, leadership, and decision making. Experiences provided in task oriented groups and field analyses of group processes provided.

U 241S Persuasive Communication 3 cr. Offered intermittently. The use of communication in attitude and behavior change as experienced in personal, organizational, and public contexts.

U 242 Argumentation 3 cr. Offered autumn and spring. Prereq., sophomore standing. Development of argumentation skills and critical judgment in decision making and debate. Includes criticism, construction, presentation, and refutation of spoken and written arguments.

U 250L Introduction to Rhetorical Theory 3 cr. Offered autumn and spring. Prereq., COMM 111A. An overview of rhetorical theory including an exploration of classical rhetoric, British and Continental rhetorical theory, and contemporary theories of language and persuasion.

U 255 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 321 Introduction to Public Relations 3 cr. Offered intermittently. The many uses of communication in the endeavor of public relations. Communication theories and models including interpersonal communication, organizational communication, and mass communication are applied to explore the internal and external communication behaviors associated with public relations.

U 322 Public Relations Writing 3 cr. Offered intermittently. Prereq., COMM 321 recommended. Writing documents to create relationships between organizations and their public such as press releases, fact sheets, brochures, and speeches.

U 350 Persuasive Speaking and Criticism 3 cr. Offered intermittently. Prereq., COMM 111A. The persuasive process through the criticism and creation of speeches and other rhetorical artifacts emphasizing the role persuasion plays in creating and shaping our culture.

U 360 Forensics/Honors 1-3 cr. (R-12) Offered every term. Prereq., COMM 111A or COMM 242 or equiv. Preparation and participation in competitive speech and debate, including British Parliamentary debate and National Individual Events Tournament (NIET) speeches. The team travels to regional competitions and hosts on-campus and intramural debates and speaking events. Up to 6 credits may apply toward a major or minor in communication studies.

U 377 Rhetoric, Nature and Environmentalism 3 cr. Offered intermittently. Same as EVST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.

U 380 Gender and Communication 3 cr. Offered intermittently. Same as WS 380. The meaning of gender in our culture and how gender is displayed and perpetuated through our private and public verbal and nonverbal interactions.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 410S Communication in Personal Relationships 3 cr. Offered intermittently. Prereq., COMM 110S. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relations.

UG 411 Family Communication 3 cr. Offered intermittently. Prereq., COMM 110S. An examination of communication in husband-wife, parent-child, and extended family relationships. Topics include intimacy, power, decision making, problem solving, identity formation, and interpersonal perception.

UG 412S Communication and Conflict 3 cr. Offered autumn and spring. Conceptual and practical discussions of
communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Topics include culture, power, styles, negotiation and bargaining, mediation, dissent, dispute systems, and crisis communication.

UG 420 Advanced Organizational Communication 3 cr. (R-9) Offered autumn and spring. Prereq., COMM 230S. Focus on one of a set of specific topics. Topics include communication and quality of worklife, communication and power in organizations, communication and organizational socialization, and communication and new technologies in organizations. Specific topics vary by semester. Credit not allowed for repeat of the same topic.

UG 441 Persuasive Communication Campaigns 3 cr. Offered intermittently. Persuasive communication theories and practices applied to the development, implementation, and evaluation of communication campaigns. Focus on health, social action, and political campaigns.

UG 451S Intercultural Communication 3 cr. Offered autumn and spring. Communication principles and processes in cross-cultural environments. Non-Western cultures are emphasized by contrasting them to Western communication norms.

UG 452 Cultural Codes in Communication 3 cr. Offered intermittently. Examination of the diverse, intricate, and fundamental ties between communication and culture and how these links are revealed in the codes speakers use in their daily interactions.

UG 455 Rhetorical Criticism and Theory 3 cr. Offered intermittently. Introduction to study of rhetorical criticism and theory. Current theoretical and methodological issues and approaches including traditional criticism, experiential criticism, dramatism, narrative criticism, feminist criticism, postmodern criticism.

UG 460 Communication Research Methods 3 cr. Offered autumn and spring. Prereq., a course in statistics. Introduction to the major types of communication research and the foundations of quantitative research methods.

UG 461 Research Seminar 1-3 cr. (R-9) Offered autumn and spring. Prereq., COMM 460 and consent of instr. Application of quantitative and qualitative research methods to specialized contexts. Emphasis on direct student involvement in research activities.

G 480 The Rhetorical Construction of “Woman” 3 cr. Offered intermittently. Topics include the early women’s rights conventions, debates over marriage and divorce, social feminism, woman suffrage in Montana, and intersections between gender and race.

UG 481 The Rhetoric of U.S. Women’s Activism, 1960-Present 3 cr. Offered intermittently. Explores the rhetoric surrounding contemporary women’s social “activism” in the U.S. Topics include woman’s rights, women’s liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-9) Offered every term. Prereq., consent of instr.

G 510 Seminar in Personal Relationships 3 cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 511 Survey of Interpersonal Communication 3 cr. Offered autumn even-numbered years. Prereq., graduate standing in communication studies or consent of instr. Survey of theories and research in interpersonal communication including definitions of interpersonal communication, its place in the field of communication, and methodological issues. Overall emphasis on foundational readings and recent research developments.

G 512 Seminar in Interpersonal Conflict 3 cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 514 Alternative Dispute Resolution 3 cr. Offered autumn. Same as LAW 614. A study of the varieties of dispute resolution vehicles outside the court process. Focus on a 40-hour component of practical skills training for the mediation practitioner. Topics include the mediation model, interest-based negotiation and effective communication.

G 520 Seminar in Organizational Communication 3 cr. Offered intermittently. (R-6) Prereq., consent of instr.

G 521 Practical Issues in Organizational Communication 3 cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 540 Seminar in Instructional Communication 3 cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 541 Teaching the Basic Course 2 cr. (R-8) Offered autumn and spring. Prereq., consent of instr.

G 555 Seminar in Rhetorical Criticism and Theory 3 cr. Offered intermittently. Introduction to contemporary issues in rhetorical criticism and theory. Topics include classical criticism, dramatism, close textual analysis, ideographic criticism, narrative criticism, feminist criticism, and postmodern criticism.

G 561 Qualitative Research Methods 3 cr. Offered intermittently. An emphasis on the philosophy and practice of qualitative inquiry, the development and use of descriptive frameworks, and gathering and testing qualitative data to develop human communication theory.

G 572 Family Law Mediation 2 cr. Offered autumn. Same as LAW 672. Interdisciplinary course on advanced mediation skills with a focus on family mediation including divorce and other types of family problems. Psychological issues for both children and parents, power balancing, gender issues and interest-based negotiation model.

G 575 Seminar in Rhetoric and Environmental Controversy 3 cr. Offered intermittently. Same as EVST 575. The study of how advocates use symbols to influence meaning and action in environmental controversies. Rhetorical concepts used to examine recurring strategies and tactics in specific controversies.

G 593 Professional Paper Variable cr. (R-3) Offered every term. Prereq., consent of instr.

G 594 Topical Seminar Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-9) Offered every term. Prereq., consent of instr.

G 599 Thesis Variable cr. (R-6) Offered every term. Prereq., consent of instr.

Faculty

Professors

Betsy Wackernagel Bach, Ph.D., University of Washington, 1985
Alan L. Sillars, Ph.D., University of Wisconsin, 1980 (Chair)

Associate Professors

Sara E. Hayden, Ph.D., University of Minnesota, 1994
Melanie R. Trost, Ph.D., Arizona State University, 1990
Comparative literature is the study of literature beyond the confines of one national literature. It is especially concerned with the similarities and differences which can be observed in literary works in different languages. It makes comparisons from various points of view, studying, for example, movements, periods, genres and themes in two or more national literatures. Certain types of comparative literature studies can be highly useful to students in such fields as psychology, philosophy, anthropology and history, as well as to majors in English and modern and classical languages and literatures.

Students interested in working toward a degree in comparative literature (not offered by this University) should bear in mind that a knowledge of at least two foreign languages is indispensable for advanced work. Courses in comparative literature topics are offered at The University of Montana-Missoula in several departments: English, Drama, Philosophy, Liberal Studies, Modern and Classical Languages and Literatures, Native American Studies, and Asian Studies. For advising see the chair.

Department of Computer Science

Alden Wright, Chairman

The growing utility of computers in research and education, as well as the increased impact of computers on our modern society, strongly implies that a knowledge of computers and their capabilities should be a part of the basic education of all students. The courses listed below are designed to provide the student with this knowledge and to prepare the student for a career in a field in which there is a growing need for trained personnel. The objective of the undergraduate curriculum in computer science is to teach theory and to develop professionally competent, broadly educated computer scientists who wish to pursue professional careers or graduate studies.

The B.S. program is accredited by the Computing Accreditation Commission (CAC) of the Accreditation Board for Engineering and Technology, Inc. (ABET), a specialized accrediting body; its curriculum, therefore, is similar to those of other recognized computer science programs. For more information access www homepage: http://www.cs.umt.edu or email the chairman at wright@cs.umt.edu.

High School Preparation: In addition to general University admission requirements, pre-college preparation should include as many computer science courses as possible, and four years of high school mathematics, to include algebra, trigonometry and pre-calculus. Also recommended are physics and chemistry.

College of Arts and Sciences - Comparative Literature - 73

Assistant Professors
Patricia O. Corarrubias, Ph.D., University of Washington, 1999
Shiv Ganesh, Ph.D., Purdue University, 2000
Steve Schwarze, Ph.D., The University of Iowa, 1999
Stephen M. Yoshimura, Ph.D., Arizona State University, 2002

Adjunct Instructors
Julie Benson-Rosston, M.A., The University of Montana, 1990
Rebecca O. Fielding, M.A., The University of Montana, 1998

Emeritus Professors
Wesley N. Shellen, Ph.D., Ohio University, 1973
William W. Wilmot, Ph.D., University of Washington, 1970

Emeritus Associate Professor
James H. Polsin, Ph.D., University of Kansas, 1971

Admission Requirements

Admission to computer science courses varies according to course level and other departmental standards. However, students must have completed all prerequisite courses with a grade of at least a "C".

Lower-Division Courses
Most 100- and 200- level courses (notable exceptions are CS 131, 132, 221, 231 and 232) are open on a first-come, first-served basis to all students who have the prerequisites. First preference for enrollment in CS 121, 131, 132, 221, 231, and 232 is given to students who have declared computer science as their major or minor. Students simply taking computer science courses to satisfy a general education symbolic system sequence should normally take CS 101, 201, 204 and/or 207 instead of CS 131 and/or 132 as these latter two courses are normally reserved for students contemplating or intending to major or minor in computer science.

Upper-Division Courses
Admission to 300-level or above courses requires successful completion of the prerequisites.

Major-Minor Status
Completed change of major forms along with college transcripts must be turned into the department when declaring computer science as a major or minor.
Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Bachelor of Science degree with a major in Computer Science

A B.S. degree in computer science requires completion of the following requirements with at least a "C" in each course: Computer Science, CS 121, CS 131-132, CS 221, CS 231-232, CS 331, CS 332, CS 335, CS 344, CS 346, CS 365, CS 415E, CS 441 and CS 488. Additionally, the student must compete the requirements of one of the options listed below.

Mathematics. MATH 152-153, 221or 325, 225, and 341.

Writing/Communication. Students must take FOR 220. Students must also take COMM 111A or COMM 242.

Science. Students must take PHYS 221N and 222N. Students also must take two additional courses selected from the following list (two numbers separated by a / means that the second number is a lab for the first and the two together only count as one course for this requirement):

- ASTR 131N/134N, ASTR 132N/135N
- BIOL 101N/102N, BIOL 103N/104N, BIOL 105N/107N
- CHEM 161N, CHEM 162N
- EVST 101N
- FOR 201
- GEOL 100N/101N, GEOL 202, GEOL 226
- PHYS 341, PHYS 441
- PSYC 100S, 260S, PSYC 265S, PSYC 270N

NOTE: 100-level CS courses other than CS 121, CS 131-132 and 200-level CS courses other than CS 221 and CS 231-232 do not count toward the degree or option requirements. However, they do count in the 60 credit limit in the major.

Upper-division Writing Expectation. The Upper-division Writing Expectation for computer science majors is CS415E.

The following options are available:

Scientific Applications Option

A student choosing this option must complete CS 471, CS 486, and three additional credits of CS electives selected from courses numbered 300 or above.

In addition, the student must complete MATH 251 and 17 credits in a single physical/biological/social science discipline of his or her choice. These courses must be selected in consultation with a CS advisor. Three of the above 17 credits must be independent study credits in either the selected scientific discipline or computer science, arranged in joint consultation with a CS faculty and a faculty member from the scientific discipline.

Software Systems Option

A student choosing this option must complete CS 442 and six credits of CS electives selected from courses numbered 300 and above.

Bachelor of Science degree with a combined major in Computer Science-Mathematical Sciences

The purpose for the combined program is to provide a thorough background in both allied disciplines and to inculcate a deeper understanding of their goals and methods. A student must complete 60 credits in the two disciplines: 30 of these credits in computer science courses and 30 of these credits in mathematical sciences courses. A minimum grade of "C" is required in all courses which follow:

The computer science requirements are: 131-132, 231-232, 331, 332, 335, and nine credits of CS electives selected from courses numbered 300 and above. A total of at most three of the nine credits of CS electives may be in CS 398 or 498.

The mathematical sciences requirements are: 152-153, 221, 251, 305 (or 225), and twelve credits of 3- or 4-credit MATH electives selected from courses numbered above 305.

The combined nine additional credits of computer science electives and twelve additional credits of mathematical sciences electives must include at least three 3- or 4-credit courses numbered 400 or above, with at least one chosen from each department (not including MATH 406, 444, and 445).

Other requirements are: PHYS 221N-222N, FOR 220, and either COMM 111A or COMM 242.

Each student plans a program in consultation with a computer science and a mathematical sciences advisor. Students planning to attend graduate school in computer science or the mathematical sciences should consult with their respective advisors.

Suggested Curricula:

- Applied Math-Scientific Programming: MATH 311, 412, 414, and one course chosen from MATH 341, 351, 451, 452, 471. Three courses chosen from CS 344, 471 and 486.
- Combinatorics and Optimization-Artificial Intelligence: MATH 381, 382; two courses chosen from MATH 325, 341, 414, 485; and CS 344 and 457.
- Statistics-Machine Learning: MATH 341, 441, and two courses chosen from MATH 325, 382, 442, 485; three courses chosen from CS 365, 455, 457 and 486.
- Algebra-Analysis: MATH 351, 421, and two courses chosen from MATH 326, 422, 451, 452; CS 344, 441, and one other course.

Suggested Course of Study

First Year

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CS 121 Careers in Computer Science</td>
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<tr>
<td>CS 131-132 Fundamentals of Computer Science</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
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<tr>
<td>ENEX 101 Composition</td>
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<tr>
<td>MATH 152-153 Calculus I, II</td>
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<tr>
<td>Electives and General Education</td>
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</tbody>
</table>

Second Year

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<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>CS 221 Programming in C &amp; C++</td>
</tr>
<tr>
<td>CS 231-232 Computer Architecture and Programming I, II</td>
</tr>
<tr>
<td>CS 331 Data Structures</td>
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<tr>
<td>CS 332-Algorithms</td>
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<tr>
<td>MATH 225 Discrete Math I</td>
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<tr>
<td>PHYS 221N-222N General Physics</td>
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<td>Electives and General Education</td>
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Third Year**

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>CS 335 Programming Languages</td>
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<tr>
<td>CS 344 Operating Systems</td>
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<tr>
<td>CS 346 Software Science</td>
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<tr>
<td>CS 365 Database Design and DBMS</td>
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<td>FOR 220 Technical Writing</td>
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<tr>
<td>MATH 221 Linear Algebra</td>
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<tr>
<td>MATH 341 Probability and Statistics</td>
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<tr>
<td>Science Electives</td>
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<td>Electives</td>
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</table>
Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 415E Computers, Ethics, and Society</td>
<td>3</td>
</tr>
<tr>
<td>CS 441 Theory and Practice I</td>
<td>3</td>
</tr>
<tr>
<td>CS 488 Comp Comm and Networks</td>
<td>3</td>
</tr>
<tr>
<td>CS option courses and electives</td>
<td>6</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

**CS core courses at the 300- and 400-level may not always be offered in the sequence shown but will be offered every year.

Requirements for a Minor

There are two minors offered by the Department of Computer Science: the traditional minor in computer science emphasizes computer programming and related skills, while the minor in computer applications emphasizes use of applications such as programming languages, word processors, spreadsheets, and data bases in the management and manipulation of electronic information.

Computer Science: To earn a minor in computer science the student must complete (with at least a "C" in each course) 25 CS credits including: CS 131-132, CS 204 or 207, CS 231-232, CS 331, and CS 335. The remaining credits must be selected from courses at the 300 level or above. The student must also complete MATH 152-153, and MATH 225.

Computer Applications: To earn a minor in computer applications, a student must complete (with at least a "C" grade in each course) 21 CS credits including: at least one and no more than three of CS 101, CS 204, CS 207; at least one and no more than three of CS 111, CS 171, CS 172, and CS 181; with remaining courses selected from CS 131-132, CS 231-232, CS 486, other CS major courses, pre-approved CS 195, CS 295, CS 395, or CS 495 special topics courses, or up to six credits of pre-approved classes outside the department.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Computer Science (CS)

Students taking CS classes with computer programming components should expect additional computer lab time outside of class.

U 101 Introduction to Programming 3 cr. Offered every term. Elementary programming techniques using the Visual BASIC programming language. A wide range of primarily nonmathematical programs will be written by the student and run on a computer. (Two hours independent lab per week.) Credit not allowed for both CS 101 and EET 225.

U 111 Computer Literacy 3 cr. Offered every term. An introduction to computer terminology, organization and operation, and the social impact of computers. Includes hands-on exposure to microcomputers and time-sharing applications. (One hour scheduled lab, plus one hour minimum independent lab per week.) Credit not allowed for CS 111 and CRT 101.

U 121 Careers in Computer Science 1 cr. Offered autumn. Exploration of various careers available in the general area of Computer Science. Includes discussion of strategies for success in the major. Computer Science faculty members also will discuss possible undergraduate research opportunities and motivation for graduate education.

U 131 Fundamentals of Computer Science I 3 cr. Offered autumn and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc.; coreq., MATH 100 or consent of instr. Fundamental computer science concepts using high level structured programming language, Java.

U 132 Fundamentals of Computer Science II 3 cr. Offered spring and summer. Prereq., CS 131; coreq., MATH 121 or consent of instr. Continuation of CS 131. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.

U 171 Communicating Via Computers 3 cr. Offered every term. Prereq., previous computer experience or consent of instr. The use of the computer for information presentation and communication; emphasis placed on the use of electronic resources for the access, management, and presentation of information.

U 172 Introduction to Computer Modeling 3 cr. Offered every term. Prereq., previous computer experience and MATH 100 or equiv. score on math placement test, or consent of instr. Problem solving with spreadsheets and databases using the computer to analyze a set of data; presentation of results of analysis. Credit not allowed for CRT 280 or 281 and this course.

U 181 Electronic Publishing on the World Wide Web 3 cr. Offered every term. Prereq., CS 111 or consent of instr. Introduction to browsers and the World Wide Web. Web site design and construction facilitated by the use of several multimedia programs. HTML and SGML explained in the use of web construction. Copyright issues and other WWW services are discussed.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

U 198 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements on and off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 201 Special Programming Languages 3 cr. (R-open) Offered intermittently. Prereq., depends on specific language offered. Computer programming using a high-level programming language which is not taught in a regular language-specific course. Can be repeated by choosing different languages.

U 204 C Programming 3 cr. Offered intermittently. Prereq., CS 131 or consent of instr. Computer programming using the C programming language. Several programs will be written by the students. Credit not allowed for both CS 204 and CRT 270.

U 207 Advanced Visual BASIC Programming 3 cr. Offered intermittently. Prereq., CS 101 or consent of instr. Advanced applications programming in Visual BASIC. Topics include advanced objects and controls, web page development, and language trends.

U 221 Programming in C & C++ 2 cr. Offered autumn. Prereq., CS 132. Extensive experience programming in C and C++. In C emphasis is on lower-level programming. In C++ emphasis is on using a C++ class as an abstract data type and includes an introduction to object-oriented programming concepts.


U 295 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

U 298 Cooperative Education Experience Variable cr. (R-6) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements on and off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 331 Data Structures 3 cr. Offered intermittently. Prereq., CS 132 or consent of instr. Abstract data types, sorting and searching, linked lists, trees, hashing, file structures, and applications of data structures.

U 332 Algorithms 3 cr. Offered spring. Prereq., CS 331 and MATH 225 or consent of instr. Algorithm design, analysis, and correctness. Commonly used algorithms including searching and sorting, string search, dynamic programming, branch and bound, graph algorithms, and parallel algorithms. Introduction to NP-complete problems.

U 335 Theory of Programming Languages 3 cr. Offered spring. Prereq., CS 331. Concepts and implementation of programming languages, comparative study of programming languages, analyzing their suitability for various applications.

U 344 Operating Systems 3 cr. Offered autumn. Prereq., CS 221, CS 231 and CS 331, or consent of instr. Operating system design principles. Processes, threads, synchronization, deadlock, memory management, file management and file systems, protection, and security. Comparison of commonly used existing operating systems. Writing programs that make use of operating system services.

U 346 Software Science 3 cr. Offered spring. Prereq., CS 132. Software development life cycle with particular emphasis on requirements analysis and system design. CASE tools, project management and cost estimation techniques.

U 365 Database Design and Database Management Systems 3 cr. Offered spring. Prereq., CS 331 and MATH 225, or consent of instr. Models and representations of data, relations, and files for fast retrieval by indexes, trees, and hashing. Introduction to relational, hierarchical, network, distributed database systems, and relevant query languages. Theory and techniques for design and implementation of relational database systems.

U 394 Seminar Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.

U 395 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., junior standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

U 397 Research Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

U 398 Cooperative Education Experience Variable cr. (R-3) Offered intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from faculty supervisor and the Internship Services office. Only three credits applicable to computer science major or minor.

U 401 Computer Science for Teachers 3 cr. Offered intermittently. Prereq., junior standing or consent of instr. History of computing; current trends including human/computer interfaces, graphics, languages, networking, telecommunications; future directions, including artificial intelligence and robotics; career opportunities; impact of computers on society and the ethical and moral obligations inherent in the use of computer hardware and software; content studies and experiences relevant to the computer sciences curricula grades 5-12; evaluation and selection of hardware and software for school use. Credit not allowed toward a degree in computer science.

U 415E Computers, Ethics, and Society 3 cr. Offered spring. Prereq., computer science major with senior standing, FOR 220, successful completion of the Upper-Division Writing Proficiency Assessment, or consent of instr. Ethical problems that face computer scientists. The codes of ethics of computing professional societies. The social implications of computers, computing, and other digital technologies.

U 435 Web Programming 3 cr. Offered spring. Prereq., CS 331 or consent of instr. Programming and software development techniques for developing web-based applications. Scripting and other programming languages that are used for web-based development.

U 441 Theory and Practice I 3 cr. Offered autumn. Prereq., CS 335, 344, 346, 365 and MATH 225, or consent of instr. Automata, regular and context free languages, entity/relatin system systems, with applications in requirements analysis, system design, and language processing.

U 442 Theory and Practice II 3 cr. Offered spring. Prereq., CS 441. Systems design and implementation, with emphasis on major project in language translation, operating systems, or scientific applications.


UG 455 Artificial Intelligence 3 cr. Offered intermittently. Prereq., CS 335 or consent of instr. Using the computer to solve problems that require intelligent reasoning mechanisms. Representation of knowledge, search techniques, symbolic programming in LISP, expert systems.

U 457 Introduction to Machine Learning 3 cr. Offered intermittently. Prereq., MATH 152 and programming experience or consent of instr. Introduction to the framework of learning from examples, various learning algorithms such as neural networks, and generic learning principles such as inductive bias, Occam's Razor, and data mining. Credit not allowed for both CS 457 and CS 557.

U 462 Computerized Business Systems 3 cr. Offered spring. Prereq., CS 441. Software development in support of electronic commerce. Credit not allowed toward M.S. in computer science.


U 476 User Interface Design 3 cr. Offered autumn. Prereq., CS 331 or consent of instr. Introduction to usability and key concepts of human behavior. Principles of design for interactive systems and Web-based applications. User-centered design methodology including requirements specification, low and high-fidelity prototyping, heuristic evaluation, cognitive walkthrough, predictive modeling, and usability testing.
UG 477 Computer Simulation and Modeling 3 cr. Offered spring. Prereq., MATH 153, CS 132, or consent of instr. Matrix languages. ODE solving; Euler-Richardson, Runge-Kutta, PDE solving; finite differences, finite elements, multigrid techniques. Discrete methods for solution, renormalization group method, critical phenomena. Emphasis on presentation of results and interactive programs.

UG 481 Architectures and Parallel Processing 3 cr. Offered intermittently. Prereq., CS 232 and 344. Examination of processing components and modern processor architecture. Systems with implicit parallelism vs. parallel compiling vs. distributed computing. Examination of operating system support features and programming strategies.

UG 486 Data Visualization 3 cr. Offered intermittently. Prereq., MATH 152; programming experience; and junior, senior, or graduate status; or consent of instr. Visualization fundamentals and applications using special visualization software; formulation of 3-D empirical models; translation of 3-D models into graphical displays; time sequences and pseudo-animation; interactive versus presentation techniques; special techniques for video, CD and other media.


UG 494 Undergraduate Seminar Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.

UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

UG 497 Research Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

UG 498 Cooperative Education Experience Variable cr. (R-3) Offered Intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Only three credits of CS 398 and/or CS 498 applicable to computer science major or minor.

UG 499 Senior Thesis/Project 1-6 cr. (R-6) Offered every term. Prereq., consent of thesis/project director and chair of the Computer Science Department. Senior thesis for computer science majors and/or Watkins scholars.


G 541 Software Science I: Requirements and Specifications 3 cr. Offered intermittently. Prereq., MATH 225; CS 331 and 335 or consent of instr. Requirements analysis, techniques for representing requirements, specification development techniques, and specification languages.

G 542 Software Science II: Design, Implementation and Testing 3 cr. Offered intermittently. Prereq., CS 541. Continuation of CS 541. The design process. Major design methods such as composite/structured design, data structure driven design, structured analysis, transfer of design to code, testing techniques, validation, verification, certification, and security.

G 544 Advanced Operating Systems 3 cr. Offered intermittently. Prereq., CS 344. Distributed operating systems, memory organization, protection, scheduling, concurrent programming, and parallel processing.

G 555 Applications in Artificial Intelligence 3 cr. (R-6) Offered intermittently. Course can be repeated for credit at the discretion of the instructor. Prereq., consent of instr. One AI application area will be investigated, such as natural language processing, expert systems, and knowledge acquisition. LISP experience is required.

G 557 Machine Learning 3 cr. Offered intermittently. Prereq., MATH 152 and programming experience or consent of instr. Fundamentals of machine learning including neural networks, decision trees, Bayesian learning, instance-based learning, and genetic algorithms; inductive bias, Occam's razor, and learning theory; data mining; software agents. Credit not allowed for CS 457 and CS 557.

G 565 Database Systems 3 cr. Offered intermittently. Prereq., CS 335, 344, and 365, or consent of instr. Relational database theory, data models, user interfaces and query languages, security, and concurrency.

G 580 Parallel Processing 3 cr. Offered intermittently. Prereq., CS 331, 335, and 344. Parallel processing architectures and programming languages.

G 594 Graduate Seminar Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Seminar on current research topics in computer science.

G 595 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offering of current topics.

G 596 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 597 Research Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 599 Thesis/Project Variable cr. (R-6) Offered every term. Prereq., consent of instr. Research for and preparation of the master thesis or professional paper.

Faculty

Professors
Ray Ford, Ph.D., University of Pittsburgh, 1980
Alden H. Wright, Ph.D., University of Wisconsin, 1969
(Clinman)

Associate Professors
Joel E. Henry, Ph.D., Virginia Polytechnic Institute and State University, 1993
Donald J. Morton, Jr., Ph.D., Louisiana State University, 1994
David W. Opitz, Ph.D., University of Wisconsin, Madison, 1995

Assistant Professors
Jesse V. Johnson, Ph.D., University of Maine, Orono, 2002
Yolanda J. Reimer, Ph.D., University of Oregon, 2002
Changwon Yoo, Ph.D., University of Pittsburgh, 2002

Lecturer
Mike O’Conner, M.S., The University of Montana, 1996

Emeritus Professors
Robert P. Banaugh, Ph.D., University of California, 1962
Spencer L. Manlove, M.S., San Jose State University, 1959
James Ullrich, Ph.D., Southern Illinois University, 1969

Emeritus Associate Professor
Ronald E. Wilson, Ph.D., University of Chicago, 1975

Emeritus Assistant Professor
Jerry D. Esmay, M.S., University of Texas, El Paso, 1971
Gene F. Schiedermayer, M.S., Southern Methodist University, 1971
Department of Economics

Thomas M. Power, Chairman

The department considers its teaching goals to be three-fold: (1) To present to students the basic theoretical tools of economic analysis, relevant facts and institutional material, which will assist them as civic leaders. (2) To introduce students majoring in economics to the various special fields of study within economics. This training along with extensive work in the other liberal arts and sciences, is intended to instill breadth of intellectual interest, critical habits of thought, a problem-solving attitude and facility of expression. (3) To help meet, through graduate work, the increasing demands for competent professional economists in industry, commerce, government and education.

Courses cover general economic theory, environmental economics, monetary theory, international economics, public finance, labor economics, regional economics, economic development, comparative economic systems, econometrics, and economic philosophy.

Students may major in economics leading to a Bachelor of Arts degree. Graduate work leads to a Master of Arts degree in economics (see Graduate School catalog).

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. Students are advised that the demand in Montana high schools for teaching courses in this field is limited. Students should complete another endorsement (major or minor) in a field other than drama, geography, journalism, psychology or sociology.

<table>
<thead>
<tr>
<th>Suggested Course of Study</th>
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<tbody>
<tr>
<td><strong>First Year</strong></td>
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<tr>
<td>ECON 111S, 112S Introduction to Economics</td>
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<td>ENEX 101 Composition</td>
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<tr>
<td>MATH 117 Probability and Linear Math</td>
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<tr>
<td>MATH 150 Applied Calculus</td>
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<tr>
<td>Electives and General Education</td>
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<tr>
<td><strong>Second Year</strong></td>
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<tr>
<td>ECON 311 Intermediate Microeconomics I</td>
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<td>ECON 313 Intermediate Macroeconomics</td>
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<tr>
<td>MATH 241 Statistics I</td>
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<tr>
<td>Upper-division economics elective</td>
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<tr>
<td>Electives and General Education</td>
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<tr>
<td><strong>Third Year</strong></td>
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<tr>
<td>ECON 460 Econometrics</td>
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<td>Upper-division economics electives</td>
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<tr>
<td>Electives &amp; General Education</td>
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<tr>
<td><strong>Fourth Year</strong></td>
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<tr>
<td>ECON 487 Senior Seminar</td>
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<tr>
<td>ECON 488 Research Methods &amp; Thesis Design</td>
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<tr>
<td>ECON 489 Senior Thesis</td>
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<tr>
<td>Upper-division economics elective</td>
</tr>
<tr>
<td>Electives &amp; General Education</td>
</tr>
<tr>
<td><strong>Requirements for a Minor</strong></td>
</tr>
<tr>
<td>To earn a minor in economics the student must complete ECON 111S, 112S, 311, 313, and six additional credits in economics classes numbered 300 or above, only three of which may be in ECON 486.</td>
</tr>
</tbody>
</table>

**Courses**

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

**Economics (ECON)**

U 100S Introduction to Political Economy 3 cr. Offered autumn and spring. A critical examination of the market mechanism as a social decision-making device to guide the use of a nation's resources. The limitations of these processes in the light of current economic problems such as the rise of the large corporation, monopoly, environmental degradation, economic discrimination and the increasing role of the government.

U 111S Introduction to Microeconomics 3 cr. Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.

U 112S Introduction to Macroeconomics 3 cr. Offered every term. Determination of the level of national economic activity, inflation, economic instability, role of money and financial institutions; selected topics in public economic policy.
U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 302S The Montana Economy 3 cr. Offered spring. An introduction to various ways of analyzing state and local economies using Montana and its regions as a case study. The Montana economy is analyzed by region and major industrial sector.


UG 305 Public Finance: Taxation 3 cr. Offered spring. Prereq., ECON 111S and 112S. Tax incidence; economic effects of alternative tax policies at the federal, state, and local levels.

UG 310S Contemporary Issues in Political Economy 3 cr. Offered spring. Prereq., ECON 100S, 111S or 112S. Analysis of alternative approaches to contemporary economic problems to develop more informed and logically consistent personal perspectives on current economics issues and to form a more tolerant view of other such perspectives.

UG 311 Intermediate Microeconomics 3 cr. Offered spring and autumn. Prereq., ECON 111S and MATH 150 or equiv. Analysis of consumer behavior, production, factor pricing, externalities and public goods.

UG 313 Intermediate Macroeconomics 3 cr. Offered autumn and spring. Prereq., ECON 112S and MATH 150. Analysis of national income determination, unemployment, and inflation; emphasis on the role of fiscal and monetary policy.

UG 315 History of Economic Thought 3 cr. Offered intermittently. Prereq., ECON 111S, 112S. A survey of economic ideas from antiquity through the present.

UG 317 Money and Banking 3 cr. Offered intermittently. Prereq., ECON 111S, 112S. Definition and role of money; banks and other financial institutions as suppliers of money; the federal reserve system as a regulator of money; monetary theories, history, and policy.

UG 320 Health Economics 3 cr. Offered autumn. Prereq., economics course. Survey of market forces that govern the production and consumption of medical care in the U.S. market; uncertainty, asymmetric information, and concentrations of market power resulting in inefficient outcomes. Topics include cost escalations, role of medical insurance, and problems of an aging population.


UG 345S The Economics of Wildland Preservation 3 cr. Offered autumn. An economic analysis of the costs and benefits associated with preserving natural areas. The extension of economic tools to analyze the value of non-commercial resources, goods, and services is one focus. A critique of the limits and dangers associated with that extension is also developed.

UG 350 Economic Development 3 cr. Offered intermittently. Prereq., ECON 111S, 112S. Study of the processes of economic growth and development in the less developed world.

UG 374 Comparative Economic Systems 3 cr. Offered intermittently. Prereq., ECON 111S, 112S. Comparative analysis of alternative ideal types of economic organization stressing the assumptions and values used in their critique and defense. Capitalism, Socialism, Communism, Fascism.


U 393 Omnibus Variable cr. (R-9) Offered intermittently. Independent work under the University omnibus option. See index.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 398 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. The department will determine the number of credits to be earned for the experience based upon the activities outlined in the learning agreement. Prior approval must be obtained from the faculty supervisor and the Internship Services office. The department has determined that the course cannot be counted in the 36 credit minimum requirement for the major.

UG 431 International Trade 3 cr. Offered spring. Prereq., ECON 311 or consent of instr. International trade; theory, policy, institutions, and issues. Analysis of comparative advantage and trade restrictions, negotiations, and agreements.

UG 440 Environmental Economics 3 cr. Offered autumn. Prereq., ECON 111S, 112S. Same as EVST440. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species.

UG 460 Econometrics 4 cr. Offered autumn. Prereq., an introductory statistics course. Quantitative methods in economics with emphasis on regression analysis.


UG 487 Senior Seminar in Economics 2 cr. Offered spring. Prereq., ECON 311, 313; six additional credits at the upper-division level; upper-division standing. Capstone course for economics majors and others. Advanced topics in economic methodology, theory and/or public affairs.

U 488 Research Methods and Thesis Design 2 cr. Offered autumn. Prereq., senior standing, economics major. Development of senior thesis proposal; presentation of research topics and methods by economics faculty and seminar participants.

U 489 Senior Thesis 2 cr. Offered spring. Prereq., senior standing, economics major. Completion of senior thesis; presentation of results by seminar participants.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 497 Advanced Problems Variable cr. (R-15) Offered intermittently. Prereq., 12 credits in economics and consent of instr.
G 501 Graduate Research Variable cr. (R-6) Offered autumn and spring.

G 511 Microeconomic Theory 3 cr. Offered autumn.
Prereq., ECON 311. Advanced theoretical treatment of consumer and producer behavior.

G 513 Macroeconomic Theory 3 cr. Offered spring.
Prereq., ECON 313. Advanced theoretical treatment of national income determination, unemployment and inflation.

G 560 Advanced Econometrics 4 cr. Offered spring.
Prereq., ECON 460. Advanced quantitative methods in econometrics. Coverage of probit-logit regression models, simultaneous equation system, and other specialized techniques.

G 569 Empirical Research Design Variable cr. (R-6) Offered every term. Role and scope of empirical research. Planning and conduct of a research project.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-9) Offered intermittently.

G 598 Cooperative Education Experience Variable cr. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Thesis Variable cr. (R-9) Offered every term.

Faculty

Professors
Richard N. Barrett, Ph.D., University of Wisconsin, Madison, 1972
Douglas Dalenberg, Ph.D., University of Oregon, 1987
John W. Duffield, Ph.D., Yale, 1973
Richard D. Erb, Ph.D., Stanford University, 1967
John G. Photiades, Ph.D., University of Illinois, 1972
Thomas M. Power, Ph.D., Princeton, 1971 (Chairman)
Dennis J. O'Donnell, Ph.D., Pennsylvania State University, 1974
Kay Unger, Ph.D., Johns Hopkins University, 1974

Associate Professor
Michael H. Kupilik, Ph.D., University of Colorado, 1976

Adjunct Assistant Professor
Jeffrey T. Bookwalter, Ph.D., University of Utah, 1999

Emeritus Professors
Ronald A. Dulaney, Ph.D., Columbia University, 1973
George B. Heliker, Ph.D., University of Michigan, 1954
John H. Wicks, Ph.D., University of Illinois, 1962

Christopher J. Knight, Chair

The department has several components: 1) Literature; 2) Creative Writing; 3) English Teaching; 4) Expository Writing; 5) Linguistics; and 6) English as a Second Language. In the first, Literature, students ground their study in the reading and examination of the canonical literatures of Great Britain, Ireland and North America. This study is given an historical focus through the program's core survey courses: 1) British and Irish literatures from their beginnings to 1800; 2) British and Irish literatures from 1800 to the present; 3) North American literatures from their beginning to 1865; and 4) North American literatures from 1865 to the present. These courses, plus courses in Shakespeare and practical criticism, are required of all literature majors. In addition to which, there are other courses designed to make the student familiar with other literatures, written in English, from regions outside those named. Such would include the literatures of Australia, India, Kenya, New Zealand, Nigeria, South Africa and so forth. Beyond this, there are electives that focus upon genres (e.g., poetry, fiction, drama, science fiction, children's literature, film), periods (e.g., Medieval, Renaissance, Victorian, Modern, Postmodern), authors (e.g., Chaucer, Milton, Blake, Austen, James and Woolf), topics (e.g., gender, the environment, postcolonialism), and theory. The program's aim is to impart to the student an understanding not only of the aesthetic richness of the literatures that have been written in English but also of the historical and cultural forces that have contributed to their making. The classes are of a size that makes discussion very much a part of the classroom experience, and the faculty is actively committed both to teaching and scholarship.

The Creative Writing program, one of the country's oldest and more renown, is predicated on the model of the workshop, as led by a stellar group of prize-winning poets, novelists, short-story writers and memoirists. The faculty is complemented, each year, with distinguished guest faculty, who take up residencies in posts name after Charles Engelhard, Richard Hugo and William Kittredge. Undergraduates also are expected to fulfill many of the same requirements as those majoring in literature. Graduate students, pursuing an M.F.A., will, by contrast, experience a rather more autonomous program. Creative Writing also sponsors the literary magazine CutBank, now in its fourth decade of publishing distinguished works of poetry, fiction and art.

The English Teaching program is designed to transform gifted students of English into equally gifted teachers of the subject, paving the way between being a student and assuming the responsibilities of not only thoughtfully instructing students but also of engaging, in serious and productive ways, one's fellow colleagues and community members. In addition to training apprentices to the field, the program also works, especially in the Montana Writing Project, with seasoned teachers, offering them a structured venue wherein they can both share their experiences and learn about newer developments.

The Expository Writing program is geared toward making all entering students more self-conscious of the criteria that distinguish fine from less fine writing. Writing is understood as a skill, one that is improved by instructing the author in the demands and contingencies attached to such concerns as audience, voice, diction, grammar, schemes, tropes, tone and style. Good writing also is related to cogent thinking; and the hope is that by instructing first-year students in the practices of good writing, they will prove to be better students, in the course of their college careers, than if they had not been so taught.

Lastly, the department offers courses in English as a Second Language and Linguistics. The first is principally designed for those who have plans to teach English to non-native speakers; the second in conjunction with the Linguistics Program, is designed to instruct the student in the grammatical, phonological, and historical dimensions of the English language.

The department offers both undergraduate and graduate courses; and its programs of study lead to three degrees: B.A.,
M.A. and M.F.A. It is a vigorous department that is as pleased to see its graduates succeed in their professional careers as it is to welcome new students.

**Admission Requirements**

To be admitted to any option of the English major, a student must satisfy the following requirements:

1. Completion of 24 credits overall with a minimum GPA of 2.5 in the previous two terms or 24 credits.
2. Completion of at least nine credits in English (excluding ENEX-composition courses) with a minimum GPA of 2.5 and no grade lower than a C(2.00) in those courses.

Students who intend to major in English, but who have not yet met the above requirements are admitted to the program as pre-English majors. Pre-English majors will be assigned an English department advisor. Before a student can graduate with a major in English, she/he must meet the requirements to become an English major.

**Special Degree Requirements**

Refer to graduation requirements listed previously in the catalog. See index. For the Bachelor of Arts degree every major in English will complete the following requirements:

1. At least 42 credits in English. Only courses under English, cross-listed with English, or labeled only Linguistics will count toward the 42-60 credit major requirement. ENEX 100 and 101 do not count toward the major or minor.
2. Majors in English may not take any course required for the English major on a pass/not pass basis.
3. English majors must take all of the courses required in one of the following options within the English major:

   **A. Literature:** ENLT 222L; 223L; 224L; 225L; 301; 320; three additional 300-level ENLT courses; either ENLT 420 or 421; three additional credits chosen from ENLT 420, 421, 430, 431 and ENLT 470; and two years of a foreign language.

   **B. Creative Writing:** Four courses from ENLT 121L, 222L, 223L, 224L, 225L; ENLT 301; ENLT 320; three additional 300-level ENLT courses; three upper-division creative writing courses; two years of a foreign language.

   Entry into 300-400 level Creative Writing classes is by consent of instructor only. Creative Writing majors must submit samples of their work to the instructors of individual classes the week before advising begins in order to be considered for the next semester’s workshops. Submission guidelines are posted in the English Department in LA 133.

   **C. English Linguistics:** linguistics courses (required 27 credits) in one of the two options, General Linguistics (including LING 270 or 470; LING 471 and 474; LING 472; LING 473 or 475; LING 476, 477 or 479; LING 484 and 489; and one upper-division linguistics elective course) or Teaching ESL (including LING 270 or 470; LING 471 and 474; LING 466 or 472; LING 473, 476, 479 or 489; LING 477 or 478; LING 480; LING 487 or 481, or 487; and LING 491) and, two years of a foreign language.

   **D. English Teaching:** For an endorsement in the extended major field of English, a student must complete ENLT 222L, 224L, 225L, 301; 320; one course in poetry chosen from ENLT 121L, 222L or ENCR 211A; two additional 300-level ENLT courses, one of which concentrates in American literature; ENLI 465; ENT 439, 440, 441, 442; 6 credits of English electives; secondary school teaching certification courses. This program requires a minimum of 128 credits.

**Minor Teaching Field of English:** For an endorsement in the minor teaching field of English, a student must complete ENLT 223L, 224L, 225L, 301, 320; two 300-level ENLT courses, one which concentrates in American literature and one in poetry; ENLI 465; ENT 439, 440, 441, and 442; and secondary school teaching certification courses.

A student in the English teaching option must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog.) NOTE: All English teaching majors and minors must take ENT 440, Teaching Writing and Reading Across the Curriculum, 3 credits.

4. The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

**Sample Course of Study**

### Literature Option

<table>
<thead>
<tr>
<th>Requirement</th>
<th>First Year</th>
<th>Second Year</th>
<th>Third Year</th>
<th>Fourth Year</th>
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<tbody>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
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<td>ENLT 222L-223L British Literature</td>
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<tr>
<td>English electives</td>
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### Creative Writing Option

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<tr>
<th>Requirement</th>
<th>First Year</th>
<th>Second Year</th>
<th>Third Year</th>
<th>Fourth Year</th>
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</thead>
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<tr>
<td>ENEX 101 Composition</td>
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<td>3</td>
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<tr>
<td>ENCR 210A or 211A Introduction to Creative Writing</td>
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<td>ENLT 121L Poetry or ENLT 222L British Literature</td>
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<td>ENLT 223L British Literature</td>
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<td>ENLT 224L and 225L American Literature</td>
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<td>ENLT 301 Applied Literary Criticism</td>
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Third Year
ENCR 310A or 311A Creative Writing .... (3) 3
ENLT 320 Shakespeare ........................ 3
Two 300-level ENLT courses ............. 3 3
Electives and General Education ....... 9 9

Fourth Year
ENCR 310A, 311A, 410, 411 or 412 .... 3 3
One 300-level ENLT course ............. 3
Electives and General Education ....... 9 12

English Teaching Option
First Year
ENEX 101 Composition .................. 3
One of ENLT 121L, 222L or ENCR 211A 3
ENLT 223L British Literature ............ 3
ENLT 224L American Literature ....... 3
General Education ........................ 9 9

Second Year
ENLT 225L American Literature ....... 3
ENLT 301 Applied Literary Criticism .... 3
ENLT 320 Shakespeare .................... 3
English elective .......................... 3
General Education and certification requirements 9 18

Third Year
One 300-level ENLT course concentrating in American literature .... 3
One 300-level ENLT course ............. 3
ENT 439 Studies in Young Adult Literature 3
ENLI 465 Structure and History of English for Teachers ............... 3
ENT 440 Teaching Writing and Reading Across the Curriculum ........ 3
English elective .......................... 3
General Education and certification requirements 18 17

Linguistics Option
First Year
ENEX 101 Composition .................. 3 (3)
ENLT 222L-223L British Literature .... 3 3
ENLT 224L American Literature ....... 3
Foreign language ........................ 5
General Education ........................ 4 4

Second Year
ENLT 225L American Literature ....... 3
LING 270 or 470 Introduction to Linguistics 3
LING 471 Phonology-Morphology ....... 3
Foreign language ........................ 4 4
Electives and General Education ....... 6 8

Third Year
ENLI 472 Syntax-Semantics .............. 3
LING 476 Child Language Acquisition or 479 Pragmatics ............... 3
LING 484 American Indian Linguistics .... 3

English electives ........................ 3
Electives and General Education ....... 9 9

Fourth Year
LING 473S Language and Culture or 475 Linguistic Field Methods .... 3
LING 474 Language History, Variety, Change .... 3
LING 489 Languages of the World ....... 3
Upper-division English electives ....... 3 3
Upper-division Linguistics elective .... 3
Electives ................................. 6 6

Requirements for a Minor
To earn a minor in English the student must complete the following requirements:
1. At least 27 credits in English, excluding ENEX 100 and 101.
2. Four courses chosen from ENLT 120L, 121L, 222L, 223L, 224L, 225L
3. ENLT 301 and 320.
3. Nine additional credits in English numbered 300 or higher.

Courses
U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

English As A Second Language (ENSL)
U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 250 Intermediate English for Academic Purposes: I 3 cr. (R-6) Offered autumn and spring. Same as EASL 250. Extensive training in reading, writing, and speaking grammatical English. Required of all foreign students with TOEFL scores between 500 and 525. Traditional letter grading.

U 250 Intermediate English for Academic Purposes: II 3 cr. (R-6) Offered autumn and spring. Prereq., 490 to 525 on the TOEFL or consent of instr. Same as EASL 251. English grammar, reading, writing, and conversation skills for students who are not native speakers of English; designed for students who have scored between 500 and 525 on the TOEFL. Traditional letter grading.

U 450 Advanced English for Academic Purposes: I 3 cr. (R-6) Offered autumn and spring. Prereq., TOEFL score of 526 to 580 or consent of instr. Same as EASL 450. Extensive training in reading, writing, and speaking grammatical English. Traditional letter grading.

U 451 Advanced English for Academic Purposes: II 3 cr. Offered autumn and spring. Prereq., TOEFL score of 526 to 580 or consent of instr. Same as EASL 451. English grammar, reading, writing, and conversation skills for students who are not native speakers of English; designed for students who have scored between 526 and 580 on the TOEFL. Traditional letter grading.

Expository Writing (ENEX)
Writing Laboratory No Credit. Individualized tutorial service for students having difficulty writing acceptable papers for any university course (except for English courses in expository or creative writing). Tutors will be available at regular periods Monday through Friday to assist students in revising papers not considered acceptable by instructors other than those teaching English courses in expository writing and creative writing. Any member of the faculty may refer a student to the laboratory, and the student may attend voluntarily as long as he or she and the tutor think he or she needs help.
U 100 Basic Composition 2 cr. Offered every term. Prereq., minus score on writing diagnostic examination or referral by ENEX 101 instr. For students with major difficulties in expository prose. Emphasis on forming, structuring, and development of ideas; tutorial emphasis on mechanics in special class hour to be arranged with instructor. Grading A, B, C, D, F, or NCR (no credit).

U 101 Composition 3 cr. Offered every term. Prereq., ENEX 100 or proof of passing score on writing diagnostic examination, or referral by ENEX 100 instr. Expository prose and research paper; emphasis on structure, argument, development of ideas, clarity, style, and diction. Students expected to write without major faults in grammar or usage. Credit not allowed for both ENEX 101 and COM 101. Grading A, B, C, D, F, or NCR (no credit).

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 198 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 300 Practicum: Tutoring Composition 1-3 cr. (R-6) Offered autumn and spring. Prereq., ENT 440 and consent of instr. Limited to those who are tutoring students enrolled in ENEX 100.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 495 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 540 Teaching College Level Composition 1 cr. (R-4) Offered autumn and spring. Restricted to graduate students interested in teaching expository writing at The University of Montana. Theory and pedagogy of teaching composition are emphasized.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Creative Writing (ENCR)

U 110L Montana Writers Live! 3 cr. (R-6) Offered autumn. Open to all majors. An introduction to Montana's practicing creative writers and their work through reading, live performances and discussion. Regional poets and prose writers will read from their work and lead class discussion. Students prepare questions developed from readings and criticism.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 210A Introduction to Creative Writing: Fiction 3 cr. Offered every term. An introductory writing workshop focused on the reading, discussion, and revision of students' short fiction. Students will also be introduced to models of fiction techniques. No prior experience in writing short fiction required.

U 211A Introduction to Creative Writing: Poetry 3 cr. Offered every term. An introductory writing workshop focused on the reading, discussion, and revision of students' poems. Students also will be introduced to models of poetic techniques. No prior experience in writing poetry required.

U 310A Creative Writing: Fiction 3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. An intermediate fiction writing workshop. Students will be expected to finish 3 or 4 substantial stories for the course. Although some outside material will be considered, the primary emphasis will be analysis and discussion of student work. Students are expected to have done promising work in ENCR 210A.

U 311A Creative Writing: Poetry 3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. An intermediate workshop involving critical analysis of students' work-in-progress as well as reading and discussion of poems in an anthology. Numerous directed writing assignments, experiments, exercises focused on technical considerations like diction, rhythm, rhyme, and imagery.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 410 Advanced Creative Writing: Fiction Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. An advanced writing workshop in which student manuscripts are read and critiqued. Rewriting of work already begun (in ENCR 310 classes) will be encouraged.

UG 411 Advanced Creative Writing: Poetry Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. An advanced writing workshop involving critical analysis of students' work-in-progress, as well as reading and discussion of poems by "established" poets. Discussions will focus on structure and stylistic refinement, with emphasis on revision. Different techniques, schools and poetic voices will be encouraged. Frequent individual conferences.

UG 412 Creative Non-Fiction 3 cr. (R-6) Offered autumn and spring. Prereq., ENCR 310A and consent of instr. A creative writing workshop focused primarily on personal essay. Attention given to writing and publishing professional magazine essays. Students complete two substantial essays.

UG 495 Special Topics 1-6 cr. (R-6) Offered spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 540 Teaching College Level Composition 1 cr. (R-4) Offered autumn and spring. Restricted to graduate students interested in teaching expository writing at The University of Montana. Theory and pedagogy of teaching composition are emphasized.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-3 cr. (R-9) Offered every term. Prereq., consent of instr. and chair, and junior or senior standing. Special projects in creative writing. Only one 496 may be taken per semester.

G 510 Fiction Workshop Variable cr. (R-15) Offered autumn and spring. Prereq., consent of instr.

G 511 Poetry Workshop Variable cr. (R-15) Offered autumn and spring. Prereq., consent of instr.

G 512 Non-Fiction Workshop Variable cr. (R-15) Offered autumn and spring. Prereq., consent of instr. A creative writing workshop focused primarily on personal essay. Attention given to writing and publishing professional magazine essays. Students complete two substantial essays.

G 514 Techniques of Modern Fiction Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Intensive reading of contemporary prose writers. Primarily for graduate students in creative writing.


G 516 Topics in Creative Writing 3 cr. (R-9) Offered autumn and spring. Prereq., graduate standing. Visiting writers explore readings in their genres of specialty. Each writer chooses the focus, reading list, and assignments for the course.
G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Graduate Independent Study 1-9 cr. (R-9) Offered every term. Prereq., consent of instr. and chair. Special projects in creative writing. Only one 596 permitted per semester.

G 599 Thesis Creative Writing Variable cr. (R-12) Offered every term.

Linguistics (ENLI)

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 270 Introduction to Linguistics 3 cr. Offered every term. Same as ANTH and LING 270. Introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.

U 395 Special Topics Variable cr. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 465 Structure and History of English for Teachers 3 cr. Offered autumn and spring. Same as LING 465. The development of the English language from a historical perspective contrasted with the phonological and grammatical structure of English from a modern linguistic point of view, specifically designed for teachers.

U 470 Introduction to Linguistics Analysis 3 cr. Offered every term. Same as ANTH, LING and MCLX 470. An introduction to the field of modern linguistics and to the nature of language. Emphasis on linguistic analysis.

U 480 Teaching English as a Foreign Language 3 cr. Offered spring. Prereq., ENLI 270 or 470 and LING 466 or 471 or 472. Same as LING 480. The application of principles of modern linguistics to the problems of teaching English as a foreign language.

U 491 ESL Practicum 1-3 cr. Offered every term. Same as LING 491. Students with a teaching major take the course for 3 credits; others take it for 1 credit and do one third of the work.

U 495 Special Topics 1-6 cr. (R-6) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

English Teaching (ENT)

English teaching courses do not count toward majors under the Literature, English Linguistics, and Creative Writing options.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 439 Studies in Young Adult Literature 3 cr. Offered autumn. Reading of representative texts covering the history, genres, authors, and themes of literature for students in middle school and high school.

UG 440 Teaching Writing and Reading Across the Curriculum 3 cr. Offered autumn and spring. Prereq., C & I 303, senior standing and consent of instr. Emphasis on teaching writing and reading in grades 5-12. Research about development and maturity of readers/writers, strategies for teaching writing and reading in all content areas, criteria for evaluating writing/reading, peer-coaching methods, writing/reading workshops, assessment characteristics, and grading practices. Required of students pursuing secondary teaching certificates.

UG 441 Teaching Literature 3 cr. Offered autumn and spring. Prereq., ENT 439, admission to teacher education and consent of instr. Emphasis on various approaches to teaching literature: generic, thematic, chronological and interdisciplinary. Includes techniques for developing evaluative, interpretive, perceptive, and personal responses to prose, poetry, film and other media. Explores criteria, evaluation and curriculum of teaching traditional, multicultural, and young adult literature in grades 5-12. Teaching majors and minors in areas other than English should enroll in ENT 440.

UG 442 Teaching Oral Language and Media Literacy 3 cr. Offered autumn and spring. Prereq., ENLI 465, admission to Teacher Education, and consent of instr. Emphasis on preparation, implementation, and evaluation of teaching strategies and materials in grades 5-12. Includes learning objectives, teaching styles, unit plans, print and non-print media, and creative drama. Explores student-centered curriculum, with emphasis on developmental abilities in reading, speaking, listening and viewing. Special emphasis on language and language development. Teaching majors and minors in areas other than English should enroll in ENT 440.

UG 495 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-3 cr. (R-9) Offered every term. Prereq., consent of instr. and chair, and junior or senior standing. Special projects in English teaching. Only one 496 may be taken per semester.

G 543 Advanced Teaching Strategies for Young Adult Literature 3 cr. Offered intermittently. Prereq., teaching experience or senior standing (3.0 GPA and petition) with consent of instr. Selecting, reading, teaching, and evaluating young adult literature. Design of thematic units with emphasis on students' responses to literature. Presentation of multicultural literature, gender equity, censorship, and media issues.

G 544 Creative Drama in English Class 3 cr. Offered intermittently. Prereq., teaching experience, or senior standing (3.0 GPA and petition) with consent of instr. Designing, teaching and evaluating creative drama in the English language arts classroom. Emphasis on using creative drama as a learning skill to teach literature and language.

G 546 Theories of Literary Criticism for Teachers 3 cr. Offered intermittently. Prereq., teaching experience or senior standing (3.0 GPA and petition) with consent of instr. Emphasis on a variety of theories which focus on reader responses. Application of theories to prose and poetry genres.

G 547 Advanced Teaching Strategies for Writing and Reading 3 cr. Offered intermittently. Prereq., teaching experience, or senior standing (3.0 GPA and petition) with consent of instr. Current research and best practices in teaching writing and reading in all content areas. Emphasis on writing and reading processes, workshops, conferences and portfolios. National and state standards, curriculum, and assessments in writing and reading are addressed.

G 548 Portfolios and Assessment in English Language Arts 3 cr. Offered intermittently. Prereq., teaching experience, or senior standing (3.0 GPA and petition) with consent of instr. Selecting, designing, and evaluating informal and formal assessments in English Language Arts.
of portfolios as assessment strategies that align curriculum and instruction. Focus on content and performance standards, evaluation criteria and rubrics, and role of reflection in teaching and learning.

G 550 Montana Writing Project 7 cr. Offered summer. Prereq., special application and consent of director. Intensive, four-week program designed to increase the effectiveness of the teaching and learning of writing in all levels of education in Montana. For graduate students, K-12 teachers in all content disciplines and university level educators.

G 593 Professional Paper (Teacher) Variable cr. (R-4) Offered every term. Pedagogical paper for the Master of Arts (Teacher Option). Credit not allowed toward any other degree.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., teaching experience or senior standing (3.0 GPA and petition) with consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Graduate Independent Study 1-9 cr. (R-9) Offered every term. Prereq., consent of instr. and chair. Special projects in English teaching. Only one 596 permitted per semester.

G 598 Cooperative Education Experience Variable cr. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

Literature (ENLT)

U 120L Introduction to Critical Interpretation 3 cr. Offered every term. Study of how readers make meaning of texts and how texts influence readers. Emphasis on interpreting literary texts: close reading, critical analysis and effective writing.

U 121L Introduction to Poetry 3 cr. Offered every term. An introduction to the techniques of reading and writing about poetry with emphasis on the lyric and other shorter forms.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 222L British Literature Through the 18th Century 3 cr. Offered every term. Representative texts from the Anglo-Saxon period through the Enlightenment.

U 223L British Literature in the 19th and 20th Centuries 3 cr. Offered every term. Representative texts from Romanticism to the present.

U 224L American Literature to 1865 3 cr. Offered every term. Representative texts from the pre-colonial period through the Civil War.

U 225L American Literature Since 1865 3 cr. Offered every term. Representative texts from the Civil War to the present.

U 227L Film as Literature, Literature as Film 3 cr. (R-6) Offered every term. Same as LS 227L. Study of the relationship between film and literature. Topics vary.

U 301 Applied Literary Criticism 3 cr. Offered every term. Prereq. or coreq., 12 credits of lower-division ENLT courses. Study of various literary theories and their application to literary texts.

UG 320 Shakespeare 3 cr. Offered every term. Prereq., ENLT 301 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities.

UG 321 Studies in a Major Author 3 cr. (R-9) Offered every term. Prereq., ENLT 301 or consent of instr. Intensive study of the life and works of one author writing in English (every two years, Chaucer, Milton, Faulkner, Joyce, Twain; less frequently, Conrad, Hemingway, Blake, Woolf, D.H. Lawrence, Welty).

UG 322 Studies in Literary History 3 cr. (R-9) Offered every term. Prereq., ENLT 301 or consent of instr. Study of influences on and innovations in the works of various authors within a particular literary historical period in England or America (every two years, British Renaissance, Age of Johnson, Romantic, Victorian, British Modern, American Puritanism to Transcendentalism, American Realism and Naturalism, American Romanticism; less frequently, Medieval, 17th century).

UG 323 Studies in Literary Forms 3 cr. (R-9) Offered every term. Prereq., ENLT 301 or consent of instr. Same as LS 323. Reading of various authors from different literary periods and cultures working in the same mode of composition (every two years, Literature of Place, Modern Drama, 19th Century Fiction, 20th Century Fiction, Lyric Poetry, Science Fiction, Autobiography; less frequently, Travel Literature, Popular Fiction, Epic, Tragedy, Satire, Romance, Comedy).

UG 325 Studies in Literature and Other Disciplines 3 cr. (R-9) Offered every term. Prereq., nine credits in ENLT or LS or consent of instr. Same as LS 356. Selected works of literature studied in conjunction with works of art, music, religion, philosophy, or another discipline (every two years, Psychology and Literature, Film and Literature, The Poetry of Meditation; less frequently, British Art and Literature, Modernism, Literature and Science, Bible as Literature, Song).

U 326 Doctors' Stories 3 cr. Offered every term. Prereq., three credits of lower-division ENLT courses and NAS 100H or 202L. Same as NAS 329. Selected readings from Native American literature with special emphasis on the literature of writers from the Rocky Mountain west.

U 331 Voices of the American Renaissance 3 cr. Offered every term. Prereq., ENLT 224L or 225L and ENLT 301 or consent of instr. Perspectives on antebellum Native American, African American, and gender issues. Study of the poetry of Walt Whitman and Emily Dickinson in light of these three perspectives.

U 332 Topics in Modernism 3 cr. Offered every term. Prereq., ENLT 301 or consent of instr. Study of modernism, a postmodernist study of European and American modernism. Detailed exploration of major modernist novels and/or poems in relation to broader cultural and social contexts.

U 333 Modern Poetry 3 cr. Offered every term. Prereq., ENLT 301 or consent of instr. Survey of modern poetry in English beginning with Emily Dickinson and Walt Whitman and moving toward the present, centering on modernist poets.

U 334 Postwar Poetry 3 cr. Offered every term. Prereq., ENLT 301 or consent of instr. Study of postwar American (and, less frequently, British and Irish) poetry. A broad survey of six or more poets including George Oppen, Gwendolyn Brooks, Elizabeth Bishop, Robert Creeley, James Merrill, Adrienne Rich, John Ashbery, and Geoffrey Hill, among others, or a more detailed study of two or three major poets.

U 335 The American Novel 3 cr. Offered every term. Prereq., ENLT 224L or 225L and ENLT 301. Examination of a limited number of American novels in their historical, cultural, and literary contexts. Exploration of literary movements such as realism, naturalism, modernism, and postmodernism. Discussion of critical theories and application to the texts.
U 336 American Women Writers 3 cr. Offered spring odd-numbered years. Prereq., ENLT 301 or consent of instr. Same as WS 336. Consideration of political and aesthetic purposes in women's fiction through a progression of 19th century literary forms: a cautionary seduction novel, sentimental and domestic novels, realism, naturalism, and utopianism.

U 337 African-American Literature 3 cr. Offered autumn even-numbered years. Prereq., ENLT 301 or consent of instr. Selected works by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc.

U 338L Montana Writers 3 cr. Offered spring. Prereq., ENLT 224L or 225L. Examination of poems, stories, and novels by or about Montanans and the treatment and representation of race, place, class, gender, sexuality, and identity in Montana. Exploration of the myths and realities of Montana and the American West.

U 339 Henry James 3 cr. Offered intermittently. Prereq., ENLT 301 or consent of instr. Single author study of Henry James' novels, tales, criticism, travel writings, memoirs, etc. or two author study of James and another author such as Jane Austen, Nathaniel Hawthorne, Virginia Woolf, T.S. Eliot, and Vladimir Nabakov.

U 350L Chaucer 3 cr. Offered spring. Critical reading of Chaucer's masterpiece, the Canterbury Tales, with attention to Chaucerian irony, the author's place in literary history, and issues in Chaucer-studies.

U 351 Donne and His Followers 3 cr. Offered autumn odd-numbered years. Prereq., ENLT 301 or consent of instr. Close study of John Donne and other early 17th century religious poets within the context of Renaissance intellectual history.

U 352 Studies in the Renaissance 3 cr. Offered autumn odd-numbered years. Prereq., ENLT 301 or consent of instr. Focus on three Renaissance figures, the prince, the courtier, and the knight, as they influenced the constructions of male and female subjectivities in English literature from 1550 to 1625.

U 353 Milton 3 cr. Offered intermittently. Prereq., ENLT 301 or consent of instr. Selected study of poetry and prose of Milton.

U 354 Eighteenth-Century British Literature 3 cr. Offered intermittently. Prereq. ENLT 301 or consent of instr. A study of 18th century British literature, with focus on important literary and social tendencies that influence and inform texts from that era.

U 355 Studies in British Romanticism 3 cr. Offered intermittently. Prereq. or coreq., ENLT 301. Introduction to the major texts, themes, and authors writing in England from 1790-1815, with primary focus on William Blake and William Wordsworth.

U 356 Blake 3 cr. Offered intermittently. Prereq. or coreq., ENLT 301. Study of the writings and visual arts of William Blake.

U 357 Victorian Literature and Culture 3 cr. Offered springs even-numbered years. Survey of British Victorian literature from a cultural perspective, focusing on the connections between literary texts and their socio-historical contexts.

U 358 British Modernism 3 cr. Offered alternate years. Prereq., ENLT 301 or consent of instr. Study of British literature from about 1885 to about 1950.

U 370 Science Fiction 3 cr. Offered spring odd-numbered years. Prereq., ENLT 301 or completion of Perspective 6 or consent of instr. Study of the science fiction genre from its pulp magazine beginnings in the 1920s to the present.

U 371 Literature and the Environment 3 cr. Offered autumn odd-numbered years. Prereq., ENLT 224L or 225L and ENLT 301 or consent of instr. Study of major texts and issues in American nature writing.

U 372 Gay and Lesbian Studies 3 cr. Offered autumn or spring. Prereq., ENLT 301 or consent of instr. Same as WS 372. Review of the history of the gay and lesbian movement in the twentieth century as a basis for understanding the political, social, and sexual issues that influenced homoerotic cultural representation in plays, films, and novels.

U 373 Topics in Postcolonial Literatures 3 cr. Offered autumn or spring. Prereq., ENLT 224L or 225L and ENLT 301.

U 375L Gender and Sexuality in 20th Century Fiction 3 cr. Offered autumn odd-numbered years. Same as LS 375L. Major 20th century novels and short stories written in English in different parts of the world and how these texts explore changing concepts of gender and sexuality.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 420 History of Criticism and Theory 3 cr. Offered autumn. Prereq., ENLT 301 and six credits in literature courses numbered 300 or higher or consent of instr. Same as LS 460. Survey of the historical development of critical theories which shaped ways of reading and writing from Plato and Aristotle to the present.

UG 421 Topics in Critical Theory 3 cr. (R-9) Offered autumn and spring. Prereq., ENLT 301 and six credits in literature courses numbered 300 or higher or consent of instr. Same as LS 461. Study and application of one or more theoretical approaches to interpreting texts (e.g., aesthetic poststructural, new historicist, classical, renaissance, romantic, narrative, psychoanalytic, formalist, neo-marxist, feminist, gender, cultural studies and reader-response theory).

UG 429L Studies in Native American Autobiography 3 cr. Offered intermittently. Same as NAS 410L. Prereq., ENLT 301 or ENLT/NAS 329, or consent of instr. Study of texts that present a first-person story of an American Indian individual’s life within historical and cultural contexts, with discussion of theories of autobiography.

UG 430 Studies in Comparative Literature 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Same as LS 455 and MCLG 440. The study of important literary ideas, genres, trends and movements. Credit not allowed for the same topic in more than one course numbered 430, LS 455, MCLG 440, or MCLG 494.

UG 431 Senior Seminar in Literature 3 cr. (R-9) Offered intermittently. Prereq., ENLT 301 and six credits in literature courses numbered 300 or higher or consent of instr. Advanced studies in literary figures and topics.

UG 495 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-3 cr. (R-9) Offered every term. Prereq., consent of instr. and chair, and junior or senior standing. Special projects in literature. Only one 496 may be taken per semester. Consent must be obtained prior to enrollment.

U 499 Honors Thesis Variable cr. (R-9) Offered intermittently. Prereq., consent of chair.

G 500 Introduction to Graduate Studies 3 cr. Offered autumn. Instruction in advanced literary and cultural theory, library and research skills, and academic genres. This course cannot be taken in lieu of the required seminars in English.

G 520 Seminar in British Literature 3 cr. (R-9) Offered every term. Prereq., consent of instructor. Topics will vary.
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G 521 Seminar in America Literature 3 cr. (R-9) Offered every term. Prereq., consent of instr. Topics will vary.

G 522 Seminar in Comparative Literature 3 cr. (R-9) Same as MCLG 522. Offered autumn and spring. Prereq., consent of instructor. Topics will vary.

G 523 The Literature of Natural History 3 cr. Offered autumn. Same as EVST 505. Study of the literary history of natural history from its classical origins to the present with an emphasis on the American tradition of nature writing and its relationship to conservation biology, and the practice of natural history.

G 524 Nature, Language and Politics 3 cr. Offered intermittently. Same as EVST and PHIL 506. Investigation of environmental, social and political thought from the perspective of contemporary language theory.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Graduate Independent Study Variable cr. (R-9) Offered every term. Prereq., consent of instr. and chair. Special projects in literature. Only one 596 permitted per semester. Consent must be obtained prior to enrollment.

G 598 Cooperative Education Experience Variable cr. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Thesis Variable cr. (R-6) Offered every term.

Professors
Beverly Ann Chin, Ph.D., University of Oregon, 1973
Phillip R. Fandozzi, Ph.D., University of Hawaii, 1974
Robert B. Hausmann, Ph.D., University of Wisconsin, 1972
Michael W. McClintock, Ph.D., Cornell University, 1970
Robert Pack, M.A., Columbia University, 1953 (Visiting)
Greg Pape, M.F.A., University of Arizona, 1974

Associate Professors
Robert Baker, Ph.D., Cornell University, 1997
Heather Bruce, Ph.D., University of Utah, 1997
Kevin Canty, M.F.A., University of Arizona, 1993
Casey Charles, Ph.D., State University of New York, Buffalo, 1992
Debra Magpie Earling, M.F.A., Cornell University, 1991
John Glendenning, Ph.D., Indiana University, 1992
Brady Harrison, Ph.D., University of Illinois, 1994
John Hunt, Ph.D., Stanford University, 1984
Christopher J. Knight, Ph.D., New York University, 1982

Assistant Professors
Jill Bergman, Ph.D., University of Illinois, 1999
Lynn Itagaki, Ph.D., University of California at Los Angeles, 2004
Kathleen M. Kane, Ph.D., University of Texas, 1997
Joanna Klink, Ph.D., The John Hopkins University, 2000
David L. Moore, Ph.D., University of Washington, 1994
Karen Volkman, M.F.A., Syracuse University, 1992

Adjunct Associate Professor
Kathleen Gadbow, M.F.A., The University of Montana, 1985

Emeritus Professors
Richard R. Adler, Ph.D., University of Illinois, 1971
William Bevis, Ph.D., University of California, Berkeley, 1969
Jesse Bier, Ph.D., Princeton University, 1956
Bruce Bigley, Ph.D., Yale University, 1972
Gerry Brenner, Ph.D., University of Washington, 1965
Walter L. Brown, Ph.D., University of California
Merrel D. Clubb, Jr., Ph.D., University of Michigan, 1953
Earl Ganz, Ph.D., University of Utah, 1977
Patricia Goedicke, M.A., Ohio University, 1965
William Kittredge, M.F.A., University of Iowa, 1969
Lois Welch, Ph.D., Occidental College, 1966

Emeritus Associate Professors
Robert B. Johnstone, Ph.D., University of Washington, 1970
Dexter Roberts, Ph.D. Stanford University, 1966
Veronica J. Stewart, Ph.D., State University of New York, Stony Brook, 1990

Environmental Studies

Thomas M. Roy, Director
The Environmental Studies Program (EVST) seeks to provide students with the literacy, skills and commitment needed to foster a healthy natural environment and to create a more sustainable, equitable, and peaceful world. To these ends, the EVST program educates and challenges students to become knowledgeable, motivated, and engaged in environmental affairs. We want our students to acquire the skills and awareness that will enable them to promote positive social change and to improve the environment and communities of Montana and thereby the lives of all Montanans. Our program is organized upon the following principles:

- Environmental studies require an interdisciplinary approach that integrates the natural sciences, social sciences, and humanities.
- Creating solutions to environmental problems requires enterprise and performance as well as reflection; therefore, an effective environmental education generates thinkers who can do as well as doers who can think.

- It is important to provide both classroom and experiential learning opportunities in the arts and responsibilities of democratic citizenship, including communication, collaboration, and committed civic participation.
- Students should be co-creators of their educational experience.

High School Preparation: Students in high school who are planning to major in environmental studies should take their schools' college preparatory curriculum. Courses in biology, chemistry, math through pre-calculus, and writing are recommended.

Special Degree Requirements
Refer to graduation requirements listed previously in the catalog (see index). For the Bachelor of Arts degree, every major in environmental studies will complete the following requirements:
Environmental Studies: EVST 101N, 167H, 201, 225, 360, 398, 484, two of the following three courses, 302, 367, 420 and at least nine credits selected from 300 and/or 400 level courses offered by EVST.

Required courses outside Environmental Studies: BIOL 100N or 101N or 103N; CHEM 151N; MATH 241.

The Upper-Division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Special Emphasis

Students are encouraged to select a minor or double major from another campus discipline or an emphasis in one of the following areas:

Environmental Management: In addition to satisfying the general requirements for a degree in environmental studies, students desiring an emphasis in environmental management must complete ACCT 201, ACCT 202, BADM 257, IS 270, FIN 322, MGMT 340S, IS 341, MKTG 360, and MGMT 445 or MGMT 446 or IS 448.

Pre-Law: In addition to satisfying the general requirements for a degree in environmental studies, students desiring an emphasis in environmental law must consult with the pre-law faculty advisor within environmental studies to design a pre-law program. The pre-law emphasis is a flexible program designed to prepare students for law school and allow students to strengthen their background within their area of interest.

Sustainable Food and Farming: In addition to satisfying the general requirements for a degree in environmental studies, students desiring this emphasis must complete: 6 supervised internship credits in the Program in Ecological Agriculture and Society (PEAS, EVST 390); EVST 430 (2 cr.); and EVST 450 (3 cr.). In addition, students must complete 9 credits of advisor-approved courses or internships. (Could include such courses as: FOR 210N, 362, 424; HHP 236N; PHAR 324; ANTH 387; GEOG 405.)

Water Resources: In addition to satisfying the general requirements for a degree in environmental studies, student desiring an emphasis in water resources must complete 20 credits of advisor-approved courses or internships. (Could include such courses as: BIOL 366, 453, 454; GEOG 320, 431, 480; FOR 210N, 389, 485, 486.) Note: some of these courses require prerequisites not in the environmental studies core requirements.

Suggested Course of Study

First Year

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>BIOL 100N The Science of Life</td>
<td>3</td>
<td>A</td>
<td>S</td>
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<tr>
<td>ENEX 101 Composition</td>
<td>(3)</td>
<td>(3)</td>
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<tr>
<td>EVST 101N Environmental Science</td>
<td>3</td>
<td>A</td>
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<tr>
<td>EVST 167H Nature and Society</td>
<td>3</td>
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<tr>
<td>MATH 117 Probability and Linear Mathematics</td>
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Second Year

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<tr>
<td>CHEM 151N General and Inorganic Chemistry</td>
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<tr>
<td>EVST 201 Environmental Information Resources</td>
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<td>EVST 225 Community and Environment</td>
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<td>MATH 241 Statistics</td>
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Third Year

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<tr>
<td>EVST 302 Introduction to Environmental Regulation</td>
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<tr>
<td>EVST 360 Applied Ecology</td>
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<tr>
<td>EVST 367 Environmental Politics and Policies</td>
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<td>EVST 420 U.S. Environmental Movement</td>
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Fourth Year

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<td>EVST 398 Cooperative Education</td>
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Requirements for a Minor

To earn a minor the student must complete 25 credits. The following courses must be completed: EVST 101N, 167H, 225 and one of these ecology courses: BIOL 121N, EVST 360, FOR 330, or BIOL 340. The remaining credits can be from any other upper-division EVST courses.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Environmental Studies (EVST)

U 101N Environmental Science 3 cr. Offered autumn. An introduction to the scientific principles that underpin environmental science and discussion of how these shape national and local environmental laws and policies. Local approaches to solving environmental problems.

U 167H Nature and Society 3 cr. Offered autumn. The relationship between ideas about nature and the development of political and social ideas, institutions, and practices, primarily in western (Euro-American) society. Complements ethics offerings in philosophy aimed at environmental studies majors.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 201 Environmental Information Resources 3 cr. Offered spring. Students write a research paper on a current environmental issue. Focus on critical thinking and critical analysis of sources.

U 204 Sustainable Economic Development 3 cr. Offered intermittently autumn or spring. Prereq., EVST 167H. Review of the concept of sustainability in the context of the current American economic system and the extant applications of sustainability principles to private enterprise.

U 225 Community and Environment 3 cr. Offered spring. Same as SOC 225. Exploration of the ways that communities address their environmental concerns. Introduction of relevant social science concepts.

U 294 Seminar 1-6 cr. (R-6) Offered intermittently.

U 295 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 302 Introduction to Environmental Regulation 3 cr. Offered spring. Introduction to the history, law and theory of environmental regulation in the United States using public and private land regulation mechanisms as case studies. Basic principles of constitutional and administrative law relevant to environmental regulation, substantive public and private land use law and the history of environmental problems and their regulation.
U 305L The Environmental Vision 3 cr. Offered autumn. Prereq., EVST 167H, environmental studies major, or consent of instr. Provides background, overview, interpretations, and understanding of key concepts, themes, approaches, and forms in American nature and environmental nonfiction prose literature as well as that literature's response to and influence on important environmental events, figures, and movements.

U 327E Environmental Ethics 3 cr. Offered autumn. Same as PHIL 327E. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment. Issues parallel to those in EVST 427E, but presented in a manner available to those without prior experience in philosophy. Credit not allowed for both EVST/PHIL 327E and EVST/PHIL 427E.


U 367 Environmental Politics and Policies 3 cr. Offered spring. Prereq., EVST 167H or consent of instr. Environmentalism as social movement, political and electoral issue. Focus is on case studies of recent environmental events.

U 371 Wilderness Issues Lecture Series 1 cr. (R-3) Offered spring. Same as RECM 371. Explores current issues in wilderness preservation, management and research.

U 373A Nature Works 3 cr. Offered spring. Prereq., EVST 305L and/or consent of instr. Writing workshop for the creation, critique, and revision of essays about nature and the environment to include natural history, personal narrative, science interpretation, advocacy/editorial, place-based essay, and others. Practice and understanding of concepts, forms, and approaches to writing creative non-fiction about environmental concerns, awareness and sensitivity. Reading and responding to published work in the field, primarily from the perspective of technique and approach.

U 377 Rhetoric, Nature and Environmentalism 3 cr. Offered intermittently. Same as COMM 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.

U 390 Supervised InternshipPEAS Variable cr. (R-3) Offered every term. Prereq., consent of instr. Program in Ecological Agriculture and Society (PEAS).

U 395 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-12) Offered autumn and spring. Prereq., six credits in EVST and consent of instr. Practical application of classroom learning through internship with governments, organizations or industry.

U 420 The U.S. Environmental Movement 3 cr. Offered autumn. Study of the environmental movement as a social movement. Examination of different approaches to environmental protection and restoration in view of the movement's historical roots and contemporary debates.

U 427E Environmental Ethics II 3 cr. Offered autumn and spring. Prereq., lower-division course in Perspective 5 or consent of instr. Same as PHIL 427E. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment. Issues parallel to those in EVST 327E, but considered from a more philosophically sophisticated perspective. Credit not allowed for both EVST/PHIL 427E and EVST/PHIL 447E.

U 430 Culture and Agriculture 2 cr. Offered spring, from start of semester to mid-April. Surveys treatment of farmers and farming in the humanities. Course covers specific agricultural crops and their effect on social and environmental history, artistic commentary on agricultural life and farmer philosophy. Themes range from the tea and opium wars, to Wendell Berry’s poetry to David Orr’s philosophy.

U 432 The Human Role in Environmental Change. 3 cr. Offered autumn even-numbered years. Prereq., upper-division standing or graduate standing. Same as GEOG 432. A systematic examination of the ways the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.

U 440 Environmental Economics 3 cr. Offered autumn. Prereq., ECON 111S, 112S or consent of instr. Same as ECON 440. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species.

U 450 Food, Agriculture, and Environment 3 cr. Offered spring. Exploration of the premise that agricultural sustainability requires practices, policies, and social arrangements that balance concerns of environmental soundness, economic viability, and social justice among all sectors of society.

U 465 Restoration Ecology 3 cr. Offered spring. Prereq., senior standing and a course in forest ecology or plant ecology. Same as FOR 465. Philosophy and practice of restoring damaged ecosystems. Restoration planning including improvement of degraded soils, site preparation for revegetation, and case studies.

U 473 Collaboration in Natural Resources Decisions 3 cr. Offered intermittently. Same as FOR 473. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.

U 484 Senior Capstone Project 3 cr. Offered intermittently. Prereq., senior standing in EVST. For seniors who want to design and perform a significant capstone project involving research and/or service. Students have responsibility for designing their projects which are subject to faculty approval. A final report and public presentation are required. Honors credit available.

U 494 Seminar 3 cr. (R-6) Prereq., EVST 101N or consent of instr. A seminar on a current environmental topic.

U 495 Special Topics Variable cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-6 cr. (R-6) Offered autumn and spring.

G 501 Scientific Approaches to Environmental Problems 3 cr. Offered autumn. Prereq., graduate standing in EVST or consent of instr. The strength and limitations of the scientific approach to investigating and solving selected environmental problems with an emphasis on the natural sciences.

G 502 Environmental Law for Non-Lawyers 3 cr. Offered spring. Prereq., graduate standing. Review of major substantive environmental laws with an emphasis on areas of citizen involvement in the legal process.

G 504 Colloquium in the Philosophy of Ecology 3 cr. (R-6) Offered autumn and spring. Prereq., graduate student in EVST or consent of instr. Same as PHIL 504. Documents of ecology studied in the context of social and political philosophy, metaphysics and ethics, philosophy of science, and technology.

G 505 The Literature of Natural History 3 cr. Offered spring. Same as ENLT 523. Study of the literary history of natural history from its classical origins to the present with an emphasis on the American tradition of nature writing and its relationship to conservation biology, and the practice of natural history.
G 513 Public Dispute Resolution in the American West 3 cr. Offered spring. Same as LAW 613. Provides a conceptual framework for understanding the history of ideas that have shaped the policies, institutions, and strategies used to resolve natural resource and other public policy conflicts in the American West. Focus on natural resource and environmental dispute resolution.

G 520 Environmental Organizing 3 cr. Offered spring. Developing understanding of and skills in community and environmental organizing. Emphasis on theory and practice of civic engagement and social change with a focus on developing and running campaigns and working in a group. Team projects.

G 521 Foundations in Environmental Education 3 cr. Offered autumn. Prereq., graduate standing in environmental studies. Same as C&I 521. Problem-solving approaches to environmental education; problem identification, research and design and implementation of an educational approach to selected environmental issues.

G 525 Teaching Environmental Science 1-3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Same as C&I 525. Identification and examination of potential solutions to environmental problems and their impact on society. Major emphasis on teaching methods as they apply to environmental science.

G 531 Citizen Participation in Environmental Decision Making 3 cr. Offered spring. Review of the modes and methods of citizen participation in governmental and corporate decision making. Review of the National and Montana Environmental Policy Act; administrative rule making and appeals, strategic planning, lobbying and corporate governance. Students complete a project with an outside group.

G 537 Building Effective Environmental Organizations 3 cr. Offered spring. Prereq., graduate standing. Focus on the tasks and skills necessary to building and managing effective environmental organizations, particularly non-profit. Budgeting, fund-raising, grant-writing, attracting and utilizing volunteers, working with the media. Strategic approaches and how they are shaped by issue, context, and structure.

G 540 Watershed Conservation Ecology 3 cr. Offered autumn. Prereq., college ecology course or consent of instr. Overview of the basic science, management, policy and social action aspects of watershed conservation, preservation and restoration.

G 542 Transboundary Environmental Issues 3 cr. Offered intermittently in autumn. Prereq., graduate standing in environmental studies program. Review of the political systems and administrative systems of each country relevant to natural resource policy decision-making and ecological systems. Review pertinent literature, interact with stakeholders, and produce group reports.


G 550 Pollution Ecology 3 cr. Offered spring even-numbered years. Prereq., college ecology course or consent of instr. Same as BIOL 550. Environmental fate and biological effects of pollutants, especially in aquatic ecosystems. Pollution reduction and prevention strategies; related law and policies.

G 551 Environmental Field Study 1-3 cr. (R-3) Offered autumn. Prereq. or coreq., EVST 540 or 550 or 560. Same as BIOL 551. Designing, executing and interpreting environmental studies. Project oriented.

G 555 Research Methods for Social Change 3 cr. Offered autumn. Same as SOC 555. Introduction to qualitative methods of research design, data collection, and analysis. Emphasis on research that facilitates and documents social change processes. Hands-on research experience through fieldwork projects. Includes instruction on writing social science and on research ethics.

G 560 Environmental Impact Analysis 3 cr. Offered spring odd-numbered years. Prereq., graduate standing in EVST or consent of instr. Basis for analyzing environmental impacts of various activities; preparing and critiquing federal and state environmental impact documents, such as environmental reviews, impact statements, etc.

G 561 Land Use Planning Law 3 cr. Offered autumn. Same as GEOG 561 and LAW 687. Basic overview of the law of land use planning including background in the traditional governmental regulatory, proprietary, and fiscal land use tools. Examination of modern techniques for land use planning; consideration of constitutional limits of authority of state and local governments. Focus on skills in interpreting, drafting and applying state legislation and local ordinances.

G 562 Land Use Planning Clinic 2 cr. Offered every term. Prereq. or coreq., EVST 561. Same as GEOG 562. Students assist local communities in long-range planning efforts and development of growth management plans as required by Montana law; ordinance drafting, development proposals, and land use issues.

G 563 Environmental Law I 3 cr. Offered autumn. Prereq., graduate standing in EVST. Same as LAW 650. Philosophy and values underlying environmental regulation, basic introduction to administrative law, in-depth study of air and water pollution and the environmental policy acts.


G 565 Public Land and Resources Law 3 cr. Offered spring. Prereq., graduate standing in EVST and consent of instr. Same as LAW 654. Historical development of United States public land law, state-federal relations, and the roles of Congress, the executive and the courts; the law applying to specific public land resources: water, minerals, timber, range and preservation.

G 566 Advanced Problems in Public Land and Resources Law 2 cr. Offered spring. Prereq., graduate standing in EVST and consent of instr. Same as LAW 655. Collaborative work on practical problems arising in public land and resources and individual research and writing projects.

G 575 Seminar in Rhetoric and Environmental Controversy 3 cr. Offered intermittently. Same as COMM 575. The study of how advocates use symbols to influence meaning and action in environmental controversies. Rhetorical concepts used to examine recurring strategies and tactics in specific controversies.

G 590 Supervised Internship PEAS Variable cr. (R-8) Offered every term. Prereq., consent of instr. Program in Ecological Agriculture and Society (PEAS).

G 593 Professional Paper Variable cr. (R-6) Offered autumn and spring. Prereq., graduate standing in EVST.

G 594 Graduate Seminar 3 cr. (R-15) Offered autumn and spring. Prereq., graduate standing in EVST or consent of instr. In-depth analysis of a current environmental topic. Different topics offered each semester.

G 595 Special Topics Variable cr. (R-9) Offered autumn and spring. Prereq., graduate standing in EVST or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
G 596 Independent Study Variable cr. (R-12) Offered autumn and spring. Prereq., graduate standing in EVST. Work on selected problems by individual students under direct faculty supervision.

G 597 Research Variable cr. (R-12) Offered autumn and spring. Prereq., graduate standing in EVST. Directed individual graduate research and study appropriate to background and objectives of the student.

G 598 Cooperative Education Experience Variable cr. (R-8) Offered autumn and spring. Prereq., graduate standing in EVST. Practical application of classroom learning during placements off campus.

G 599 Thesis Variable cr. (R-6) Offered autumn and spring. Prereq., graduate standing in EVST.

**Faculty**

**Professors**

Thomas M. Roy, M.A., University of Chicago, 1966 (Director)

Vicki Watson, Ph.D., University of Wisconsin, 1981

**Associate Professors**

Leonard Broberg, Ph. D., University of Oregon, 1995

Fletcher Brown, Ph.D., Miami University, 1994

Neva Hassanem, Ph.D., University of Wisconsin, 1997

**Assistant Professors**

Phil Condon, M.S., The University of Montana, 2000

Robin Saha, Ph.D., University of Michigan, 2002

**Film**

Phil Fandozzi (Professor of Philosophy and Liberal Studies), Chair and Michel Valentin (Associate Professor of Modern and Classical Languages and Literatures) Co-Chair, Film Committee

The interdisciplinary offerings in film afford students the opportunity to acquire a basic knowledge of the history and development of the film. Specific courses provide study in national cinemas (e.g., American, French, German, and Japanese), directors (e.g., Bergman, Fellini, Hitchcock, Kurosawa), genres (e.g., Silents, Noir, Western, Detective, literary adaptations), and theory (e.g., feminist, Lacanian, Existentialist). The courses view films primarily from historical, critical, and creative perspectives. A course in cinematography is offered, and courses in screen writing and film criticism are offered under the special topics listing; courses are not offered, however, in shooting or producing scripts, nor in technical production, film making, editing, etc. It is recommended that all students take the Introduction to the Film course before enrolling in other courses. Students should examine the class schedule each semester to learn the titles of special topics courses.

**Courses**

LS180L Introduction to Film

LS/ENLT 227L Film as Literature, Literature as Film

MCLG 222L/LS 282L The German Cinema

MCLG/LS 338 The French Cinema

LS 356 Studies in Literature and Film

MCLG/LS 359 Spanish-American Civilization through Film and Literature

LS 381 Studies in Film

**Department of Geography**

**Jeffrey A. Gritzner, Chairman**

Geography provides a broad-ranging perspective on humans as inhabitants and transformers of the face of the earth. The search for this understanding involves thorough study of the physical earth, its habitation by humans, and the resulting diversity of regions and places. Geographers study the physical earth by examining the interlocking systems of the natural environment, including climate, landforms, soils, and biota. Humans are studied by examining those diverse historical, cultural, social, economic, and political structures and processes which affect the location and spatial organization of population groups and their activities. Regions and places, whether described as nations, cities, ecological units, or landscapes, are studied by integrating and interpreting their physical and human relationships in an effort to better understand them and the problems they face.

Geographers are often found working in business, industry, government, and education. Those in planning might be called upon to determine the most satisfactory location for a new school or an airport, or undertake the environmental or socioeconomic studies required for community and regional planning. Others enter fields such as environmental law, diplomacy, intelligence, and teaching. Graduates trained in cartography and GIS find professional opportunities in map-making and spatial analysis. No academic discipline offers a greater range of employment opportunities.

The Department of Geography maintains particular strengths in each of the following major branches within the discipline:

1. geography and society (geography of towns and settlements, economic geography, and migration and population change);
2. physical geography (biogeography, paleo-environments, climate and global change);
3. human-environment interaction (environmental rehabilitation, water policy, and environmental hazards);
4. regional geography (with particular strengths in the geography of Central Asia and the Caspian Basin, but also North America, Africa, South Asia and Europe);
5. geographic techniques (cartography and GIS, field methods, quantitative and qualitative methods, and pалynology).

The Department of Geography offers the Bachelor of Arts and Master of Arts degrees in geography. For a B.A. in geography, options in cartography and GIS; community and environmental planning, and physical geography are available. Also offered are a minor in geography, and a teaching major and minor in geography. The bachelor degree program provides a broad liberal education; it qualifies graduates for a variety of professional jobs; and it prepares students who excel...
for graduate studies in geography, cartography, planning, or related fields. The Master of Arts program prepares the candidates for a somewhat greater range of employment, including teaching in community and junior colleges, and for doctoral studies in geography and allied disciplines. In addition to a general degree in geography without option, students may pursue an option within the Master of Arts program—cartography and GIS or community and environmental planning. See the graduate catalog for more information concerning the M.A. program.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

General Education Requirements for Geography Majors

Geography majors must meet the mathematical literacy requirement by taking MATH 117. Students obtaining a geography degree without option may meet the university-wide symbolic system requirement either by taking one year of foreign language instruction (100-level or higher) or by taking MATH 117 and MATH 241. Students obtaining a degree in geography with option must meet the university-wide symbolic system requirement by taking MATH 117 and MATH 241. The upper-division writing expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog (see index), or by writing a senior thesis in geography.

Requirements for a Major in Geography

A major in geography requires a minimum of 36 (maximum of 60) credits. All geography majors take a 26-credit core consisting of the following courses: GEOG 101S, GEOG 102N, GEOG 103S, GEOG 385, GEOG 387 and 389, GEOG 103S or other regional course, three 300- or 400-level courses, one each from the systematic fields of geography and society, physical geography, and human-environment interaction. Students who pursue a geography degree without option (general geography) elect a minimum of 10 (maximum of 34) additional credits in geography. Students who pursue an option in cartography and GIS, in community and environmental planning, or in physical geography also must meet the course requirements of the option (see below).

General Geography

The general geography degree (without option) is very flexible. In addition to meeting the core requirements for all geography majors, students may take a wide range of electives in geography (minimum 10, maximum 34 elective credits). Electives may be chosen from the fields of regional geography, geographic methods and techniques, or systematic geography course (geography and society, physical geography, or human-environment interaction).

Cartography and GIS Option

In addition to satisfying the general requirements for a degree in geography, the student desiring to achieve an option in cartography and GIS must complete a minimum of 17-18 additional credits as follows: CS 101, GEOG 487 and 489, GEOG 488 and 489, plus two courses from the following three: GEOG 468, GEOG 484, GEOG 485 and 489.

Community and Environmental Planning Option

In addition to satisfying the general requirements for a degree in geography, the student desiring to achieve an option in community and environmental planning must complete a minimum of 12 additional credits as follows: GEOG 465 and GEOG 468, plus four of the following five courses: GEOG 315S, GEOG 335, GEOG 412S, GEOG 432, GEOG 435.

(These courses can be used to satisfy the 300- or 400-level core requirement in geography and society, and human-environment interaction.) An internship is strongly recommended.

Physical Geography Option

In addition to satisfying the general requirements for a degree in geography, a student pursuing the option in physical geography must complete a minimum of 24 additional credits as follows: six additional credits of upper-division coursework in physical geography, geology, hydrology, and/or cartography, and three credits of undergraduate thesis devoted to a theme in physical geography. Coursework and thesis topic should be determined in consultation with the student’s advisor. In addition, a student must complete a course in applied calculus (MATH 150 or equivalent) or an upper-division course in statistics (MATH 444 or equivalent), and two two-course sequences in science (such as CHEM 151N-152N, PHYS 121N-122N, BIOL 120N, 121N, or their equivalents).

Teacher Preparation in Geography

Major Teaching Field of Geography: Students seeking licensure to teach geography in a middle or secondary school must complete the requirements for the B.A. degree with a major in geography (36 credits minimum, no specified option is required) as follows: GEOG 101S; GEOG 102N; GEOG 103S or GEOG 201S or another regional course; GEOG 105; GEOG 385 or GEOG 471; three upper-division systematic geography courses (one each from the fields of geography and society, physical geography, and human-environment interaction); C&I 428; plus electives. Students must complete a teaching minor in another curriculum area taught in grades 5-12. Students must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of this catalog. Students are encouraged to seek licensure advising from the Department of Curriculum & Instruction.

Minor Teaching Field of Geography: Students seeking a teaching minor in geography complete a minimum of 21 credits by meeting the following requirements: GEOG 101S, 102N, 103S or 201S or other regional course, GEOG 105, GEOG 385 or GEOG 387 and 389 or GEOG 471, two upper-division systematic geography courses from the fields of geography and society, physical geography, or human-environment interaction; and C&I 428. Students must complete a teaching major in another curriculum area taught in grades 5-12. Students must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of this catalog. Students are encouraged to seek licensure advising from the Department of Curriculum & Instruction.

Additional Information

Advisor

Every geography major will be assigned a geography faculty member to act as advisor. The advisor offers help in designing a program and in monitoring progress. In addition to guiding students toward meeting degree requirements, advisors also can direct students toward special opportunities, such as study abroad and field experiences, scholarship and internship opportunities. All course substitutions must be approved by the advisor. The advisor also reviews and initials a student’s application for graduation before the application is signed by the chairperson.

International and Field Experience for Geographers

Students obtaining a degree in geography are encouraged to explore study-abroad options and field experiences. Geography credits obtained through approved study abroad will be applied toward the geography degree. With approval of the student’s advisor, additional credits obtained through study abroad and field experiences may count toward geography electives.
### Suggested Course of Study

#### Geography major: General Geography without option:

<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>First</td>
<td>GEOG 101S Introduction to Human Geography</td>
<td>3</td>
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<tr>
<td></td>
<td>GEOG 102N Introduction to Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>GEOG 105 Geography Laboratory</td>
<td>1</td>
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<tr>
<td></td>
<td>MATH 100 Intermediate Algebra</td>
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<tr>
<td></td>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Electives and General Education</td>
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<td></td>
<td>Total</td>
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<tr>
<td>Second</td>
<td>GEOG 103S Geography of World Regions or other regional geography course</td>
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<tr>
<td></td>
<td>MATH 241 or 100-level foreign language</td>
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<td>Third</td>
<td>GEOG 385 Field Techniques</td>
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<td>GEOG 387 and 389 Principles of Digital Cartography and Laboratory</td>
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<td></td>
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<td>Fourth</td>
<td>Electives including study abroad/internship/ senior thesis</td>
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#### Geography with option in Cartography and GIS:

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<tr>
<th>Year</th>
<th>Course</th>
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<tr>
<td>First</td>
<td>GEOG 103S Geography of World Regions or other regional geography course</td>
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<tr>
<td></td>
<td>MATH 241 Statistics</td>
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<td></td>
<td>CS 101 Introduction to Programming</td>
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<td>Second</td>
<td>GEOG 487 and 489 Raster GIS &amp; Image Analysis and Laboratory</td>
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<td>GEOG 488 and 489 Thematic Cartography and GIS Laboratory</td>
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<td>GEOG 468 Community &amp; Regional Analysis or 484 Spatial Analysis in GIS</td>
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<td>GEOG 485 and 489 Internet GIS and Laboratory</td>
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#### Geography with option in Community and Environmental Planning:

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<td>GEOG 103S Geography of World Regions or other regional geography course</td>
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<tr>
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<td>MATH 241 Statistics</td>
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<td>GEOG 103S Geography of World Regions or other regional geography course</td>
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<tr>
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<td>MATH 241 Statistics</td>
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<tr>
<td>Third</td>
<td>GEOG 103S Geography of World Regions or other regional geography course</td>
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<td>MATH 241 Statistics</td>
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#### Fourth Year

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<td>GEOG 465 Planning Principles and Processes</td>
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<tr>
<td>GEOG 468 Community &amp; Regional Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division courses in Geography &amp; Society, Human-Environment Interaction</td>
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<tr>
<td>Electives including study abroad/internship/senior thesis</td>
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#### Geography with option in Physical Geography:

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<td>First</td>
<td>ENEX 101 Composition</td>
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<td></td>
<td>GEOG 101S Introduction to Human Geography</td>
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<td>GEOG 102N Introduction to Physical Geography</td>
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<tr>
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<td>MATH 117 Probability and Linear Math</td>
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<tr>
<td>Second</td>
<td>GEOG 103S Geography of World Regions or other regional geography course</td>
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<td>Third</td>
<td>GEOG 487 and 489 Raster GIS and Laboratory</td>
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### Requirements for a Minor in Geography

To earn a minor in Geography the student must complete a minimum of 19-20 credits including: GEOG 101S and 102N; GEOG 103S or other regional course; GEOG 105; GEOG 385 or GEOG 387 and 389; two upper-division systematic courses from the fields of geography and society, physical geography, and human-environment interaction.

### Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

#### Geography (GEOG)

**U 101S Introduction to Human Geography** 3 cr. Offered autumn and spring. Introduction to human geography focusing on the linkages between geography and society: regions, ethnic groups, urban landscapes, migration and population change, international development, and cultural differences.

**U 102N Introduction to Physical Geography** 3 cr. Offered autumn and spring. Prereq., MATH 100 or above, or appropriate score on math placement exam. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landforms and earth surface processes.
U 103S Geography of World Regions 3 cr. Offered autumn and spring. An overall view of how the lands and peoples of the world are organized into coherent geographical regions, how landscapes differ from region to region, and how the people differ in terms of their traits, beliefs, ways of life, and economic livelihood.

U 105 Geography Laboratory 1 cr. Offered autumn and spring. Prereq. or coreq., a 100-level GEOG course. Introduction to concepts and techniques needed to understand and analyze the information contained in various types of maps, aerial photos and imagery, other graphics and geographic data sets. This is prerequisite to GEOG 385 and 387.

U 112N Landforms, Water, and Soils 3 cr. Offered intermittently. Introduction to selected terrestrial environmental systems, their components, and formation.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 378 Preceptorship in Geography 1-3 cr. (R-6) Offered autumn and spring. Prereq., two of the following three: GEOG 101S, GEOG 102N, GEOG 103S; plus GEOG 105, and consent of instr. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors who apply to instructor for consent.

U 395 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-9) Offered every term. Prereq., consent of instr. Independent study in any subfield of geography.

UG 498 Cooperative Education Experience Variable cr. (R-9) Offered every term. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements within governmental agencies or the business community.

UG 499 Undergraduate Thesis 3 cr. (R-6) Offered autumn and spring. Prereq., senior standing or consent of instr. Independent research project in any geographic topic supervised by faculty member, and leading to completion of baccalaureate degree.

Regional Geography

U 201S Montana and the West 3 cr. Offered spring. Examines the environmental, cultural and economic events and processes that have shaped Montana and adjoining areas. Topics include the evolution, character, and content of environmental systems; prehistory; American Indian history; European exploration; the fur trade; the mining frontier; livestock; railroads; forest industries; environmental issues, socio-economic trends.

U 202S South Asia/Land and People 3 cr. Offered intermittently. Same as AS 202S. The physical setting of South Asia, its history, culture, and socio-economic organization. Examines regional differences, changing social patterns, and the relationship between people and the environment.

U 207S Africa 3 cr. Offered autumn even-numbered years. A survey of the biophysical and cultural geography of Sub-Saharan Africa. Emphasis is on the region's cultural-historical development and current ecological, demographic, and economic patterns.

U 213S The Middle East 3 cr. Offered autumn odd-numbered years. Same as AS and LS 213S. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change, pre-history, patterns of cultural and historical change, issues of socio-economic, religious, and political diversity, and the broader political significance of the region.

U 214S Central Asian Culture and Civilization 3 cr. Offered autumn. Same as AS, HIST, LS 214S. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.

U 301 North America 3 cr. Offered spring even-numbered years. A spatial examination of the physical, cultural, historical and economic elements of Canada, United States, northern Mexico and adjacent regions. Emphasis is on the cultural, social and historical changes, spatial patterns and spatial organization that shape the geographic identity of the area.

UG 306S China 3 cr. Offered intermittently. The spatial integration and arrangement of the physical, cultural and economic traits of China.

UG 308 Geography of a Selected Region 3 cr. (R-9) Offered intermittently. Selected regions will be listed as appropriate in each class schedule.

UG 401 Regionalism and the Rocky Mountain West 3 cr. Offered spring. Same as Hist 401. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.

UG 408 Advanced Regional Geography 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. In-depth treatment of a geographic region, a particular regional problem, or the methodology of regional geography. Topics vary.

Geography and Society

UG 315S Economic Geography of Rural Areas 3 cr. Offered spring odd-numbered years. Prereq., upper-division or graduate standing. Study of the location of economic activities: agriculture, industry and services. Focus on the changing nature of rural areas.

UG 412S Towns and Rural Settlement 3 cr. Offered spring even-numbered years. Prereq., upper-division or graduate standing. The spatial, functional, and locational attributes of regional centers and towns in the context of the patterns of rural settlement.

UG 415 Migration and Population Change 3 cr. Offered autumn odd-numbered years. Prereq., senior standing or graduate standing or consent of instr. Focus on internal migration and population change in the U.S., in particular in the Mountain West. Review of migration theories and empirical research; development of practical skills for conducting empirical research related to migration and population change.

G 515 Advanced Human Geography 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Advanced topics in cultural and historical geography, gender issues, migration and population change, economic geography, urban and settlement geography, etc. Topic titles will appear in the Class Schedule.

G 587 GIS in Physical Geography 3 cr. Offered spring. Prereq., consent of instr.; coreq., GEOG 389. Analysis of physical landscape by means of spatial and statistical techniques drawn from raster based geographic information systems.

Physical Geography

UG 322N Meteorology 3 cr. Offered autumn odd-numbered years. Prereq., GEOG 102N or consent of instr. Origin, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements and North American weather systems.
UG 324 Landform Geomorphology 3 cr. Offered intermittently. Prereq., GEOG 102N or GEOG 112N or equiv. Important landforms and landscapes, their biophysical processes, and their formative elements.

UG 423 Soil Geomorphology 3 cr. Offered intermittently. Prereq., GEOG 102N or GEOG 112N or FOR 210N or consent of instr. Morphology and classification of soils and their relationships to landforms and geomorphic processes.

UG 426N Biogeography 3 cr. Offered spring even-numbered years. Prereq., GEOG 102N or equiv. Changing patterns of plant and animal distributions in place and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distribution, especially climatic change and human impacts.

G 525 Advanced Physical Geography 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Advanced topics in climate and global change, paleo-environments, and biogeography, landform analysis and soils, etc. Topic titles will appear in the Class Schedule.


Human-Environment Interaction

UG 333S Culture and Environment 3 cr. Offered spring. Examines issues related to culture and the natural environment. Topics include cultural origins, regional biogeography, religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.

U 335 Water Policy 3 cr. Offered spring even-numbered years. Prereq., upper-division standing. Exploration of water resources issues facing the public, resource managers, and water users in the western United States today. Examines concepts, terms, and regulatory environment which provide the foundation for modern water management and policy.

UG 336 Exploration and Discovery 3 cr. Offered autumn intermittently. Emphasis on the evidence of language, genetics, material culture, and transoceanic plant and animal exchanges in assessing mobility and population distributions in prehistory; factors that motivate exploration; the history of navigation; the impacts of exploration upon science, society, economics, and government.

UG 338 Mountains and Society 3 cr. Offered intermittently. Mountain-society interactions through geographic analysis. Overview of mountain environments in the world and introduction to mountain-related problems including poverty, water pollution, deforestation, recreation impacts, and development.

UG 432 The Human Role in Environmental Change 3 cr. Offered autumn even-numbered years. Prereq., upper-division or graduate standing. Same as EVST 432. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.

UG 434 Food and Famine 3 cr. Offered autumn intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.

UG 435 Environmental Hazards and Planning 3 cr. Offered spring odd-numbered years. Prereq., upper-division or graduate standing. Surveys the characteristics and impacts of selected natural and technological hazards. Emphasizes risk and vulnerability assessment procedures, mitigating measures to reduce damage, and strategies for planning community response.

Geographical Thought, Methods, Planning and GIS

UG 385 Field Techniques 3 cr. Offered autumn. Prereq., MATH 117, GEOG 102N, and GEOG 105 or consent of instr. Field techniques used by geographers and planners in making field observations and in collecting data.

U 387 Principles of Digital Cartography 3 cr. Offered autumn. Prereq., GEOG 105 or consent of instr.; coreq., GEOG 389. Concepts, principles, and methods of cartography as applied to computerized mapping and geographical information systems. Topics include history of cartography, basic geodesy, map projections, coordinate systems, map compilation, generalization, and design.

U 389 Digital Cartography Laboratory 1 cr. Offered autumn. Prereq., GEOG 105; coreq., GEOG 387. Laboratory to accompany GEOG 387.

UG 465 Planning Principles and Processes 3 cr. Offered autumn. Prereq., upper-division or graduate standing. Surveys planning principles, practices and problems in small towns and rural environments in Montana and the West. Emphasizes skills and techniques in the collection, analysis, and interpretation of data commonly used in the planning field.

UG 468 Community and Regional Analysis 3 cr. Offered autumn. Prereq., MATH 117 (or higher) or consent of instr. Analysis of the structure and dynamics of communities and regions: population, employment, spatial interaction and transportation. A hands-on course using spreadsheets, databases, and GIS. Designed for future planners, an others interested in understanding community structure and community change.

UG 471 Workshop in Teaching Geography 2-3 cr. Offered summer. Prereq., upper-division or graduate standing. Modern concepts and techniques in geography with emphasis on their use in teaching geography in Montana schools. Students are required to prepare and present a teaching unit project.

UG 484 Spatial Analysis and GIS 3 cr. Offered intermittently. Prereq., GEOG 387 and 389 and MATH 241 (or higher) or consent of instr. Quantitative analysis of spatial data including techniques for pattern analysis, classification and interpolation within a GIS environment.

UG 485 Internet GIS 3 cr. Offered autumn. Prereq., GEOG 387; coreq., GEOG 489. Principles and techniques for distributing GIS and mapping applications via the Internet.

UG 487 Raster GIS and Image Analysis 3 cr. Offered autumn. Prereq., GEOG 387 and 389 and MATH 241 (or higher) or consent of instr. Coreq., GEOG 489. Procedures for processing and analyzing digital satellite and air photo images for topographic and environmental mapping by means of a raster Geographical Information System.

UG 488 Thematic Cartography and GIS 3 cr. Offered spring. Prereq., GEOG 387 or consent of instr.; coreq., GEOG 489. Communicating and analyzing topical information with maps. Choropleth maps, dot maps, proportional figure maps, isarithmic maps, and others. Includes computer mapping and GIS exercises.

UG 489 Cartography/GIS Laboratory 1 cr. (R-3) Offered autumn. Coreq., GEOG 485 or 487 or 488. Lab to accompany cartography and GIS courses.

G 500 Geography Graduate Colloquium 1 cr. (R-3) Offered autumn. Presentation of faculty and student research interests. Guest lecturers. Graded pass/not pass only. Enrollment required every autumn graduate students are in residence.

G 505 Research Methods 3 cr. Offered spring. Prereq., graduate standing. Methods of research appropriate for geography including research design, data collection, analysis, interpretation, and presentation. Preparation of a thesis proposal. Recommended to be taken during the second semester of graduate studies.
G 520 Seminar in Geographical Thought 3 cr. Offered autumn. Geographical ideas, concepts, approaches, and techniques from ancient to modern times. Recommended to be taken during first semester of graduate studies.

G 550 Seminar in Geography 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Seminar topics in geography and society, human-environmental interaction, physical geography, regional geography, or geographical techniques.

G 560 Seminar in Planning 3 cr. Offered spring odd-numbered years. A critical analysis of land planning theories, concepts and current practices with a focus on local, regional, and state planning problems.

G 561 Land Use Planning Law 3 cr. Offered autumn. Same as EVST 561 and LAW 687. Basic overview of the law of land use planning including background in the traditional governmental regulatory, proprietary, and fiscal land use tools. Examination of modern techniques for land use planning; consideration of constitutional limits of authority of state and local governments. Focus on skills in interpreting, drafting, and applying state legislation and local ordinances.

G 562 Land Use Planning Clinic 1-6 cr. (R-6) Offered every term. Prereq. or coreq., GEOG 561. Same as EVST 562. Students assist local communities in long-range planning efforts and development of growth management plans as required by Montana law; ordinance drafting, development proposals, and land use issues.

G 564 Planning Design 3 cr. Offered spring even-numbered years. Prereq., graduate standing or qualified seniors. Analysis of land-use problems and design.

G 580 Seminar in GIS and Cartography 3 cr. (R-9) Offered spring. Prereq., consent of instr. Seminar topics in cartography and geographic information systems. Applications to advanced studies in human and physical geography.

G 589 Cartography/GIS Laboratory 1 cr. (R-4) Offered autumn and spring. Laboratory to accompany GEOG 587 or 588.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-9) Offered every term. Prereq., consent of instr. Independent research in geography or planning.

G 598 Cooperative Education Experience Variable cr. (R-9) Offered every term. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus.

G 599 Thesis Variable cr. (R-6) Offered every term. Prereq., consent of advisor.

Faculty

Professors

Jeffrey A. Gritzner, Ph.D., University of Chicago, 1986 (Chairman)
Paul B. Wilson, Ph.D., University of Nebraska, 1972

Associate Professor

Christiane von Reichert, Ph.D., University of Idaho, 1992

Assistant Professors

Eric G. Edlund, Ph.D., University of California, Berkeley, 1996
Sarah J. Halvorson, Ph.D., University of Colorado-Boulder, 2000
David D. Shively, Ph.D., Oregon State University, 1990

Emeritus Professors

John M. Crowley, Ph.D., University of Minnesota, 1964
Evan Denney, Ph.D., University of Washington, 1970
John J. Donahue, Jr., Ph.D., Syracuse University, 1971
Chris Field, Ph.D., University of California, Los Angeles, 1966
Darshan S. Kang, Ph.D., University of Nebraska, 1975

Department of Geology

Steven D. Sheriff, Chairman

An understanding of geology involves a knowledge of the processes and events that shape the earth. By studying minerals, rocks, and fossils, as well as aspects of rivers, oceans and atmosphere, the geologist interprets earth history, the evolution of life, the movement and development of continents, and the changing aspects of the ocean basins. The study of earth materials takes place in the field and in the laboratory, and depends upon a rock hammer as well as sophisticated analytical equipment. Within the broad field of geology, professionals specialize in a variety of subjects including mineral resources, groundwater, sedimentary, igneous and metamorphic rocks, volcanoes, geophysics, geochemistry, fossils and many others. This specialization leads to employment by private industry, federal, state, and local governmental agencies, consulting firms, and by secondary schools needing earth science teachers. Many of our graduates work in the fields of exploration and development for minerals and fuels. Others work in a variety of fields related to construction, site selection, water supply, environmental remediation and planning. Jobs in geology are available at the B.S., M.S., and Ph.D. level. However, the more creative the position, the higher level of education needed, and a master's degree is advisable for flexibility in professional employment.

The Department of Geology offers B.S., M.S., and Ph.D. degrees; also available is a bachelor degree with a teaching major in earth sciences. All degree programs in the department involve field work and a combination of applied and theoretical approaches requiring sound general background in other sciences.

High School Preparation: In addition to the general requirements for University admission, recommended high school preparation includes as much mathematics and science as possible.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Science courses designed for education majors may not be counted toward Geology Department science requirements. Geology courses and allied science courses must be taken for a traditional grade.

The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog or by completing GEOL 499. See index.

The Geology Department offers four options for students wishing to major in geology. The first option is a highly flexible program designed for those who wish to double major in another science or who simply wish to acquire a broad education of their own design. It features a minimum number of specifically required courses in geology and other sciences. The remaining three options are designed for students who
desire a more defined path through our curriculum or who are seeking certification to teach. Some paths in each of the options may require prerequisites that are not specifically listed or required.

**General Option**

This flexible option requires the following courses in geology: any freshman geology course below GEOL 130, GEOL 101N, GEOL 130, and GEOL 226. At least 20 additional credits in geology must be completed with at least 16 of the 20 at the 300-level or above.

In addition to thirty credits in geology, thirty additional credits must be completed from among the following disciplines at the listed level or higher or equivalent: MATH 117, CHEM 151N, PHYS 121N, ASTR 131N, CS 172, BIOL 101N, FOR 140 or equivalent. Additional courses acceptable in this category include most of those offered in the Physical Geography and Geographic Methodology and Techniques sections of the Department of Geography's curriculum. Courses may be selected with the consent of the advisor who can offer advice concerning additional alternatives in cognate science courses.

The curriculum for the Bachelor of Science with a major in Geology and a General Option is flexible. For example, for those interested in community affairs, planning and environmental relations or policy, GEOL 382, 378, 432, and 480 are recommended. For a broad interest in evolution of Earth, GEOL 310, 330, 430, 432 and 429 are recommended. Students are encouraged to consult with departmental advisors regarding available choices.

**Professional Options**

The Geology Department offers three different options for students wishing to pursue geology as a profession. Although the three programs share many required courses, each prepares students for graduate studies or employment in different aspects of modern geoscience. Programs, as well as elective courses, should be chosen in consultation with a faculty advisor in the Geology Department.

**Option in Geology**

The following courses are required: Geology 100N, 101N, 130, 226, 330, 429. One course also must be selected from each of the following four categories: (1) Geology 378, 431, 480; (2) Geology 437, 438, 439; (3) Geology 310, 327, 437, 438; (4) Geology 306, 432.

Also required are at least 30 credits in cognate science courses including MATH 152-153 or MATH 150 and 158; PHYS 121N-122N or PHYS 221N-222N; and CHEM 161N-162N. Completion of CS 172 early in the program is strongly recommended.

**Option in Environmental Geology**

The following courses in Geology are required: 100N, 101N, 105N, 130, 301, 226, 320N or 327, 480, 495 plus geology electives at the 300-level or above for a total of 33 credits. Also required are 38 credits in mathematics and allied sciences.

Cognate science courses must include: MATH 152-153 or MATH 150 and 158; PHYS 121N-122N or PHYS 221N-222N; CHEM 161N-162N plus ten additional credits selected in consultation with your advisor. Examples include: BIOL 105N, CS 203, 204, 344, 365; MATH 158, 251, 311, 312, 341; CHEM 261, 262, 263, 264, 342, 344, 348, 370, 371, 452, 476; MIB 306.

**Option in Earth Science Education**

Major Teaching Field of Earth Science: A student must complete GEOL 100N, 101N, 105N, 130, 226, 301, 310, 330, 3 additional credits from any geology course numbered 100 or above and 12 credits from any geology courses numbered 300 or above. Also required are GEOG 330N, ASTR 131N-132N, MATH 121, 341, CS 101, CHEM 485, and C&I 426. One of BIOL 121N-122N or CHEM 151N-152N or PHYS 121N-122N must be completed.

For endorsement to teach earth science, a student also must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog). The demand in most Montana high school for teaching in this field may be limited, and students must complete the requirements for the required second teaching endorsement (major or minor).

**Suggested Course of Study**

For questions concerning your special interests or preparation, see a geology advisor.

**General Option**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 151N General and Inorganic Chemistry or 162N College Chemistry</td>
<td>3-5</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 100N-101N General Geology and Lab</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 130 Introductory Field Geology and Maps</td>
<td>3</td>
</tr>
<tr>
<td>*MATH 121 Precalculus</td>
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<tr>
<td>General Education</td>
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**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>*BIOL 121N Introductory Ecology</td>
<td>3</td>
</tr>
<tr>
<td>*CHEM 152N Organic and Biological Chemistry or 162N College Chemistry</td>
<td>3-5</td>
</tr>
<tr>
<td>GEOL 202 Stratigraphy-Sedimentology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 226 Mineralogy and Petrology</td>
<td>4</td>
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<td>Additional science course</td>
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<td>Electives and General Education</td>
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**Third Year**

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
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<tr>
<td>Science*</td>
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<tr>
<td>Electives and General Education</td>
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**Fourth Year**

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<th>Course</th>
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<tr>
<td>Electives and General Education</td>
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</table>

*Suggested, a total of 30 additional science credits are required. See special degree requirements.

**Geology Option**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>GEOL 100N-101N General Geology and Lab</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 130 Introductory Field Geology and Maps</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 161N-162N-College Chemistry and Lab</td>
<td>4</td>
</tr>
<tr>
<td>MATH 152 and 153 Calculus I, II or 150 and 158</td>
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<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
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**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>GEOL 202 Stratigraphy-Sedimentology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 226 Mineralogy and Petrology</td>
<td>4</td>
</tr>
<tr>
<td>CS 172 Introduction to Computer Modeling or equivalent</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 221N-222N General Physics or PHYS 121N-122N</td>
<td>5</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>15</td>
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</tbody>
</table>

*Course numbers include laboratory. For a broad interest in evolution of Earth, GEOL 310, 330, 430, 432 and 429 are recommended.

*Suggested, a total of 30 additional science credits are required. See special degree requirements.
### Third Year
<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>GEOL 330 Structural Geology</td>
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<td>Two courses from Category 1, 2, 3, or 4</td>
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<td>Electives and General Education</td>
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#### Summer Session
<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>GEOL 429 Field Geology</td>
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#### Fourth Year
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Two courses from Category 1, 2 or 3, 4</td>
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<tr>
<td>Geology and non-geology electives and General Education</td>
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### Option in Environmental Geology

#### First Year
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>GEOL 100N-101N General Geology and Lab</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 130 Introduction to Field Methods</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 161N, 162N College Chemistry and Lab</td>
<td>5</td>
</tr>
<tr>
<td>MATH 152, 153 Calculus I, II or 150 and 158</td>
<td>4</td>
</tr>
<tr>
<td>CS 172 Introduction to Computer Modeling or equivalent.</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
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#### Second Year
<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>GEOL 301 Environmental Geology</td>
<td>3</td>
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<tr>
<td>GEOL 226 Rock, Mineralogy and Petrology</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 221N-222N College Physics</td>
<td>5</td>
</tr>
<tr>
<td>Other science electives</td>
<td>3</td>
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<tr>
<td>General Education and electives</td>
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<td></td>
<td>14</td>
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#### Third Year
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Credits from 300-level or above</td>
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</tr>
<tr>
<td>geology courses</td>
<td>3</td>
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<tr>
<td>Other science electives</td>
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<tr>
<td>General Education and electives</td>
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<tr>
<td></td>
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#### Fourth Year
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<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>GEOL 320N Global Water or 327 Geochemistry</td>
<td>3</td>
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<tr>
<td>GEOL 480 Hydrogeology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 499 Undergraduate Thesis</td>
<td>2</td>
</tr>
<tr>
<td>General Education and electives</td>
<td>6</td>
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<tr>
<td></td>
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### Earth Science Education Option

#### First Year
<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CS 172 Introduction to Computer Modeling or equivalent.</td>
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<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 100N-101N General Geology and Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 105 Oceanography</td>
<td>2</td>
</tr>
<tr>
<td>GEOL 130 Introductory Field Geology and Maps</td>
<td>3</td>
</tr>
<tr>
<td>MATH 121 Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>*Electives and General Education</td>
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#### Second Year
<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>ASTR 131N-132N Elementary Astronomy I, II</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 151N General and Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 226 Mineralogy and Petrology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 301 Environmental Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL any 100</td>
<td>3</td>
</tr>
<tr>
<td>*Electives and General Education</td>
<td>6</td>
</tr>
<tr>
<td></td>
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</tr>
</tbody>
</table>

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### Requirements for a Minor

To earn a minor in Geology the student must complete GEOL 100N, 101N, 130, 226, plus at least 12 credits in other geology courses numbered 300 or above. All courses must be taken for a traditional letter grade.

### Courses

- **U** = for undergraduate credit only, **UG** = for undergraduate or graduate credit, **G** = for graduate credit. **R** after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

#### Geology (GEOL)

- **U** 100N General Geology 2 cr. Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth. Credit not allowed for both GEOL 100N and 109N.

- **U** 101N General Geology Laboratory 1 cr. Offered autumn and spring. Prereq. or coreq., any geology courses below GEOL 130. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience with any geology course below GEOL 130.

- **U** 103N Volcanoes, Earthquakes and other Natural Hazards 3 cr. Offered spring. Examination of volcanism, earthquakes, landslides, floods, coastal erosion, hurricanes, and asteroid impacts. Emphasis on processes, recognition and consequences of catastrophic events, and how to minimize their societal impacts.

- **U** 105N Oceanography 3 cr. Offered spring. Origin of sea-water and ocean basins; currents, tides, and coastal processes; use and misuse of the oceans by humans.

- **U** 106N History of Life 3 cr. Offered autumn. The evolution of plants, invertebrates and vertebrate animals, highlighting major events in the evolution of life on Earth. Includes laboratory experience with fossils.

- **U** 109N Environmental Geoscience 2 cr. Offered autumn. An introduction to geology emphasizing the effects of geologic processes and events on humans, and interactions of humans with the Earth. Includes geologic hazards such as earthquakes, volcanoes, floods, and landslides; soil and erosion; ground and surface water resources; global climate; and mineral and energy resources. Credit not allowed for both GEOL 100N and 109N.
U 130 Introductory Field Geology and Maps 3 cr. Offered autumn and spring. Prereq., GEOL 100N-101N. Basic geologic field observations and methods, geological map interpretation. All day Saturday field trips to key areas of western Montana.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.


U 207 Geological Hazards and Disasters 2 cr. Offered spring. Prereq., minimum grade of C in any 100-level geology course except 106. Study of major geological catastrophes, their causes and effects. Probability, frequency and recurrence intervals, magnitudes, the role of overlapping/unrelated events. Examples of floods, hurricanes, landslides, submarine landslides, tsunamis, earthquakes, volcanic eruptions, asteroid impacts.

U 226 Mineralogy and Petrology 4 cr. Offered autumn and spring. Prereq., any 100-level geology course, GEOL 101N or SCI 227, and college-level chemistry. The mineralogy of rock-forming minerals and other important mineral groups; an introduction to igneous, metamorphic, and sedimentary rocks and processes.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 301 Environmental Geology 3 cr. Offered autumn. Prereq., GEOL 100N-101N, 130; MATH 117 or 121; CS 172 or equiv; experience with spreadsheets and word processors. Human effects on geologic processes and the effect of geologic processes on humans. Group and independent research projects on local and regional environmental geology problems are used to teach scientific problem solving. Topics include population growth, management of surface and groundwater quantity and quality, resource use, global environmental change.

U 302 Sedimentary Geology Field Trip 2 cr. Offered spring. Prereq., GEOL 100N; coreq., GEOL 130. Examination of modern and ancient sedimentary depositional systems in the field through a 9-day spring break field trip. Possible areas of focus include the Permian Reef Complex of West Texas, the California convergent margin, Oregon coastal processes, geology of the Basin and Range, Death Valley Region, Colorado Plateau, and Oklahoma Aulacogen.

U 306 Igneous and Metamorphic Petrology 3 cr. Offered spring. Prereq., GEOL 226, CHEM 162N. Igneous rock associations, igneous processes and origins; metamorphic minerals and phase relationships, metamorphic zones, facies, and conditions; metamorphic environments, metallic minerals and mineral deposits.

U 309 Planetary Science 3 cr. Offered autumn even-numbered years. Prereq., PHYS 121N or 221N and MATH 150 or 152. Same as ASTR 351. Physical and geological characteristics of planets, satellites, asteroids, comets, and meteoroids with an emphasis on comparative planetology.

U 310 Invertebrate Paleontology 3 cr. Offered autumn. Prereq., GEOL 100N, 202 or equiv. Principles of paleontology including morphology, classification and evolution of major groups of fossils and their application to paleoecology and biostratigraphy.

UG 311 Paleobiology 3 cr. Offered spring. Prereq., GEOL 310 or equiv. Application of geologic and biologic principles to problems in paleontology.

UG 313 Curation Techniques 2 cr. Offered spring. Prereq., basic course in natural sciences. Instruction in basic techniques of managing natural history collections. Focus on practical applications.

UG 320N Global Water 4 cr. Offered spring. Prereq., one semester of college chemistry, ENEX 101 or equiv. Study of the chemistry of water in the hydrological cycle; how water picks its chemical attributes as it moves through the hydrological cycle. Atmospheric water, precipitation, ground water, and surface water are discussed.

UG 327 Geochemistry 4 cr. Offered autumn even-numbered years. Prereq., one year of college chemistry. Chemical principles applied to geologic processes. Origin and chemical composition of atmosphere and hydrosphere. Methods of radiometric dating and isotope applications.

UG 330 Structural Geology 3 cr. Offered autumn. Prereq., GEOL 130 and 226. Structures of deformed rocks; mechanical principles; graphical interpretation of structural problems, tectonic principles.

UG 332 Modern Concepts in Geology 3 cr. Offered spring. Prereq., upper class standing in geology. Discussion of several controversial topics, including asteroid impacts, flood basalt provinces, continental rifting, time of onset of plate tectonics and others.

UG 350 Computation and Computer Techniques in Geology 2 cr. Offered intermittently. Prereq., knowledge of major and two semesters of calculus. Exploration of several computer programs used in geology; how the software works and how to handle a number of different data formats, programs and problem-solving techniques.

UG 378 Geomorphology 3 cr. Offered autumn and spring. Prereq., GEOL 100N-101N. Landforms in terms of processes which create them. Emphasis on glacial and fluvial systems and watershed equilibrium.

UG 382 Global Change 3 cr. Offered intermittently. Prereq., consent of instr. Lectures, readings, and discussions on geological and geochemical processes that affect global change using recent literature; carbon dioxide buildup, greenhouse effect, ozone depletion, desertification, ice ages, and other global events.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-6) Offered every term. Specific topics of particular interest to individual students.

U 398 Cooperative Education Experience Variable cr. (R-9) Offered every term. Prereq., 12 credits in geology. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. No more than 3 credits of GEOL 398 may be applied to the geology minor.

UG 402 Sedimentary Geology Field Trip 2 cr. Examination of sedimentary depositional systems through a nine-day spring break field trip off campus.

U 425 Geology of the Pacific Northwest 3 cr. Offered intermittently. Prereq., GEOL 100N. Narrative discussion of the evolution of the Pacific Northwest from Archean time to present.

U 429 Field Geology 6 cr. Offered summer. Prereq., GEOL 330 and consent of instr. Geologic mapping on aerial photos and topographic base maps. Field interpretation in a
variety of rock types and structures. Taught every summer near Dillon, Montana. Extra fees. Pre-register early spring.

UG 430 Geotectonics and Earth History 3 cr. Offered spring. Prereq., GEOL 202, 306, 330, and 2.25 or better overall GPA in geology courses. Examination of large scale structural features of earth's surface, processes responsible for their origin, and earth history in light of global tectonics.

UG 431 Environmental Geochemistry 3 cr. Offered autumn. Prereq., advanced or graduate standing in sciences. Processes of contamination on the Earth related to natural and anthropogenic causes; presenting the sources and sinks of contaminants and the byproducts of resource extraction and utilization. Chemical and physical processes of transport in surface and subsurface.

UG 432 Architecture of Sedimentary Deposits 4 cr. Offered spring. Prereq., GEOL 202. Study of the architectural elements and composition of sedimentary deposits in the context of their tectonic environments and their influence on petroleum and hydrogeologic systems.

UG 433 Sedimentary Petrology 4 cr. Offered spring. Prereq., graduate standing or GEOL 432. Field, hand specimen and thin section petrology of siliciclastic and carbonate rocks. Emphasis on tectonic and diagenetic interpretation of siliciclastic rock and environments of deposition and diagenesis of carbonate rocks.

UG 437 Seismology and Magnetics 4 cr. Offered autumn. Prereq. or coreq., MATH 153, GEOL 100N-101N, PHYS 121N. Theory and global aspects of seismology and magnetics as well as their practical application to environmental problems.

UG 438 Gravity and Electromagnetics 4 cr. Offered Spring. Prereq. or coreq., MATH 153, GEOL 101-101N, PHYS 121N, GPS, gravity, and electromagnetic methods with acquisition, processing, and interpretation of locally-collected data. Applications include environmental and crustal scale imaging, tectonic processes, and whole-earth models.

UG 460 Process Geomorphology 4 cr. Offered autumn, alternate years. Coreq., one year college calculus and physics. Quantitative examination of landforms, runoff generation, weathering, mechanics of soil erosion by water and wind, mass wasting, glacial and periglacial processes and hillslope evolution.

UG 465 Computer Modelling in the Physical Sciences with Matlab 3 cr. Offered intermittently in spring. Coreq., one year college calculus and physics. Introduction to Matlab and writing and using computer models to address typical problems faced by physical scientists. Topics include heat diffusion, carbon storage, and landscape evolution. No previous computer experience required.

UG 480 Hydrogeology 4 cr. Offered autumn. Prereq., GEOL 100N-101N; PHYS 121N or 221N; MATH 150 or 152 strongly recommended. Occurrence, movement, quality, and methods of quantification of groundwater. Geological framework and physics of groundwater flow. Supply, contamination, and management problems.

UG 493 Omnibus Variable cr. (R-10) Offered intermittently. Independent work under the University omnibus option. See index.

UG 494 Senior Seminar 1-10 cr. (R-10) Offered intermittently. Prereq., upper-division standing in geology or consent of instr. Independent study of various topics under the direction of a faculty member.

UG 495 Special Topics 1-3 cr. (R-8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-6) Offered every term. Specific topics of particular interest to individual students.

UG 499 Undergraduate Thesis 3-10 cr. (R-10) Offered every term. Prereq., 18 credits in geology. Independent research project in any geologic topic supervised by faculty member, and leading to completion of baccalaureate degree.

G 502 Thesis/Dissertation Proposal 1 cr. Offered spring. Work with advisors to choose a research project and write a proposal.


G 525 Igneous Petrology 4 cr. Offered intermittently. Prereq., GEOL 520. Description, classification, interpretation, and origin of igneous rocks; processes leading to their formation and evolution. Study of thin sections.

G 526 Metamorphic Petrology 4 cr. Offered intermittently. Prereq., GEOL 525. Description, classification, interpretation, and origin of metamorphic rocks; processes leading to their formation and evolution. Study in thin section and field.

G 528 Sedimentary Basin Analysis 4 cr. Offered autumn. Prereq., GEOL 202. Influence of allocyclic processes (tectonism, climate, eustacy, etc.,) in shaping the evolution of sedimentary basins. Emphasis on integration and synthesis of tools of sedimentary basins analysis, including the study of depositional systems, provenance, paleocurrents, subsidence, sequence stratigraphy, and well logs.

G 531 Environmental Geochemistry of Metal Contamination 4 cr. Offered autumn. Prereq., graduate standing in geology, chemistry, biology or consent of instr. Integration of major processes and cycles transporting, fixing, and transforming inorganic contaminants in aquatic systems, soils, sediments and subsurface environments. Concentration on multidisciplinary research to solve complex environmental problems.

G 540 Paleontological Techniques 3 cr. Offered spring even-numbered years. Prereq., introductory course in geology and/or natural science. Hands-on course dealing with the preparation and preservation of fossils and geologic samples and the techniques and methods employed.

G 555 Structure of the Crust 2 cr. Offered intermittently. Prereq., Geol. 437. Offered alternate years. Geophysical investigation of the middle crust, lower crust, and uppermost mantle including geophysical limits, geophysical application and geological constraints on the structure and evolution of the crust.

G 560 Fluvial Geomorphology 4 cr. Offered autumn odd-numbered years. Prereq., one year college calculus and physics. Application of fluid mechanics to sediment transport and development of river morphology. Form and process in river meanders, the pool-riffle sequence, aggradation, grade, and baselevel.

G 570 Advanced Geochemistry I 3 cr. Offered autumn. Prereq., one year college chemistry. Chemistry of aqueous systems including aqueous kinetics, aqueous thermodynamics, acid/base chemistry, carbonate systematics, mineral solubility, and complexation. Concepts applied to natural systems.

G 571 Advanced Geochemistry II 3 cr. Offered spring. Prereq., GEOL 570. Continuation of GEOL 570. Chemistry of aqueous systems including oxidation/reduction reactions, surface chemistry, absorption, and microbial mediation of aqueous geochemistry. Includes an introduction to the use of geochemical models. Concepts applied to natural systems.
G 572 Advanced Hydrogeology 3 cr. Offered spring. Prereq., GEOL 480 or consent of instr. Advanced concepts used in groundwater investigations, including flow systems analysis, hydrogeologic monitoring and sampling, resource evaluation, exploration, development and monitoring, and contaminant transport. Special problem areas in groundwater exploration and management.


G 580 Topics in Mineralogy and Petrology Variable cr. (R-6 for M.S., R-12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: tectonics and petrology; alkaline igneous rocks.

G 581 Topics in Economic Geology Variable cr. (R-6 for M.S., R-12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: exploration geochemistry; gold deposits; stratiform sulphide deposits; and applications of stable isotopes to ore genesis and exploration.

G 582 Topics in Structure and Geophysics Variable cr. (R-6 for M.S., R-12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: structural analysis, Precambrian crustal evolution, field trips on Rocky Mountain structure.

G 583 Topics in Stratigraphy, Paleontology and Sedimentation Variable cr. (R-6 for M.S., R-12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: evolution of life; Proterozoic stratigraphy; reefs through time.

G 585 Topics in Hydrogeology and Low-Temperature Geochemistry Variable cr. (R-6 for M.S., R-12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: field methods, well design, contaminant transport, geochemical modeling.

G 587 Topics in Geomorphology Variable cr. (R-6 for M.S., R-12 for Ph.D.) Offered spring. Prereq., consent of instr. Reading and discussion of relevant papers. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: landscape evolution; weathering processes; tectonic geomorphology.

G 590 Supervised Internship 1-12 cr. Offered intermittently.

G 595 Special Topics Variable cr. (R-8) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.


Faculty

Professors
Marc S. Hendrix, Ph.D., Stanford University, 1992
Johnnie N. Moore, Ph.D., University of California (Los Angeles), 1976
James W. Sears, Ph.D, Queen’s University, 1979
Steven D. Sheriff, Ph.D., University of Wyoming, 1981 (Chair)
George D. Stanley, Ph.D., University of Kansas, 1977
Graham R. Thompson, Ph.D., Case Western Reserve, 1971
William W. Woessner, Ph.D., University of Wisconsin (Madison), 1978

Associate Professor
Nancy W. Hinman, Ph.D., University of California (San Diego), 1987

Assistant Professor
Manny Gabet, Ph.D., University of California, Santa Barbara, 2002

Emeritus Professors
David Alt, Ph.D., University of Texas, 1961
Donald W. Hyndman, Ph.D., University of California (Berkeley), 1964
Jan M. Lange, Ph.D., University of Washington, 1968
Raymond C. Murray, Ph.D., University of Wisconsin, 1955
John P. Wehrenberg, Ph.D., University of Illinois, 1956
Robert M. Weidman, Ph.D., University of California (Berkeley), 1959
Donald Winston, Ph.D., University of Texas, 1963
Department of History

Harry W. Fritz, Chair

For the student in search of a broad education rather than in training for a particular occupation, the History Department offers an exciting program of instruction. It is designed to provide a knowledge and understanding of the background and ramifications of present local, national, and world affairs. The program emphasizes understanding rather than the memorization of names and dates. Students are taught how to read critically, analyze thoughtfully, conduct research carefully, and write intelligently.

Toward this end, the department offers a wide variety of courses ranging in time, location, and subject. For those students interested in local history there are courses on Montana, the West and unique aspects of the frontier. Other classes stress the nature of early American society, the American Revolution, family and gender in America, the Civil War, and diplomacy in the Cold War. Still others emphasize European social, cultural, and intellectual history, European exploration, the French Revolution, Islamic civilization, Asian history, Russian history, and African history. Topical courses concentrate upon the European peasantry, documentary analysis, diplomacy, war and peace, terrorism, and environmental history.

The History Department helps to prepare men and women for many different kinds of occupations. Graduates are employed in federal, state or local government positions ranging from domestic to foreign service, from senators to research analysts. Many teach history in Montana or in other states where others pursue their educations at advanced graduate schools earning master or doctoral degrees. Several have been awarded Rhodes or Marshall scholarships. Lawyers, journalists and businessmen also are trained by the department; many combine history with political science, journalism, or business. History provides not only a basis for the pursuit of their chosen profession but also furnishes knowledge and perspective for intelligent leadership of citizens in community affairs.

The department offers the Bachelor of Arts, Master of Arts, and the Doctor of Philosophy degrees.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Requirements for a History Major

Students selecting a major in history must complete the following requirements:

I. Courses and credits

A. A minimum of 40 credits in history, maximum of 60.
   Of the 40-credit total, 13 credits must be in European history, 13 in American history, and 6 in world history (Asian, Islamic, African, or Latin American). History majors must complete at least 20 upper-division credits.

B. History majors must complete Hist 300, The Historian’s Craft or a 400-level writing course.

II. Languages
   The Department requires competency in English and a proficiency in one foreign language. These requirements include:
   A. ENEX 101 or its equivalent.
   B. Foreign language requirements may be satisfied by completing anyone of the following options:

1. The 101-102 active skills sequence in any foreign language.
2. The 111-112 reading skills sequence in any foreign language.
3. Any single course at or above the 102 or 112 level in any foreign language.
4. An equivalency test for (3) offered by the Department of Modern and Classical Languages and Literatures.

The Department of History does not allow credit for foreign languages taken in high school but students with high school backgrounds in a foreign language may wish to pursue options (3) or (4) above. Options (1), (2), and (3) may be taken on a pass/not pass basis.

III. Upper-Division Writing Expectation
   The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Teacher Preparation in History

Major Teaching Field of History Option in History Education: Students seeking licensure to teach history in a middle or secondary school must complete the requirements for the B.A. degree with a major in history, to include the following: HIST 104H or 105H; HIST 151H-152H; HIST 269; a non-western course in history; HIST 300; six (6) upper-division elective credits in United States history; six (6) upper-division elective credits in European history; six (6) additional upper-division elective credits in history courses; and C&I 428. Students must complete a teaching minor in another curriculum area taught in grades 5-12. Students must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of this catalog. Students are encouraged to seek licensure advising from the Department of Curriculum & Instruction.

Minor Teaching Field of History: Students seeking a teaching minor if history complete the following requirements: HIST 104H or 105H; HIST 151H-152H; HIST 269; one non-western course in history; and HIST 300; three (3) upper-division elective credits in United States history; three (3) upper-division elective credits in European history; and C&I 428. Students must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of this catalog. Students are encouraged to seek licensure advising from the Department of Curriculum & Instruction.

Combined History-Political Science Major and Comprehensive Social Science Teaching Major

The B.A. degree with a major in History-Political Science is designed for students seeking licensure to teach history and the social sciences in middle and secondary schools, grades 5-12. The history-political science major qualifies as a single-field endorsement and does not require a teaching minor. Students complete at least 48 (maximum 60) credits in political science and history, 9 credits in economics, and 12 credits in geography. Specific requirements for the degree in history-political science and the comprehensive social studies license include the following: PSC 100S, PSC 120S, PSC
Suggested Course of Study

**First Year**

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>History 104H-105H European Civilization</td>
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<td>ENEX 101 Composition</td>
<td>3</td>
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<tr>
<td>Foreign language</td>
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<tr>
<td>Electives and General Education</td>
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**Second Year**

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<tr>
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<tr>
<td>HIST 201H East Asia, 208H Africa</td>
<td>4</td>
</tr>
<tr>
<td>HIST 269 Montana, or HIST 283H, 284H Islamic or HIST 286H, 287H Latin America</td>
<td>6</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>15</td>
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**Third Year**

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<th>Course Description</th>
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<tr>
<td>HIST 300 The Historian's Craft</td>
<td>3</td>
</tr>
<tr>
<td>HIST 300-level history courses</td>
<td>6</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>15</td>
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**Fourth Year**

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<tr>
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<td>HIST 300- and 400-level history</td>
<td>6</td>
</tr>
<tr>
<td>Electives, General Education, Broadfield Social Sciences and C&amp;I courses (if applicable)</td>
<td>12</td>
</tr>
</tbody>
</table>

**Requirements for a Minor**

To earn a minor in history the student must complete the following: (1) a minimum of 20 credits in history of which 6 credits must be in American history and 3 in world history (Asian, Islamic or Latin American); (2) of the 20 credits at least 9 must be upper-division credits; and (3) ENEX 101 or its equivalent.

**Courses**

- **U 104H European Civilization: The Birth of Modern Europe** 4 cr. Offered autumn. A comprehensive, introductory history of western civilization from classical antiquity to 1715. Lecture-discussion. Credit not allowed for both 104H and 107H.
- **U 105H European Civilization: Modern Europe** 4 cr. Offered spring. A comprehensive, introductory history of western civilization from 1715 to the present. Lecture-discussion. Credit not allowed for both 105H and 108H.
- **U 107H Honors Course in European Civilization: The Birth of Modern Europe** 4 cr. Offered autumn. Limited enrollment by consent of instr. only. A comprehensive, introductory history of western civilization from classical antiquity to 1715. Lecture-discussion. Credit not allowed for both 107H and 104H.
- **U 108H Honors Course in European Civilization: Modern Europe** 4 cr. Offered spring. Limited enrollment by consent of instr. only. A comprehensive introductory history of western civilization from 1715 to the present. Lecture-discussion. Credit not allowed for both 108H and 105H.
- **U 109 Central Asia: From Cyrus to Gorbachev** 3 cr. Offered autumn. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India, and Middle East.
- **U 151H The Americans: Conquest to Capitalism** 4 cr. Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1896. Lecture-discussion. Credit not allowed for both 151H and 154H.
- **U 152H The Americans: The Twentieth Century** 4 cr. Offered spring. A comprehensive introductory history of the U.S. since 1896. Lecture-discussion. Credit not allowed for both 152H and 155H.
- **U 154H Honors Course in the Americans: Conquest to Capitalism** 4 cr. Offered autumn. Limited enrollment by consent of instr. only. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1896. Lecture-discussion. Credit not allowed for both 154H and 151H.
- **U 155H Honors Course in the Americans: The Twentieth Century** 4 cr. Offered spring. Limited enrollment by consent of instr. only. A comprehensive introductory history of the U.S. since 1896. Lecture-discussion. Credit not allowed for both 155H and 152H.
- **U 198 Special Topics Variable cr. (R-6)** Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- **U 198 Cooperative Education Experience Variable cr. (R-15)** Offered intermittently. Prereq.: consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.
- **U 201H East Asian Civilizations** 3 cr. Offered autumn. Same as AS 201H. An interdisciplinary, pluralist, and exploratory introduction to civilizations of East Asia. Primary focus on China, Japan, and Korea, the relations among them and their patterns of interaction with the outside world in pre-modern and modern periods.
- **U 208H Discovering Africa** 3 cr. Offered intermittently. Same as AAS 208H. Interdisciplinary study of the history of pre-colonial Africa, focusing on social, economic, political and cultural institutions and traditions including the wealth, diversity and complexity of ancient and classical African civilizations and cultures.
- **U 214S Central Asian Culture and Civilization** 3 cr. Offered autumn. Same as AS, GEOG, LS 214S. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.
UG 226E Terrorism: Political Violence in the Modern World 3 cr. Offered autumn. Prereq., lower-division course in Perspective 5 or consent of instr. The rise and spread of terrorism in the modern world, from the French Revolution to the present.

UG 249 The Irish and Irish-Americans 3 cr. Offered autumn odd-numbered years. Ireland, the Irish people, and the Irish diaspora, from first settlement to contemporary troubles.

UG 269 Montana 3 cr. Offered autumn. An introductory and interpretive history from Lewis and Clark to 2000.

UG 283H Islamic Civilization: The Classical Age 3 cr. Offered autumn. A concise history of the Islamic world from the 6th century to the fall of the Abbasid Empire in the 13th century, focusing primarily on the teachings of Islam and the causes for the rapid expansion of the Islamic empire.

UG 284H Islamic Civilization: The Modern Era 3 cr. Offered spring. History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.

UG 286H Latin America, 1750-1880 3 cr. Offered autumn. Bourbon reforms, social movements in the late colonial period, independence, neo-colonialism, slavery and Emancipation.


UG 295 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 300 The Historians' Craft 3 cr. Offered autumn and spring. The location and use of historical sources; footnotes, bibliography, and style; previous historical interpretations; an explicit writing component.

UG 301H Classical Greece 3 cr. Offered autumn even-numbered years. Same as MCLG 301H. Greek history from the earliest times through the Macedonian ascendency, based on the writings of the Greek historians.

UG 302H Classical Greece II: Individual, Family, and Civic Life in Ancient Greece 3 cr. Offered spring odd-numbered years. Same as MCLG 302H. Various aspects of personal, social, and political life of classical times in Greece. Primary readings in various ancient authors supplemented by some audio-visual or other informational presentations.

UG 303H Classical Rome 3 cr. Offered spring even-numbered years. Same as MCLG 303H. Roman history from the time of the Kings through the early Empire. Based on the writings of the Roman historians.

UG 306 The Medieval World: The Barbarian West, 400-1200 3 cr. Offered autumn. The collapse of Roman authority, the establishment of the Germanic kingdoms, Christianity and the Roman church.

UG 307 The Medieval World: The High Middle Ages, 1150-1450 3 cr. Offered spring. The Christian world in the West to the decline of the papacy, a hundred years of war, the Black Death.

UG 310 The Reformation 3 cr. Offered intermittently. The Reformation and its impact on European society, politics, economic theory and religious thought from 1500 to 1600; the Counter-Reformation.

UG 311H Europe in Renaissance and Reform, 1348-1648 3 cr. Offered intermittently. The political, economic, intellectual and social development of Europe from 1348 to 1648.

UG 312H The Age of Absolutism, 1648-1789 3 cr. Offered intermittently. The political, economic, intellectual and social development of Europe 1648-1789.

UG 314 France in Revolution, 1789-1848 3 cr. Offered autumn. Political, economic, and social upheaval and development.

UG 315 Modern France, 1848-Present 3 cr. Offered intermittently. The political, economic and social development.

UG 319H Contemporary Europe 3 cr. Offered autumn odd-numbered years. European politics, culture, and society since 1945.

UG 321 Germany: Augsburg to Bismarck, 1555-1866 3 cr. Offered intermittently. Political, economic and social development of the states of the Holy Roman Empire from 1555-1866.

UG 324 Italy: 1300-1800 3 cr. Offered autumn odd-numbered years. The emergence of the Italian states with an emphasis on cultural achievements in the late Medieval, Renaissance, Baroque, and Neoclassical periods.

UG 325 Italy: 1800-Present 3 cr. Offered spring even-numbered years. The emergence of a united Italy, the triumph of fascism and contemporary Italian society.

UG 330H European International Relations: Origins of the State System to 1870 3 cr. Offered autumn. The Bismarckian alliances, causes and results of the First World War and the rise of Hitler, the Japanese and Nazi new order, the Second World War, American's emergence as a Great Power, the division of Europe and the world by the Cold War, and the continual search for stability in a revolutionary world.

UG 332H The Global Diplomacy of the Cold War 3 cr. Offered spring. Confrontations of international relations from the Second World War to the present including the Cuban Missile Crisis and Vietnam War, regional perspectives on Soviet-American rivalries, changes since Gorbachev, and current developments.

UG 334E War, Peace, and Society 3 cr. Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr. A thematic and interdisciplinary approach to warfare and peace, sociopolitical structures and military organization, power among states, technological change, the role of the individual in organized violence, and moral views of war and peace.

UG 335E Human Rights 3 cr. Offered intermittently. A treatment of the powerful global influence of visions of human rights upon the historical and contemporary world in which movements such as abolitionism, women's rights, humanitarian law, racial equality, decolonization and democratization, and the impact of the Universal Declaration of Human Rights.


UG 341 Britain from Reformation to Revolution, 1509-1688 3 cr. Offered autumn. Social, political, religious, and intellectual history of the British peoples during the tumultuous period of reformation, exploration, constitutional crisis, and civil war.

UG 342 Britain from Revolution to Reform, 1688-1832 3 cr. Offered spring. The social, political, cultural, and intellectual consequences of British expansion, financial and industrial revolutions, and revolutionary movements.

UG 343 Britain from 1832 to Present: Reform, Rise, Retreat 3 cr. Offered autumn odd-numbered years. Social, political, intellectual and cultural history of the United Kingdom from an age of industry, empire, and political reform to one of economic decline and international retreat.

UG 344 Russia to 1801 3 cr. Offered autumn. Emphasis on the autocratic political tradition, Westernization, and territorial expansion.

UG 345 Russia Since 1801 3 cr. Offered spring. Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.

UG 348 Eastern Europe 3 cr. Offered spring. Main currents in the history of Eastern Europe from earliest times to the present. Focus on the lands of Poland, Bohemia, Hungary, and the Balkan region.

UG 350 Historical Backgrounds to Current Crises 3 cr. (R-6) Offered intermittently. Social, intellectual, political, and constitutional backgrounds of unresolved crises in Europe, Asia, Middle East, and America.

UG 351 Colonial America 3 cr. Offered even-numbered years. Emphasis changes from year to year. Can touch upon the political economy of Puritanism, through gender and family to the preconditions for the American revolution.

UG 352 The American Revolutionary Era, 1763-1801 3 cr. Offered odd-numbered years. Dissent within the revolutionary movement; the different revolutionary traditions.

UG 353 Jefferson and Jackson: The United States, 1801-1848 3 cr. Offered spring odd-numbered years. Democracy, nationalism and sectionalism, the War of 1812, the second party system, social order and disorder, the capitalist revolution.

UG 355 The Age of the Civil War 3 cr. Offered autumn odd-numbered years. Civil War and Reconstruction; the triumph of the industrialist and capitalist ethic.

UG 356 Industrial America 3 cr. Offered spring odd-numbered years. From Reconstruction to the New Deal. The final triumph of industrial capitalism.

UG 357 The Age of Reform: The United States, 1919-1952 3 cr. Offered autumn. Roaring twenties, the Great Depression, the New Deal, World War II, the Cold War, and social and intellectual developments.

UG 358 America in Our Time: The United States, 1952 to the Present 3 cr. Offered spring. The Cold War and its consequences, the civil rights revolution, affluence and anxiety, counter-culture, political radicalism, feminism, the Nixon years, Watergate and after.

UG 359 Topics in 20th Century U.S. History 3 cr. (R-9) Offered intermittently. Selected topics in 20th century American history.

UG 360 Origins of Rural Radicalism in America, 1750-1900 3 cr. Offered autumn even-numbered years. Addresses the origins of rural radicalism in America from the colonial era to the early twentieth century.

UG 361H The American South: From Slavery to Civil Rights 3 cr. Offered autumn odd-numbered years. Social history of the American South with particular attention to race, class, and gender.

UG 362 Afro-American Struggle for Equality 3 cr. Offered intermittently. A survey of the various efforts by African Americans to achieve racial equality in the United States from the late 19th century through the 1960s.

UG 363H History of American Law 3 cr. Offered intermittently. Issues in the social history of law from the colonial period to the present.

UG 364 Environmental History 3 cr. Offered spring odd-numbered years. Prereq., lower-division course in Perspective 5 or consent of instr. A history of the human-nature interaction in the United States.


UG 366 20th Century American West 3 cr. Offered spring. The contemporary trans-Mississippi West.

UG 367H Families and Children in America 3 cr. Offered intermittently. Historical overview of families and children in the United States from the colonial era to the present. Topics include changing patterns of family life, the evolution of attitudes toward children and youth, the relationship between the American family and the nation-state, and debates over "family values" from the nation's founding to the present.

UG 368 American Military History 3 cr. (R-6) Offered spring. The French and Indian Wars to Vietnam and beyond; chronological and topical accounts.

UG 369 Images of the American West 3 cr. Offered even-numbered years. The roles that artists, artistic works and illustrations, and symbolic images have played in the history of the American West.

UG 370H Women in America: to the Civil War 3 cr. Offered autumn. Same as LS and WS 370H. Interpretive overview of women's experiences in America before the Civil War. Exploration of new definitions of womanhood and "women's sphere" emerging from women's varied experiences in the American colonies and the American Revolution; how immigrant, poor, slave, and western women transgressed the boundaries of their sphere; and how women--from both inside and outside their assigned sphere--reshaped their roles in American society.

UG 371H Women in America: from the Civil War to the Present 3 cr. Offered spring. Same as LS and WS 371H. Interpretive overview of women's experiences in America after the Civil War. Exploration of such topics as women's associations, the battle for suffrage, organized feminism and its opponents, the industrialization of housework, women in the workforce, reproductive rights, and welfare. Particular attention to women's experiences shaped by class and race as well as by gender.

UG 376H American Constitutional History to 1864 3 cr. Offered intermittently. The development of the American Constitution from its English and colonial background through the Taney Court.

UG 377H American Constitutional History Since 1864 3 cr. Offered intermittently. The development of the American Constitution from the Civil War to the present.

UG 378H African American History to 1865 3 cr. Offered intermittently. Same as AAS 378H. Survey of the African
American experience from the African background to the end of the Civil War. Focus on Black American quest for the American Dream, and how Blacks attempted to deal with the challenges of enslavement and racism.

U 379H African American History Since 1865 3 cr. Offered intermittently. Same as AAS 379H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the flight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, and cultural developments and challenges.

UG 380H Modern China 3 cr. Offered autumn. China since 180, emphasizing internal weaknesses of the Manchu dynasty, confrontation with the west, and the emergence of Nationalist and Communist regimes.

UG 381H Modern Japan 3 cr. Offered spring. Japanese culture, politics, and economics since 1800: the Tokugawa period, the Meiji Restoration, militarization and the Great Pacific War, the American occupation, Japan as a model of modernization.

UG 384 Work, Workers, and the Working Classes in America 3 cr. Offered intermittently. A history of unskilled, semi-skilled, and skilled labor and the men and women slaves and free who performed it.

UG 385 Mexican History 3 cr. Offered autumn odd-numbered years. Social, political, religious, and intellectual history of Mexico from 1450 to the present. Religious revolts in the colonial period, the shift from colony to neo-colony, and the cause and implications of the great Mexican Revolution.

UG 386H Nationalism in Modern Middle East 3 cr. Offered autumn. The several intellectual traditions and philosophies some ephemeral and visionary, most eclectic and confused, and virtually all conflicting that are usually believed to underlie the varying concept of Iranian and Arab nationalism in the 20th century.

UG 387 Iran Between Two Revolutions 3 cr. Offered spring. The socioeconomic, political, and cultural causes which resulted in the transformation of the Iranian society from a traditional Islamic entity to a modern secular state and the factors which led o the downfall of the secular state and the establishment of an Islamic republic.

U 388H Africa to 1880 3 cr. Offered intermittently. Same as AAS 388H. History of Africa from the earliest of times. Evolution of African societies and states, social, economic, political, and cultural developments; the dynamics, nature and consequences of Africa’s interaction with Europe up to 1880.

U 389H Africa Since 1880 3 cr. Offered intermittently. Same as AAS 389H. Historical development in Africa since the imposition of colonial rule. Analysis of colonialism and emergence of nationalism.

U 393 Omnibus Variable cr. (R-9) Offered intermittently. University omnibus option for independent work. See index.

UG 394 Seminar Variable cr. (R-6) Offered intermittently.

U 395 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-12) Offered intermittently.

U 398 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

Although the department has no official prerequisites for 400-level courses, they may require appropriate prior study. Interested students should inquire of the History Department before registering.

UG 400 Historiography: History and Historians 3 cr. Offered intermittently. The history and philosophy of history.

UG 401 Regionalism and the Rocky Mountain West 3 cr. Offered spring odd-numbered years. Same as GEOG 401. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political and cultural entity. An intensive writing class.

UG 408 Africa and the Black Diaspora 3 cr. Offered intermittently. Same as AAS 408. History of Blacks in the diaspora. Focus on comparative examination of experiences in the United States, Latin America, South America, Africa and the Caribbean.

UG 409 History of Southern Africa 3 cr. Offered intermittently. Same as AAS 409. Historical survey of developments in southern Africa from the earliest of times to the present. Focus on the evolution and growth of societies and states; economic, social and political developments; external interventions and impacts on race relations.

UG 410 Personalities in History 3 cr. (R-6) Offered intermittently. Influential individuals in European, American, and Asian history.

UG 437 Dynamics of Diplomacy 3 cr. Offered intermittently. An interdisciplinary, global, and thematic approach to major issues in foreign affairs brought about by world wars, diplomatic expansion, the collapse of cultural homogeneity, technological developments, and the rise of public opinion.

UG 446 The Russian Revolution, 1900-1930 3 cr. Offered spring. The causes, course, character, and consequences of the Bolshevik Revolution.

UG 455 An Introduction to Public History 3 cr. Offered spring. Review of selected areas in which public historians work. Examination of how the public historian’s role may differ from the academic historian. Focus on specific approaches, issues, and problems in a variety of areas of public history.

UG 460E Problems of Peace and National Security 3 cr. Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr. Contemporary and historical problems of civilian policy and military strategy, power and technology, intelligence operations in democratic societies, human rights and security issues, conscription, and ethics in statecraft.

UG 465H History of Indian Affairs to 1865 3 cr. Offered autumn. Same as NAS 465H. A study of tribal encounters and adjustments to European and American powers to 1865.

UG 466H History of Indian Affairs from 1865 3 cr. Offered spring. Same as NAS 466H. A study of tribal encounters and adjustments to the American nation from 1865.

UG 467 Indian, Bison and Horse 3 cr. Offered autumn odd-numbered years. Historical interaction between Native American societies, horses and bison in North America. A writing intensive course.

UG 470 Women and Slavery 3 cr. Offered autumn odd-numbered years. Prereq., upper-division standing. Study of the connection between women’s status and slavery in antebellum America, looking at slave women, slaveholding women, and antislavery women.
UG 471 Southern Women in Black and White 3 cr.
Offered spring, even-numbered years. Examination of the connections between race, class, and gender in the South. Conflict and cooperation among black and white women in politics, reform, and work.

UG 478 Martin, Malcolm and the Civil Rights Movement 3 cr.
Offered intermittently. Same as AAS 478. Examination of two leading and dominant leaders of the civil rights movement in the 1960s. Backgrounds, ideological orientations, idiosyncrasies, and dynamics of change, continuity, conflict and consensus in their respective programs; lasting impacts and legacies.

UG 485 Piety and Power in Latin American and Imperial Spain 3 cr.
Offered spring even-numbered years. Social and economic causes of religious change and the role of religion in the formation of local, national, class, ethnic, and gender identities. Topics include the Church's early evangelical efforts in Spanish American, millenarian revolts, and the role of liberation theology in recent social revolutions.

U 493 Omnibus Variable cr. (R-9) Offered intermittently. University omnibus option for independent work. See index.

UG 494 Seminar Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

UG 495 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 500 Teaching Discussion Sections in History 1 cr.
(R-4) Supervised teaching and reading keyed to survey courses in American history and western civilization.

G 511 Early Modern Europe 3 cr. Offered alternate years. Intensive reading in 16th, 17th, and 18th century European history.

G 512 Age of Absolutism and Revolution, 1648-1789 3 cr.
Offered autumn even numbered years. Intensive reading in 17th and 18th century European history.

G 514 Modern France 3 cr. Offered alternate years. Intensive reading, from the French Revolution to the present.

G 516 Modern Europe 3 cr. Offered alternate years. Intensive reading in 19th and 20th century European history.

G 531 International Relations 3 cr. Offered alternate years. Intensive reading in the history of international relations and diplomacy during the late 19th and 20th centuries.

G 540 European Cultural and Intellectual History 3 cr.
Intensive reading.

G 541 Early Modern Britain 3 cr. Offered intermittently. Intensive reading in British history from 1500 to 1800.

G 544 Modern Russia 3 cr. Offered alternate years. Intensive reading in 19th and 20th century Russia.

G 550 Early America 3 cr. Intensive reading.

G 551 Early National America 3 cr. Intensive reading.

G 552 Industrial America, 1863-1932 3 cr. Intensive reading.

G 553 Modern America 3 cr. Intensive reading.

G 564 U.S. Environmental History 3 cr. Intensive reading.

G 566 The American West 3 cr. Intensive reading.

G 567 Native Americans 3 cr. Intensive reading.

G 585 Latin America 3 cr. Offered alternate years. Intensive reading.

G 586 Modern Islamic Politics 3 cr. Offered alternate years. Intensive reading.

G 594 Seminar Variable cr. (R-12) Prereq., 27 credits in history. Directed research.

G 595 Special Topics Variable cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-12)

G 597 Research in History Variable cr. (R-9)

G 598 Cooperative Education Experience Variable cr. (R-8) Prereq., consent of department and Internship Services office. Practical application of classroom learning in off-campus placements.

G 599 Professional Paper Variable cr. (R-6)

G 699 Thesis/Dissertation Variable cr. (R-6)

Faculty

Professors
Tunde Adeleke, Ph.D., University of Western Ontario, 1985
George M. Dennison, Ph.D., University of Washington, 1968 (President)
Richard R. Drake, Ph.D., University of California, Los Angeles, 1976
David M. Emmons, Ph.D., University of Colorado, 1969
William E. Farr, Ph.D., University of Washington, 1971 (Chair)
Dan Flores, Ph.D., Texas A & M University, 1978 (A.B. Hammond Professor of Western History)
Linda S. Frey, Ph.D., Ohio State University, 1971
Harry W. Fritz, Ph.D., Washington University at St. Louis, 1971
Mehrdad Kia, Ph.D., University of Wisconsin, 1986
Paul Gordon Lauren, Ph.D., Stanford University, 1973 (Regents Professor)
Kenneth A. Lockridge, Ph.D., Princeton University, 1965
Michael S. Mayer, Ph.D., Princeton University, 1984

Associate Professors
John A. Eglin, Ph.D., Yale University, 1996
Anya Jabor, Ph.D., Rice University, 1995
Frederick W. Skinner, Ph.D., Princeton University, 1973
Jeff Wilte, Ph.D., Brandeis University, 2002

Assistant Professor
Pamela Voekel, Ph.D., University of Texas, 1997
Human and Family Development

Sue Forest (Director, Family Support Specialist Training Program, Research Associate Professor of Psychology), Chair, Human and Family Development Minor

The Human and Family Development minor is an interdisciplinary minor concerned with the study of life-span human development and family relations, and the impact of biological, environmental and socio-cultural factors on both. The HFD minor encompasses a broad range of areas: Early Intervention, Gerontology, Early Childhood, Normal Development, Family Development, and Exceptional Development. The minor is designed to supplement the knowledge base of students by providing a human and family development specialty orientation to their fields of major interest. Students with career goals that include communications, psychology, education, social work, sociology, anthropology, pre-medical sciences, nursing, and physical therapy will benefit from the specialty orientation in human and family development. Students with other career goals also will find the program rewarding; a business major interested in family service administration or consumer economics; a radio-television major interested in children's programming; a forestry major interested in recreational management appropriate for a particular population.

Human and family development encompasses a broad range of topics, all of which share the view that human growth is a valid subject of scientific study. Knowledge of the processes and contents of psychological, social and biological growth of the individual separately and within the family context will benefit the quality of life of both the student/investigator and the public. The purpose of this program is to equip students with a general knowledge of issues relevant to normal and atypical patterns of human and family development and to provide them with some practical skills and insights which will enhance their abilities in a variety of professions which deal with developmental and family issues. The minor has general, early intervention, and gerontology tracks.

The interdisciplinary curriculum reflects four specific goals: (1) to provide students with an extensive knowledge base of theory and research concerning lifespan development and the role of the family in development; (2) to train students to be critical consumers of research and evaluation results in the human and family development areas; (3) to provide students with practical experience in at least one applied service discipline in the human development areas; and (4) to provide students the opportunity to take topical courses in normal and atypical development of the individual and family.

All students seeking a minor must formally enroll in the minor and select a faculty advisor from the Human and Family Development Committee.

Requirements for a Minor

To earn a minor the student must complete 24 credits, with 11 at the 300 level or above. All students are required to take a 12-credit core curriculum and, with the help of a faculty advisor, to develop a written statement of goals and interests along with a planned curriculum that includes 12 additional credits of electives consistent with the stated goals and interests. At least 6 credits of electives must be outside of the student's major.

Core Curriculum:
- PSYC 240S or 245 (3 cr.)
- HFD 494 Seminar in Human Development (at least 1 cr.)
- HFD 490 Practicum (Variable cr.; 2 required)

One of the following:
- HFD 412 Family Development (3 cr.)
- COMM 411 Family Communication (3 cr.)
- SOC 300S The Family (3 cr.)

Plus one of the following research courses:
- PSYC 120 or 320 Research Methods (3 cr.)
- SOC 201 Social Science Methods (4 cr.)
- COMM 460 Communication Research Methods (3 cr.)
- SW 400 Social Work Research (3 cr.)
- C&I 520 Educational Research (3 cr.)

Electives:
The following list of electives is categorized to assist the student wishing to focus on one of these areas. Students may plan curricula which do not correspond to these categories, but should choose among courses from this list. Occasionally "special topics" courses are offered. Students may use these as electives with the consent of their advisors.

Normal Development
- BIOL 223 Genetics and Evolution
- COMM 410S Communication in Personal Relationships
- C&I 303 Educational Psychology and Measurements
- C&I 330 Early Childhood Education
- C&I 495 Intergenerational Experiences in Schools
- HHP 246 Nutrition
- PSYC 337 Principles of Cognitive Behavior Modification
- SW 300 Human Behavior and Social Environment
- SW 430S Adult Development and Aging
- SW 455S Social Gerontology
- HS 325 Clinical Issues in Cerebrals
- SOC 495-Sociology of Aging

Early Intervention
- HFD 411 Infant and Toddler Development and Variability
- HFD 412 Family Development
- HFD 413 Assessment and Program Planning
- HFD 414 Community Service Delivery I
- HFD 415 Program Development, Implementation, Evaluation and Modification
- HFD 416 Data-Based Decision Making
- HFD 490 Practicum in Early Intervention

Exceptional Development
- C&I 357 Introduction to Exceptionality
- C&I 410 Exceptionality/Classroom Management
- C&I 461 Teaching Gifted Pupils
- C&I 495 Special Topics
- PSYC 335 Fundamentals of Clinical Psychology
- PSYC 336S Child and Adolescent Psychological Disorders
Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Human and Family Development (HFD)

UG 411 Infant and Toddler Development and Variability 3 cr. Offered autumn even-numbered years. Foundation of knowledge and practical experiences in infant and toddler development and its variability. Development of the child within the family and social context.

UG 412 Family Development 3 cr. Offered autumn even-numbered years. Foundation of knowledge and practical experiences in family development from an ecological, family systems perspective. Focus on families who have children with disabilities.

UG 413 Assessment and Program Planning 4 cr. Offered spring odd-numbered years. Prereq., consent of instr. Foundation of knowledge and practical experiences in child assessments and family information gathering. Primary focus on birth through two years of age.

UG 414 Community Service Delivery I 2 cr. Offered spring odd-numbered years. Foundation of knowledge and practical experiences in early intervention service models and their theoretical orientation, roles of other agencies and professional disciplines, teaming models and techniques, support coordination models and techniques, community collaboration, and current early intervention trends and models.

UG 415 Program Development, Implementation, Evaluation and Modification 4 cr. Offered autumn odd-numbered years. Prereq., consent of instr. Foundation of knowledge and practical experiences in program planning, implementation and evaluation. Focus on birth through two years of age.

UG 416 Data-Based Decision Making 2 cr. Offered autumn odd-numbered years. Prereq., consent of instr. Foundation of knowledge and applied experience in making intervention and programmatic decisions based on data. Primary topical areas covered are (1) foundations of applied behavioral analysis; (2) technical competencies in applied behavioral analysis; (3) facilitating acquisition of skills; and (4) skill generalization for individuals across the life-span.

UG 490 Practicum in Human Development Variable cr. (R-6) Offered intermittently. Prereq., 12 credits in HFD. Supervised fieldwork in settings relevant to developmental topics, including school classrooms; child/family welfare agencies; various institutions and programs for children, juveniles, or the aged.

UG 494 Seminar in Human Development 1 cr. (R-3) Offered autumn. Discussion of selected problems in human development. Emphasis on integrating theory and practice.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics.

UG 498 Cooperative Education Experience Variable cr. (R-4) Prereq., consent of chair. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.
Latin American Studies

Maria Jose Bustos Fernandez (Associate Professor of Modern and Classical Languages and Literatures) Director/Advisor

The Latin American Studies program at The University of Montana-Missoula provides students an opportunity to study and research the history, culture, lands, art, geography and institutions of Spanish and Portuguese speaking nations of American through an interdisciplinary perspective. The growing importance of the United States economic, political and cultural relations with the Latin American region makes knowledge of Latin America and its people an essential part of a liberal arts education.

The Latin American Studies program is administered by the Latin American Studies steering committee. The interdisciplinary faculty who teach and direct research in the program, drawn mainly from the College of Arts and Sciences, are internationally known for their research and experience abroad. The program encourages and promotes travel and exchange with institutions of higher education in Latin America. Several study abroad options in Latin America are available both for a short period of time or for longer stays (one semester or two semester programs). Inquire at the Departments of Modern and Classical Languages and Literatures, Political Sciences and Art for details on these programs as well as at the Office of International Programs.

The Latin American studies program offers a minor in Latin American Studies in conjunction with a major in another discipline. Students admitted to the program must register with the academic advisor of the Latin American Studies program who will review their course of study and advise on planning their course sequence. Students are encouraged to plan this option early in their studies to be able to participate in a study abroad program, if possible.

Students minoring in Latin American Studies will be prepared for graduate study or for employment in fields such as government, non-governmental organizations, business, industry, health and education.

Requirements for a Minor

To earn a minor in Latin American studies a student must:

1. Complete a minimum of 18 semester credits in approved Latin American studies courses (all courses listed below in addition to special offerings) in at least three different disciplines. One of these courses must be MCLG/ANTH 100H, Introduction to Latin American Studies.

2. Complete SPAN 101 through 201, or equivalent.

Note: Participation in a study abroad program is highly recommended.

Latin American Studies Core Curriculum:

MCLG/ANTH 100H Introduction to Latin American Studies 3 cr.

MCLG/LS 358 Latin American Civilization through Literature and Film 3 cr. or SPAN 359 Spanish American Civilization through Literature and Film 3 cr.

SPAN 312L Introduction to Latin American Literature 3 cr.

SPAN 450L Latin American Literature 3 cr. (R-6)

SPAN 494 Seminar Variable cr. (R-12) (when topic is related to Latin American literature such as Latin American drama, poetry, novel, short story, Argentinian literature, 19th Century Latin American Literature)

HIST 286H Latin America, 1750-1880 3 cr.

HIST 287H Latin America, 1880-1990s 3 cr.

HIST 485 Piety and Power in Latin American and Imperial Spain 3 cr.

GEOG 351 Geography of a Selected Region (when the selected region is Middle American, South America or any other Latin American region)

PSC 325 Politics of Latin America 3 cr.

PSC 327 Politics of Mexico 3 cr.

PSC 430 Inter-American Relations 3 cr.

PSC 463S Development Administration (when offered during summer session in Mexico)

ART/NAS 367H Art of the Ancient Americas 3 cr.

ART/NAS 368H Latin American Art 3 cr.

ART 451 Seminar in Art History and Criticism 3 cr.

SW 323 Women and Social Action in the Americas 3 cr.

ANTH 354H Mesoamerican Prehistory 3 cr.

Faculty

Professors

Maria José Bustos Fernandez, Ph.D., University of Colorado, Boulder, 1990 (Modern and Classical Languages and Literatures)

John E. Douglas, Ph.D., University of Arizona, 1990 (Anthropology)

Paul Haber, Ph.D., Columbia University, 1992 (Political Science)

Stan Rose, Ph.D., University of Wisconsin, 1969 (Modern and Classical Languages and Literatures)

Associate Professors

Carlos A Baied, Ph.D. University of Colorado, Boulder, 1991 (Geography), Visiting

Hipolito Rafael Chacón, Ph.D., University of Chicago, 1995 (Art)

Janet Finn, Ph.D., University of Michigan, 1995 (Social Work)

Clary Loisel, Ph.D., University of Florida, 1996 (Modern and Classical Languages and Literatures)

Assistant Professors

Eduardo Chirinos, Ph.D., Rutgers University, 1997 (Modern and Classical Languages and Literatures)

Jody Pavilack, Ph.D., Duke University, 2003 (History)
Liberal Studies

Paul Dietrich, Director

The Liberal Studies curriculum is designed for the student who wants a liberal education with emphasis on the humanities and social sciences. It is not intended for the student who is undecided about a major. It includes courses in literature, philosophy, art, foreign languages, history and the social sciences. This program permits students to work in a combination of the above areas rather than in a particular one of them and affords a varied selection of courses from which to choose. All majors must complete the lower-division core curriculum. During their last two years students do more advanced work in two areas of their choice if the General Option is elected (see Upper-Division Curriculum, below). Alternatively, students may choose one of the Area Studies Options (see Area Studies, below). More information is available at the Liberal Studies Program office in LA 101, (406) 243-2171, or online at <www.cas.umt.edu/liberal>.

Majors in Liberal Studies may not take any of their major courses on a pass/not pass basis. Upper-level students transferring into this program should have at least a C average in all credits attempted.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Following are the special requirements for the Bachelor of Arts degree with a major in liberal studies.

Major Requirements

Core Curriculum (courses numbered under 300)

- English 101 ......................................................... 3
- Foreign language (2 semesters of one language) ........ 10
- Liberal Studies 151L, 152L Introduction to Humanities. 8
- European literature (including British) ..................... 3
- European history (including British) ........................ 3-4
- Native American studies or African-American studies . 3
  (including cross-listed and cognate courses in anthropology,
  geography, and sociology)
- Asian studies .................................................... 3
  (including cross-listed courses in anthropology, geography,
  and sociology)
- Philosophy or political science ................................ 3
- Religious studies ................................................ 3

Upper-Division Curriculum (courses numbered 300 and above)

The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

General Option

The student elects upper-division courses in two of the following groups in addition to the Liberal Studies core curriculum:

- European (including British) or American literature ..... 3
- History or political theory (e.g., PSC 350E, 352, 353E, 354) . 3
- Art history or film history or music history ................. 6
- Philosophy or religious studies ................................ 3

Asian studies or Native American studies or African-
American studies .................................................. 3
(including anthropology, political science, sociology)

Liberal Studies .................................................... 3

Women's studies/gender studies ................................ 3
(includes anthropology, history, liberal studies, political
science, sociology)

Senior Liberal Studies capstone seminar ..................... 3

Area Studies Options

A. Asian Studies (Alan Sponberg, Professor of Liberal Studies, advisor): Students who choose the Asian Studies option must register with the Asian studies faculty advisor who will supervise their program. The following requirements must be met to complete the Asian studies option within the liberal studies major.

1. Completion of the Liberal Studies core curriculum. (See above.)
2. Six credits in introductory Asian Studies courses (100-
level courses or study abroad in Asia) including AS 101H or
102H.
3. Twelve credits in foundational Asian Studies courses
(200-level courses), including Asian Studies 201H and 202H.
4. At least 30 credits in upper-level courses (300-level
courses and above), of which at least six credits must be in
the humanities and six in the social sciences.
5. Language Requirement: Two years (or equivalent
proficiency) in an Asian language appropriate to the
student's academic goals and approved by the academic
advisor. Students who plan to pursue graduate work are
strongly advised to complete three years, including at least
one study abroad in Asia experience.

B. Women's Studies (Rita Sommers-Flanagan, Professor,
Educational Leadership and Counseling, Director): Students
who choose the Women's Studies option must register with
the Women's Studies advisor, who will supervise their pro-
gram. The following requirements must be met to complete
the women's studies option within the liberal studies major.

1. Completion of liberal studies core curriculum.
2. Completion of LS 119H.
3. At least 21 credits of course work in relevant, advisor-
approved courses numbered above 299. At least 12 of
these credits must be designated as "focus" courses, and 9
more may be "content" courses. Each semester a list of
these courses is published at pre-registration by the

Suggested Course of Study

The course of study for Liberal Studies majors varies
greatly depending on student interest and course availability.
The core curriculum typically takes more than two years to
complete, while the upper-division requirements typically
take less than two years. Following is one possible course of
study for the first two years:

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>ENLT 120L Introduction to Critical Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language 101-102 Elementary</td>
<td>5</td>
</tr>
<tr>
<td>HIST 104H-105H European Civilization</td>
<td>4</td>
</tr>
<tr>
<td>LS 151L-152L Introduction to Humanities</td>
<td>4</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liberal Studies capstone seminar</td>
<td>3</td>
</tr>
<tr>
<td>Asian studies or Native American studies</td>
<td>3</td>
</tr>
<tr>
<td>Women's studies/gender studies</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 16 16

College of Arts and Sciences - Liberal Studies - 111
Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Liberal Studies (LS)

U 119H Philosophical Perspectives on Women in the Western Hemisphere 3 cr. Offered intermittently. Same as PHIL and WS 119H. Introduction to the discipline and scope of Western philosophy focusing on women as the subject rather than men. A chronological study following the ideological development in the West of social attitudes and scientific theses.

U 151L Introduction to the Humanities 4 cr. Offered autumn. Prereq., eligibility for ENEX 101 based on writing placement examination. General survey of the field of Humanities in Western civilization with reference to non-Western analogs, contrasting the Graeco-Roman with the Jewish and Christian traditions.

U 152L Introduction to the Humanities 4 cr. Offered spring. Prereq., eligibility for ENEX 101 based on writing placement examination. General survey of the field of Humanities in Western civilization, with reference to non-Western analogs, since antiquity.

U 160L Classical Mythology 3 cr. Offered every spring; offered intermittently in summer. Same as MCLG 160L. Deities and myths of the Greeks and Romans, with emphasis on those of most importance to Western literature and art.

U 161H Introduction to Asian Humanities 3 cr. Offered autumn. Coreq., LS 151L or consent of instr. Selective survey of classical South and East Asian perspectives on the humanities as introduced in LS 151L. Hinduism, Confucianism, Taoism and Buddhism are the primary traditions considered.

U 170 Myth Seminar: Honors 1 cr. Offered every spring, offered intermittently in summer. Same as MCLG 170. Coreq., MCLG/LS 160L. Research, writing, and discussion about the mythologies of the Greeks and Romans in a small group setting.

U 180L Introduction to Film 3 cr. Offered every term. The history and development of the film medium. Emphasis on critical analysis of selected classic or significant films.

U 195 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 210H Japanese Culture and Civilization 3 cr. Offered intermittently. Same as AS, MCLG and JPNS 210H. The historical, religious, artistic, literary and social developments in Japan from earliest times to the present.

U 211H Chinese Culture and Civilization 3 cr. Offered intermittently. Same as AS and MCLG 211H. A comprehensive study of Chinese culture and civilization in the manifold aspects of anthropology, sociology, economics, art, literature, religion, and philosophy.

U 212S Southeast Asian Culture and Civilization 3 cr. Offered intermittently. Same as AS and SOC 212S. Introduction to the history, geography, cultures, social organization, and contemporary events of Southeast Asia.

U 213S The Middle East 3 cr. Offered autumn odd-numbered years. Same as AS and GEOG 213S. A survey of the biophysical and cultural geography of Southwest Asia and North Africa. Emphasis on environmental change, prehistory, patterns of cultural and historical change, issues of socio-economic, religious, and political diversity, and the broader political significance of the region.

U 214S Central Asian Culture and Civilization 3 cr. Offered autumn. Same as AS, GEOG, HIST, 214S. Introduction to Central Asia's history, culture and ways of thinking. Focus on the political and social organization of Central Asia and cultural changes as expressed in art and interactions with China, India and the Middle East.

U 221H Germanic Mythology and Culture 3 cr. Offered intermittently. Same as MCLG 231H. Offered alternate years. Germanic culture and mythology from 200 B.C. to 1200 A.D. Topics include the Germanic pantheon, Germanic religious practices, Germanic migrations and major literary masterpieces. Credit not allowed for LS 221H, MCLG 231H and GERM 362H.

U 227L Film as Literature, Literature as Film 3 cr. (R-6) Offered intermittently. Same as ENTL 227L. Studies of the relationship between film and literature. Topics vary.

U 250L Survey of Classical Greek and Latin Literature 3 cr. Offered autumn odd-numbered years. Same as MCLG 250L. Primary literature of major Greek and Latin authors of the classical period. Emphasis on the development of genres and on Greece's influence upon Rome. All reading in English.

U 251L The Epic 3 cr. (R-6) Offered odd-numbered years. Same as MCLG 251L. Reading, study, and discussion of epic poems. Selections will vary from Western and non-Western traditions.

U 252L Tragedy 3 cr. (R-6) Offered even-numbered years. Same as MCLG 252L. Study of the literary, artistic and philosophical dimensions of tragedy. Selections will vary.

U 282L The German Cinema 3 cr. Offered intermittently. Same as MCLG 282L. Development of the German film from its beginnings in 1895 through the contemporary New German Cinema. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, and the post-war film in East and West Germany. Credit not allowed for LS 282L, MCLG 222L and GERM 361L.

U 293 Omnibus Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Independent work under the University omnibus option. See index.

U 294 Seminar Variable cr. (R-6) Offered intermittently.

U 295 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study Variable cr. (R-9) Offered intermittently.

U 301 Earth's Mind: Ecology and Native Peoples 3 cr. Offered intermittently. Non-western attitudes toward nature, based on the work of anthropologists, philosophers, novelists, poets, and on native oral traditions.

UG 305L Introduction to Russian Literature 3 cr. Offered autumn. Same as MCLG and RUSS 305L. A survey of Russian poetry and prose from their beginnings (medieval period) to mid-nineteenth century. Included are the works of Karamzin, Pushkin, and Lermontov.
UG 306L Introduction to Russian Literature 3 cr.
Offered spring. Same as MCLG and RUSS 306L. A survey of Russian poetry and prose from the mid-nineteenth century through the Symbolist period of the early 20th century. Included are the works of Gogol, Turgenev, Dostoevsky, Tolstoy, and the Symbolists.

U 309 Reading the City: Rome 3 cr. Offered autumn. Same as MCLG 309. Prereq., previous acceptance in subsequent session Italy program. Overview of the history of Rome from its beginnings until modern times, with lectures on various periods and artists across the spectrum of Italian art history. Orientation to the city of Rome, practicalities of life and study in the city.

U 311L Chinese Folktales 3 cr. Offered intermittently. Same as MCLG 380L. The study of the aspirations, desires, loves, fears, moral and aesthetic values of the Chinese people as expressed in their folk-stories.

U 313L Classical Chinese Poetry in English Translation 3 cr. Offered intermittently in spring. Same as AS, CHIN, and MCLG 313L. The works of major Chinese poets to 1300 A.D.

U 314L Traditional Chinese Literature in English Translation 3 cr. Offered intermittently in spring. Same as AS, CHIN, and MCLG 314L. Highlights of Chinese literature to 1800; includes philosophy, poetry, prose, and fiction.

U 315L Major Hispanic Authors and Their Times 3 cr. Offered autumn. Same as MCLG 315L. The intensive study of the life, times, and works of a major Hispanic author.

U 320 Women in Antiquity 3 cr. Offered autumn even-numbered years. Same as MCLG and WS 320. Examination of varied sources from ancient Greece, the Hellenistic world, and republican and imperial Rome to clarify the place of women in various communities. Women's contribution to community and the mechanisms by which communities attempted to socialize female populations.

U 321H German Culture to 1900 3 cr. Offered spring. Same as MCLG 321H. Overview of major events and currents in German culture to 1900 with an emphasis on the arts, literature, and intellectual movements. Credit not allowed for LS 321H and GERM 303.

U 322H German Culture Since 1900 3 cr. Offered spring. Same as MCLG 321H. Overview of major events and currents in the German culture from 1900 to the present with an emphasis on the arts, literature, and intellectual movements. Credit not allowed for LS 322H and GERM 304.

UG 323 Studies in Literary Forms 3 cr. (R-9) Offered autumn and spring. Prereq., Enlt 300 or consent of instr. Same as Enlt 323. Reading of various authors from different literary periods and cultures working in the same mode of composition (every two years, Literature of Place; Modern Drama, 19th Century Fiction, 20th Century Fiction, Lyric Poetry, Science Fiction, Autobiography; less frequently, Travel Literature, Popular Fiction, Epic, Tragedy, Satire, Romance, Comedy).

UG 325E The Roots of Western Ethics 3 cr. Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr. Same as MCLG 365E. Studies of the origins of Western ethical theories in the original writings of Greek philosophers and their application to current situations.

UG 338 The French Cinema 3 cr. (R-6) Offered intermittently. Same as MCLG and FREN 338. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realisme, Nouvelle Vague, etc.) With an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.

UG 340H Ancient Greek Civilization and Culture 3 cr. Offered autumn even-numbered years. Same as MCLG 360H and ART 380H. Slide lecture course. Ancient Greek works of art and architecture, related to and explained by contemporary ideas and values of Greek society.

UG 341L Roman, Early Christian and Byzantine Art 3 cr. Offered autumn odd-numbered years. Same as ART 381L and MCLG 361L. A survey of developing styles in painting, mosaic, and building, with attention to philosophic and religious content and to influence on later ages. Slide lectures.

UG 350E After the Holocaust: Literature, Human Values, and the Uses of Memory 3 cr. Offered spring. Prereq., lower-division course in Perspective 5 or consent of instr. Exploration of literature and film produced from the Holocaust experience; consideration of the adequacy of our spiritual, moral and cultural resources for dealing with industrial mass murder; the possibilities after Auschwitz for renewing the human image.

U 351L Exploring the Humanities in Depth 3 cr. (R-9) Offered autumn and spring. Intensive study of a specific historical period in Western humanities through its seminal literature, with an emphasis on the intellectual and ethical paradigms which form an essential component of the foundations of the Western tradition.

UG 356 Studies in Literature and Other Disciplines 3 cr. (R-9) Offered autumn and spring. Prereq., nine credits in ENLT or LS or consent of instr. Same as ENLT 325. Selected works of literature studied in conjunction with works of art, music, religion, philosophy, or another discipline (every two years, Psychology and Literature, Film and Literature, The Poetry of Meditation; less frequently, British Art and Literature, Modernism, Literature and Science, Bible as Literature, Song).

U 358 Latin American Civilization through Literature and Film 3 cr. Offered autumn odd-numbered years. The intensive study of the traditional society of Latin American civilization through the interaction of European, Indian and African elements. Credit not allowed for both LS/MCLG 358 and SPAN 359.

U 365 South Asian Traditions: Hinduism 3 cr. Offered spring even-numbered years. Same as AS and RELS 365. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism's transformation and impact beyond South Asia.

U 370H Women in America: to the Civil War 3 cr. Offered intermittently. Same as HIST and WS 370H. Interpretive overview of women's experiences in America before the Civil War. Exploration of new definitions of womanhood and "women's sphere" emerging from women's varied experiences in the American colonies and the American Revolution; how immigrant, poor slave, and western women transgressed the boundaries of their sphere; and how women from both inside and outside their assigned sphere reshaped their roles in American society.

U 371H Women in America: from the Civil War to the Present 3 cr. Offered intermittently. Same as HIST and WS 371H. Interpretive overview of women's experiences in America after the Civil War. Exploration of such topics as women's associations, the battle for suffrage, organized feminism and its opponents, the industrialization of housework, women in the workforce, reproductive rights, and welfare. Particular attention to women's experiences shaped by class and race as well as by gender.
U 375L Gender and Sexuality in 20th Century Fiction 3 cr. Offered autumn odd-numbered years. Same as ENLT 375L. Major 20th century novels and short stories written in English in different parts of the world and how these texts explore changing concepts of gender and sexuality.

UG 381 Studies in the Film 3 cr. Offered autumn and spring. Prereq., LS 180 or consent of instr. Studies in genres, directors, movements, problems, etc.

U 391 Agriculture in the Humanities and Fine Arts 1 cr. Offered autumn. Same as EVST and PHIL 391. Lecture series that accompanies cooperative education credit for students in P.E.A.S. (Program in Ecological Agriculture and Society).

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-12) Offered intermittently.

U 397 Research Variable cr. (R-6) Offered intermittently.

U 398 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of director. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 432L Twentieth Century Chinese Fiction in English Translation 3 cr. Offered intermittently in spring. Same as AS, CHIN, and MCLG 432L. A survey of the principal works of Chinese fiction circa 1910-1990

UG 455 Studies in Comparative Literature 3 cr. (R-9) Offered intermittently. Same as ENLT 430 and MCLG 440. Study of important literary ideas, genres, trends and movements. Credit not allowed for more than one course on the same topic numbered ENLT 430, MCLG 440, 494 or LS 455.

UG 460 History of Criticism and Theory 3 cr. Offered autumn. Prereq., ENLT 301 and six credits in literature courses numbered 300 or higher. Same as ENLT 420. A survey of the historical development of critical theories which shaped ways of reading and writing from Plato and Aristotle to the present.

UG 461 Topics in Critical Theory 3 cr. (R-6) Offered intermittently. Prereq., ENLT 301 and six credits in literature courses numbered 300 or higher. Same as ENLT 421. Study and application of one or more theoretical approaches to interpreting texts (e.g., aesthetic poststructural, new historicist, classical, renaissance, romantic, narrative, psychoanalytic, formalist, neo-marxist, feminist, gender, cultural studies and reader-response theory.)

U 493 Omnibus Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Independent work under University Omnibus option. See index.

UG 494 Seminar in Humanities: Genres and Periods 3 cr. (R-9) Offered intermittently. Concentrated studies in specific genres and periods.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study Variable cr. (R-9) Offered intermittently.

U 497 Research Variable cr. (R-6) Offered intermittently.

U 498 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of director. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

Faculty

Professors
Paul A. Dietrich, Ph.D., University of Chicago, 1984
Alan Sponberg, Ph.D., University of British Columbia, 1980
Ruth Vanita, Ph.D., Delhi University, 1992

Assistant Professor
Meghan Williams, Ph.D., Princeton, 2002

Adjunct Assistant Professors
Joanne Charbonneau, Ph.D., Michigan State University, 1981
Sean O'Brien, Ph.D., University of Colorado, 1989
Dan Spencer, Ph.D., Union Theological Seminary, 1994

Adjunct Instructor
Lynn Purl, A.B.D., University of Washington, 1999

Linguistics Program

Anthony Mattina, Director

Mission
Linguistics and Applied Linguistics. Linguistics studies all aspects of Language and languages and aims to discover the general principles that govern Language—principles presumed to be common to all languages. It also aims to study, understand, and describe the details of individual languages: the sounds used by individual languages; the make-up of words, phrases and sentences; the range of phenomena covered by such grammatical categories as verbs and nouns, gender, tense, aspect, transitivity and a host of others. Linguistics studies how languages are learned, and how they function in their social contexts. The understanding of linguistic principles is applied to a variety of fields, including language teaching, language therapy, communication, speech synthesis, and language preservation.

Objectives. The objectives of the Linguistics Program are to train students in the scientific analysis of languages. Students are prepared for further graduate study in the field; to study other languages; to apply their understanding of language to other fields; and to teach English and other languages to non-native students of those languages.

Endangered Languages. About six thousand languages are currently spoken in the world, but only 300 (five percent) are projected to survive into the 22nd century. The predicted imminent extinction of nearly six thousand languages is cause for great concern, much as the extinction of biological species, and we wish for biological, linguistic, and ethnic diversity. The preservation of languages and linguistic diversity, therefore, is the most pressing goal of Linguistics.
Montana and Regional Languages. Montana is the aboriginal home of speakers of languages that belong to four distinct language families: 1. Kutenai; 2. Flathead (Salish); 3. Crow, Blackfeet, Northern Cheyenne, and Gros Ventre (Algonquian); 4. Assiniboine, Sioux and Crow (Siouan). We are committed to preserving the linguistic diversity of the state and of the region, and our students are expected to gain a multi-cultural perspective that will engender a spirit of cooperation and mutual respect between people of different cultures and backgrounds.

Collaboration. The Linguistics Program is situated within the Department of Anthropology. In offering its curriculum the Linguistics Program collaborates with Native American Studies, English, Modern and Classical Languages and Literatures, Communication Studies, Philosophy, and the McNair and other programs to provide a cooperative environment conducive to learning.

Degrees Offered. The University offers an M.A: with a major in Linguistics with options in General and Applied Linguistics. Linguistics options also are available to students pursuing masters degrees in anthropology and English. The University does not offer an undergraduate degree in linguistics but students can earn baccalaureate degrees in anthropology, English, French, German, and Spanish with options in linguistics.

For specific course requirements in the Departments of Anthropology, English, and Modern and Classical Languages and Literatures, students should refer to the relevant department’s section in this catalog and confer both with the advisors in the individual departments and the undergraduate advisors in the Linguistics Program.

Certificate of Accomplishment in Teaching English as a Second Language. The University offers a sequence of courses (24 credits) that will lead to a Certificate of Accomplishment in Teaching English as a Second Language. The certificate will be issued by the University upon the recommendation of the Linguistics Program and the Faculty Senate.

In order to earn this certificate, a student must hold (or simultaneously earn) a baccalaureate or higher degree and complete the following courses: LING 470; LING 471; LING 472; LING 477 or 478; two upper-division electives (6 credits) from among LING 466, 473S, 475, 476, and 489; LING 480; and LING 491. Courses required for the Certificate may not be taken on a pass-not pass basis.

It is recommended that a student have the equivalent of two years of a foreign language. Non-native speakers of English must take an English competency examination to be administered by the Linguistics Program.

English as a Second Language/Academic English. Outside of its curriculum, the Linguistics Program directs several EASL courses for international students whose TOEFL scores range between 500 and 580.

Two EASL courses (170 and 230) concentrate on learning second language English in a wider cultural environment. The instructional aims for these two courses include adapting to life in an American English-speaking community and understanding the experiences of self and others who have lived, studied and worked among non-native language speakers in foreign locations.

The four remaining EASL courses enhance learning second language English as the language of classroom instruction at an English-speaking university or college. These courses facilitate the transition from learning academic English to actually using English in academic settings. Course content concentrates on academic uses of language skills (reading, writing, speaking and listening), with a limited degree of periodic intensive activities involving grammar and/or pronunciation).

Trained, supervised teaching assistants who are pursuing advanced degrees in linguistics instruct academically-oriented EASL courses and professional staff teach the culturally-oriented EASL courses. Each EASL course lasts one semester and grants international students three credit hours that count toward graduation. The needs of individuals who must raise their English proficiency to gain admission to a university or college are addressed by the English Language Institute.

Teacher Preparation in English as a Second Language.

Minor Teaching Field: For an endorsement in the minor teaching field of English as a Second Language, a student must complete LING 470, 471, 472, 477 or 478, 480 and 491; at least two courses from the following: LING 466, 473S, 475, 476, and 489. Students also must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see School of Education section of this catalog.) Courses in the teaching minor may not be taken on a credit/no credit basis.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

English as a Second Language (EASL)

U 250 Intermediate English for Academic Purposes: I 3 cr. (R-6) Offered autumn and spring. Same as ENSL 250. Extensive training in reading, writing, and speaking grammatical English. This course is required of all foreign students with TOEFL scores between 500 and 525. Grading A, B, C, D, or F.

U 251 Intermediate English for Academic Purposes: II 3 cr. (R-6) Offered autumn and spring. Prereq., 500 to 525 on the TOEFL or consent of instr. Same as ENSL 251. English grammar, reading, writing, and conversation skills for students who are not native speaker of English; designed for students who have scored between 500 and 525 on the TOEFL. Grading A, B, C, D, or F.

U 450 Advanced English for Academic Purposes: I 3 cr. Offered autumn and spring. Prereq., TOEFL score of 526 or greater and consent of instr. Same as ENSL 450. Extensive training in reading, writing, and speaking grammatical English. Grading A, B, C, D, or F.

U 451 Advanced English for Academic Purposes: II 3 cr. Offered autumn and spring. Prereq., 526 to 580 on the TOEFL or consent of instr. Same as ENSL 451. English grammar, reading, writing, and conversation skills for students who are not native speakers of English; designed for students who have scored between 525 and 580 on the TOEFL. Grading A, B, C, D, or F.

Linguistics (LING)

U 173 Language, Culture and Society 3 cr. Offered autumn. Same as COMM 173. A survey of the elements of language (structure, meaning, and sound) including language use in its social and cultural context. Credit is not allowed for students who have already completed Ling 270.

U 195 Special Topics Variable cr. (R-6) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 198 Cooperative Education Experience Variable cr. (R-9) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements.
off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 270 Introduction to Linguistics 3 cr. Offered every term. Same as ANTH and ENLI 270. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.

U 271 The Least You Should Know About English 3 cr. Offered intermittently. The principles behind grammatical nomenclature in human languages; emphasis on ways that humans use language to develop standard and non-standard dialects of the same language, special focus on English.

U 395 Special Topics Variable cr. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-9) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 401 Applied French Linguistics 3 cr. Offered spring. Prereq., FREN 301 and LING 270 or consent of instr. Same as FREN 401. Contrastive analysis of French phonology (including phonetics), morphology, and syntax.

UG 403 Applied German Linguistics 3 cr. Offered autumn. Same as GERM 403. Contrastive analysis of German phonology, morphology, and syntax.

UG 405 Applied Spanish Linguistics 3 cr. Offered autumn. Prereq., SPAN 302 and LING 270 or consent of instr. Same as SPAN 405. Topics and issues from various linguistic approaches, selected for their applicability to the teaching of Spanish.

UG 465 Structure and History of English for Teachers 3 cr. Offered autumn and spring. Same as ENLI 465. The development of the English language from a historical perspective contrasted with the phonological and grammatical structure of English from a modern linguistic point of view; specifically designed for teachers.

UG 466 Pedagogical Grammar 3 cr. Offered autumn. Prereq., LING 270 or 470. Discussion of English grammar from a non-native speaker perspective focusing on items and structures that are difficult for non-native speakers.

UG 470 Introduction to Linguistic Analysis 3 cr. Offered autumn and spring. Same as ANTH, MCLX, ENLI 470. An introduction to the field of modern linguistics and to the nature of language. Emphasis on linguistic analysis.

UG 471 Phonology and Morphology 3 cr. Offered spring. Prereq., LING 270. or equiv. A study of phonological and morphological systems from as many as 20 languages, most of them non-indo-European; training in how to do linguistic analysis as well as linguistic theory.


UG 473S Language and Culture 3 cr. Offered autumn odd-numbered years. Prereq., LING 270 or 470. Same as ANTH 473S. Technical study of the relationships between grammatical categories and world view.

UG 474 Language History, Variety, and Change 3 cr. Offered autumn. Prereq., LING 270 or 470. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change.

UG 475 Linguistic Fieldmethods 3 cr. Offered autumn even-numbered years. Prereq., LING 270 or equiv. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a non-Indo-European language.

UG 476 Child Language Acquisition 3 cr. Offered spring even-numbered years. Prereq., LING 270 or 470. The development of speech and language: phonologic, prosodic, semantic, pragmatic, and morphosyntactic systems.

UG 477 Bilingualism 3 cr. Offered autumn even-numbered years. Prereq., LING 270 or 470. Societal and individual bilingualism: topics include language policy such as maintenance and interference; code switching and mixture; and bilingual education.

UG 478 Second Language Acquisition 3 cr. Offered autumn odd-numbered years. Prereq., LING 270 or 470. Discussion of theories of SLA, analysis of the development of Interglottal and study and use of the research methods in SLA.

UG 479 Pragmatics 3 cr. Offered spring odd-numbered years. Prereq., LING 270 or 470. Relations between language and its interpreters focusing on presupposition, speech acts, discourse analysis, and the application of pragmatics to second and foreign language acquisition.

UG 480 Teaching English as a Foreign Language 3 cr. Offered spring. Prereq., LING 270 or 470. Same as ENLI 480. The application of principles of modern linguistics to the problems of teaching English as a foreign language.

UG 481 The ESL Professional 3 cr. Offered spring. Prereq. or coreq., LING 491; prereq. or LING 480 or consent of instr. Professional development techniques for the independent language teacher: language test construction, self-critique of teaching strategies, materials development, curriculum evaluation and design, electronic and print media resources for the language teaching professional.

UG 482 Topics in the Philosophy of Language 3 cr. (R-6) Offered intermittently. Prereq., upper-division standing. Same as PHIL 471. Discussion of one or more of the following topics: theories of meaning, theories of reference, pragmatics, the origin of language, psycholinguistics, and foundations of linguistic theory.

UG 484 North American Indian Linguistics 3 cr. Offered spring odd-numbered years. Prereq., LING 270 or 470. Same as ANTH 484. Analysis and characteristics of American Indian languages in historical perspective.

UG 485 Topics in the Linguistic Structure of French 3 cr. (R-6) Offered autumn. Prereq., FREN 301 and LING 270 or consent of instr. Same as FREN 485. Synchronic and diachronic topics in French phonology, morphology, syntax, and lexicon.

UG 489 Languages of the World 3 cr. Offered spring. Prereq., LING 270 or 470. A survey of the grammatical features of several unrelated languages to provide the student with a broad overview of how world languages compare and contrast.

UG 491 ESL Practicum 1-3 cr. Prereq., or coreq., LING 480. Offered every term. Same as ENLI 491. Students with a teaching minor take the course for 3 credits; others take it for 1 credit and do one third of the work.

UG 495 Special Topics Variable cr. (R-6) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-9) Offered every term. Prereq., consent of instr. Special projects in linguistic analysis.

U 498 Cooperative Education Experience Variable cr. (R-12) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides
practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 570 Seminar in Linguistics 3 cr. (R-12) Offered autumn and spring. Prereq., LING 270 or equiv. Same as ANTH 570. Advanced topics in linguistic analysis.

G 575 Preceptorship 1 cr. (R-4) Offered autumn and spring. Prereq., consent of instr. Materials development, assessment and evaluation of learners' need and interests in teaching English as an academic second Language to international students attending universities with English instruction.

G 595 Special Topics Variable cr. (R-9) Offered every term. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 S Independent Study 1-3 cr. (R-6) Offered every term.

G 598 Cooperative Education Experience Variable cr. (R-6) Offered autumn and spring.

G 599 Professional Paper Variable cr. (R-6) Offered every term.

G 699 Thesis Variable cr. (R-6) Offered every term.

Faculty
Irene Appelbaum, Ph.D., University of Chicago, 1995, Associate Professor (Philosophy)
Anthony Beltramo, Ph.D., Stanford University, 1972, Professor (Foreign Languages and Literatures)
Albert Borgmann, Ph.D., University of Munich, 1963, Professor (Philosophy)
Merrel D. Clubb, Jr., Ph.D., University of Michigan, 1953, Emeritus (English)
Stephen Greymorning, Ph.D., University of Oklahoma, 1997, Associate Professor (Anthropology)
Robert Hausmann, Ph.D., University of Wisconsin, 1972, Professor (English Language Institute)
Anthony Mattina, Ph.D., University of Hawaii, 1973, Professor, (Director of Linguistics)
O.W. Rolfe, Ph.D., Stanford University, 1967, Professor (Foreign Languages and Literatures)
Wesley Shellen, Ph.D., Ohio University, 1973, Professor, Emeritus (Communication Studies)
Tully J. Thibeau, Ph.D., University of Arizona, 1999, Assistant Professor

Department of Mathematical Sciences

James Hirstein, Chair
Mathematics is studied both as a tool and for its own sake. Its usefulness in the sciences—physical, biological, social, behavioral, and environmental—and in decision-making processes is so established as to make it an indispensable part of many curricula. Mathematics is chosen as a major area of study by individuals who find it challenging, fascinating, and beautiful. It is also appreciated by many who seek primarily to use mathematics as a tool.

A career in mathematics, except for teaching at the secondary level, generally requires a graduate degree as preparation. Careers include teaching, research, and the application of mathematics to diverse problems in institutions of higher learning, business, industry, and government.

The Bachelor of Arts, Master of Arts, and Doctor of Philosophy degrees are offered as well as a Bachelor of Science in Mathematical Sciences-Computer Science.

High School Preparation: For study of mathematics at the University, it is recommended that high school preparation include the equivalent of three years of algebra, plane geometry, trigonometry, and analytic geometry.

Special Degree Requirements
Refer to graduation requirements listed previously in the catalog. See index.

Mathematics Requirements for B.A. Degree with a Major in Mathematical Sciences
To obtain a B.A. degree with a major in Mathematical Sciences, the required courses are MATH 152, 153, 221, 251 (except for students in the Mathematics Education option), 305 and six additional 3- or 4-credit mathematics courses numbered 300 or above (at least three of the six must be numbered 400 or above, not including 444 or 445). All mathematics courses counted toward the major must be passed with a grade of C- or better and a 2.00 grade point average is required. In addition, if a special option is desired, the minimum requirements listed below for that option must be met. Additional courses should be chosen in consultation with a mathematics advisor.

Requirements for the Special Options
Pure Mathematics Option
MATH 351, 421 and two courses from MATH 422, 451, 452.

Mathematics Education Option
MATH 301, 326, 341, 406, 421, 431; one mathematics course chosen from 251, 311, 325, 381, 382 or any additional 3-4 credit 400-level mathematics course; and the completion of certification requirements for teaching in secondary schools to include C&I 430.

Statistics Option
MATH 341, 441, 442. (Additional mathematics and statistics courses chosen with advisor.)

Combinatorics and Optimization Option
Three courses chosen from MATH 381, 382, 485; and one course chosen from 341, 414, 471, or CS 332.

Applied Analysis Option
MATH 311, 412, 414 and one of 452 or 471. (MATH 351, and 485 are recommended.)

Major Requirements in Courses Outside Mathematics
1. Except for the Mathematics Education option, students must complete the foreign language requirement as specified in 1. within the Foreign Language/Symbolic Systems section under the General Education requirements or two courses chosen from CS 131, 132, 201, 202, 203, 204, 205.
2. All mathematics majors, except those selecting the mathematics education option, must complete 18 credits in at most three sciences selected from astronomy, biology, chemistry, computer science, economics, forestry, geology, management, microbiology, and physics. Students selecting the mathematics education option must complete 12 credits in at most two sciences selected from astronomy, biology, chemistry, computer science, geology, microbiology and physics. An alternative to the science requirement is for the student to present a minor or second major in one of the schools or departments within the University, or for the student with a mathematics education option to complete an additional teaching minor or major.

3. The upper-division writing requirement for Mathematical Sciences majors consists of:
   a. An approved General Education upper-division Writing course
   OR
   b. A senior thesis, research paper or final project approved in advance by the Undergraduate Committee in the Department of Mathematical Sciences.

Requirements for a B.S. Degree with a Combined Major in Mathematical Sciences-Computer Science

The purpose for the combined program is to provide a thorough background in both allied disciplines and to inculcate a deeper understanding of their goals and methods. A student must complete 60 credits in the two disciplines: 30 of these credits in mathematical sciences courses and 30 of these credits in computer science courses. A minimum grade of “C” is required in all courses which follow.

The mathematical sciences requirements are: 152-153, 221, 251, 305 (or 225), and twelve credits of 3- or 4-credit MATH electives selected from courses numbered above 305.

The computer science requirements are: 131-132, 231-232, 331, 332, 335, and nine credits of CS electives selected from courses numbered 300 and above. A total of at most three of the nine credits of CS electives may be in CS 398 or 498.

The combined nine additional credits of computer science electives and twelve additional credits of mathematical sciences electives must include at least three 3- or 4-credit courses numbered 400 or above, with at least one chosen from each department (not including MATH 406, 444, and 445).

Other requirements are: PHYS 221N-222N, FOR 220, and either COMM 111A or COMM 242.

Each student plans a program in consultation with a mathematical sciences and a computer science advisor. Students planning to attend graduate school in the mathematical sciences or computer science should consult with their respective graduate advisors.

Suggested Curricula:

Applied Math-Scientific Programming: MATH 311, 412, 414, and one course chosen from MATH 341, 351, 451, 452, 471. Three courses chosen from CS 344, 445, 471, 486.

Combinatorics and Optimization-Artificial Intelligence: MATH 381, 382, and two courses chosen from MATH 325, 341, 414, 485; CS 344, 445, and 457.

Statistics-Machine Learning: MATH 341, 441, and two courses chosen from MATH 325, 382, 442, 485. Three courses chosen from CS 365, 455, 456, and 486

Algebra-Analysis: MATH 351, 421, and two courses chosen from MATH 326, 422, 451, 452; CS 344, 441, and one other course.

Suggested Course of Study

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>MATH 152-153 Calculus I, II</td>
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<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
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<tr>
<td>Computer programming language</td>
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<td>Electives and General Education</td>
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Second Year

<table>
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<tr>
<th>Course</th>
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<tr>
<td>MATH 221-Lineal Algebra</td>
<td>4</td>
</tr>
<tr>
<td>MATH 251 Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 305 Introduction to Abstract Math</td>
<td>-</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>9</td>
</tr>
</tbody>
</table>

Requirements for a Minor

To earn a minor in mathematics the student must earn 23 credits in mathematics including at least three 3- or 4-credit courses at the 300-level or above. All courses counted toward the minor must be passed with a grade of C- or better and a 2.00 grade average is required.

Mathematics Education Minor: For a teaching minor endorsement in the field of mathematics, a student must complete MATH 152-153, 221, 301, 305, 326, 341, and 431. Students also must complete C&I 430, gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog). All courses counted toward the minor must be passed with a letter grade of C- or better and a 2.00 grade average is required.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Mathematical Sciences (MATH)

Unless the student has prior written approval by the Mathematical Sciences Department, credit is not allowed for MATH 100 if credit has been or is being earned in any mathematics course numbered above 100. Unless the student has prior written approval of the Mathematical Sciences Department, credit is not allowed for any mathematics course that is a prerequisite for a mathematics course for which credit has already been earned. Students receiving transfer or Advanced Placement credit for MATH 241 may take MATH 117 for credit. See the College of Technology section for Introductory Algebra, MAT 005.

U 100 Intermediate Algebra 5 cr. Offered autumn and spring. Prereq., MAT 005 or appropriate placement score. Topics include linear equations and systems of linear equations, inequalities, applications and graphing; polynomials; rational expressions and equations; radicals, rational exponents and complex numbers; quadratic equations; introduction to exponential and logarithmic functions. Credit no allowed for both MAT 100 and MATH 100.

U 107 Contemporary Mathematics 3 cr. Offered every term. Prereq., MAT 100 or appropriate placement score. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.

U 109 Numbers as News 3 cr. Offered spring. Prereq., MAT 100 or appropriate placement score. An exploration of mathematics and statistics as used in the popular media. For students in the School of Journalism only.
U 117 Probability and Linear Mathematics 3 cr. Offered every term. Prereq., MATH 100 or appropriate placement score. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields. Credit not allowed for both MAT 117 and MATH 117.

U 121 Precalculus 4 cr. Offered autumn and spring. Prereq., MATH 100 or appropriate placement score or three years of college preparatory mathematics. Properties of algebraic functions of one variable and their graphs, conic sections, trigonometric functions and inverses, trigonometric identities, exponential and logarithmic functions, and polar coordinates. Credit not allowed for both MATH 121 and MAT 120.

U 130 Mathematics for Elementary Teachers 5 cr. Offered autumn and spring. Prereq., MATH 100 or appropriate placement score. Open only to elementary education majors. Topics include problem-solving, sets and logic, functions, whole numbers, integers, rational numbers, real numbers, number theory, probability and statistics.

U 131 Mathematics for Elementary Teachers 4 cr. Offered autumn and spring. Prereq., 130. Topics include introductory geometry, geometric constructions, congruence, similarity, measurement, coordinate geometry and an introduction to computer geometry.

U 150 Applied Calculus 4 cr. Offered autumn and spring. Prereq., MATH 121 or appropriate placement score. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.

U 152 Calculus I 4 cr. Offered autumn and spring. Prereq., MATH 121 or equiv. or appropriate placement score. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.


U 158 Applied Differential Equations 3 cr. Offered spring. Prereq., MATH 150 or 152. Solution of ordinary differential equations and systems with emphasis on applications, numerical methods and computer software.

U 195 Special Topics Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, one-time offerings of current topics.

U 221 Linear Algebra 4 cr. Offered autumn and spring. Prereq., MATH 153. Vectors in the plane and space, systems of linear equations and Gauss-Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.

U 225 Discrete Mathematics 3 cr. Offered autumn. Prereq., MATH 152. Mathematical concepts used in computer science with an emphasis on mathematical reasoning and proof techniques. Elementary logic, sets, functions and relations, combinatorics, mathematical induction, recursion and algorithms. Mathematics majors should take 305 instead of 225.

U 231 Topics in Geometry 3 cr. Offered spring. Prereq., MATH 131 or consent of instr. Geometry topics for teaching grades 6-12 mathematics. Intended primarily for students in elementary education who plan to teach middle school mathematics.

U 241 Statistics 4 cr. Offered autumn and spring. Prereq., MATH 117 or consent of instr. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.

U 251 Calculus III 4 cr. Offered autumn and spring. Prereq., MATH 153. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.

U 291 Practicum 1-3 cr. (R-3) Offered intermittently. Prereq., consent of instr.

U 294 Seminar Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance in special work for advanced students.

U 295 Special Topics Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, one-time offerings of current topics.

U 296 Independent Study Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance of an individual student in doing independent study on material not offered in a regular course.

UG 301 Mathematics with Technology for Teachers 3 cr. Offered autumn. Prereq., MATH 221. Discrete and continuous mathematical models from a variety of disciplines using appropriate technology.

UG 305 Introduction to Abstract Mathematics 3 cr. Offered autumn and spring. Prereq., MATH 153. Designed to prepare students for upper-division proof-based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods.


UG 317 Ordinary Differential Equations Computer Lab 1 cr. Offered autumn. Coreq., MATH 311 or consent of instr. Intended primarily for student in MATH 311.

UG 325 Discrete Mathematics 3 cr. Offered spring. Prereq., MATH 152 and 225 or 305. Continuation of 225 and topics from graph theory, Boolean algebras, automata theory, coding theory, computability and formal languages.

UG 326 Elementary Number Theory 3 cr. Offered spring. Prereq., MATH 225 or 305. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.

UG 341 Introduction to Probability and Statistics 3 cr. Offered autumn and spring. Prereq., MATH 153. Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.

UG 351 Advanced Calculus 4 cr. Offered autumn even-numbered years. Prereq., MATH 251, 305. Rigorous development of the theory of functions of several variables. Differentiability, Taylor's theorem, inverse and implicit function theorems, multiple integration, differential forms and Stokes' theorem.
UG 381 Discrete Optimization 3 cr. Offered spring. Prereq., MATH 153 (221 or 225 recommended). Intended for non-mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.

UG 382 Linear Optimization 3 cr. Offered autumn. Prereq., MATH 153 (221 recommended). Coreq., MATH 388 recommended. Intended for non-mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.

UG 388 Linear Optimization Laboratory 1 cr. Offered autumn. Coreq., MATH 382. Introduction to linear optimization software.

U 394 Seminar Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance in special work for advanced students.

U 395 Special Topics Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance of an individual student in doing independent study on material not offered in a regular course.

U 398 Cooperative Education Experience Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 406 History of Mathematics 3 cr. Offered spring. Prereq., MATH 305. Historical study of the development of mathematics from the Egyptian and Babylonian eras to the 20th century.


UG 418 Partial Differential Equations Computer Lab 1 cr. Offered spring. Coreq., MATH 412 or consent of instr. Intended primarily for students in MATH 412.

UG 421 Abstract Algebra I 4 cr. Offered autumn. Prereq., MATH 305. An introduction to modern ideas of algebra through the study of groups, rings, and fields.

UG 422 Abstract Algebra II 4 cr. Offered spring. Prereq., MATH 421. Continues the investigation of groups, rings, and fields begun in MATH 421. Further topics include vector spaces and field extensions.

UG 431 Euclidean and Non-Euclidean Geometry 3 cr. Offered autumn. Prereq., MATH 305; MATH 231 recommended. Euclidean geometry from a rigorous, axiomatic viewpoint and Non-Euclidean geometries chosen from Lobachevskian, projective, finite and Riemannian.

UG 441 Mathematical Statistics 3 cr. Offered autumn. Prereq., MATH 251 and 341 or consent of instr. An introduction to probability, random variables and their probability distributions, estimation and hypothesis testing. This course is the foundation on which more advanced statistics courses build.

UG 442 Mathematical Statistics 3 cr. Offered spring. Prereq., MATH 441. Continuation of 441.

UG 444 Statistical Methods 3 cr. Offered autumn. Prereq., one year of college mathematics including MATH 117 or equiv. course in probability or consent of instr. May not be counted toward a major in mathematics. Intended primarily for non-mathematics majors who will be analyzing data. Graphical and numerical summaries of data, elementary sampling, designing experiments, probability as a model for random phenomena and as a tool for making statistical inferences, random variables, basic ideas of inference and hypothesis testing.

UG 445 Statistical Methods 3 cr. Offered spring. Prereq., MATH 444. Continuation of MATH 444. May not be counted toward a major in mathematics. Multiple regression, experimental design, analysis of variance, other statistical models.

UG 447 Computer Data Analysis 1 cr. Offered autumn. Coreq., MATH 444 or consent of instr. An introduction to software for doing statistical analyses. Intended primarily for students in MATH 444.

UG 448 Computer Data Analysis 1 cr. Offered spring. Coreq., MATH 445 or consent of instr. Continuation of Math 447. Intended primarily for students in MATH 445.


UG 452 Complex Variables 4 cr. Offered spring. Prereq., MATH 251, 305. Analytic functions, complex integration, singularities and application to contour integration, harmonic functions, spaces of analytic functions.

UG 460 Math Club Seminar 1 cr. (R-6) Offered every semester. Prereq., consent of instr. Discussion seminar focused on current and historical topics and issues of interest to students in mathematics.


UG 485 Graph Theory 3 cr. Offered autumn. Prereq., MATH 325, or MATH 305 and 381, or consent of instr. Theory and applications of graphs. Topics chosen from trees, matchings, connectivity, coloring, planarity, Ramsey theory, random graphs, combinatorial designs and matroid theory.

UG 494 Seminar Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance in special work for advanced students.

UG 495 Special Topics Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance of an individual student in doing independent study on material not offered in a regular course.
U 498 Cooperative Education Experience Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 499 Senior Thesis Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Senior thesis for mathematics majors and/or Watkins Scholars.

G 500 Current Mathematical Curricula 3 cr. Offered intermittently. Prereq., undergraduate major or minor in mathematics. Analysis of contemporary materials for secondary school mathematics: the goals, the mathematical content, alternative methodologies, and curriculum evaluation.

G 501 Technology in Mathematics for Teachers 3 cr. Offered intermittently. Prereq., undergraduate mathematics major or minor. Technology usage—when it is appropriate and when it is not. Experience is provided with scientific calculators, graphing utilities, computers, and identification of exemplary software.

G 504 Topics in Math Education Variable cr. (R-12) Offered intermittently. Prereq., teacher certification. Topics of current interest which may include calculus, number theory, probability and statistics, geometry, or algebra, at a level suitable for teachers.

G 510 Problem Solving for Teachers 3 cr. Offered intermittently in summer. Prereq., undergraduate major or minor in mathematics. Strategies for problem solving, problem posing in a variety of situations, modeling and applications. Problems are selected from various areas of mathematics.

G 511 Advanced Mathematical Methods 3 cr. Offered autumn odd-numbered years. Prereq., MATH 311, 412 or 414.. Methods in applied mathematics related to the qualitative and quantitative solution of nonlinear and differential integral equations, dynamical systems, and perturbation methods. Applications of these methods to other sciences.

G 512 Advanced Mathematical Methods 3 cr. Offered spring even-numbered years. Prereq., MATH 511. Continuation of 511.

G 514 Topics in Applied Mathematics Variable cr. (R-12) Offered autumn even-numbered years. Prereq., consent of instr. or Math 511-512. Topics of current interest in applied mathematics, mathematical modeling, dynamic modeling, and optimal management in stochastic or deterministic environments.

G 520 Algebra for Teachers 3 cr. Offered intermittently in summer. Prereq., MATH 421 or equiv. Topics include algebraic number fields, linear algebra topics, and applications appropriate for secondary teachers.

G 521 Advanced Algebra I 3 cr. Offered alternate years. Prereq., MATH 422 or consent of instr. Topics covered include group theory, field theory and Galois theory.

G 522 Advanced Algebra II 3 cr. Offered alternate years. Prereq., MATH 521 or consent of instr. Continuation of 521; rings, modules, commutative algebra, and further topics.

G 524 Topics in Algebra I 3 cr. Offered alternate years. Prereq., MATH 422 or consent of instr. May include algebraic geometry, category theory, Lie algebras, or advanced linear algebra.

G 525 Topics in Algebra II 3 cr. Offered alternate years. Prereq., MATH 524 or consent of instr. Continuation of 524.

G 526 Discrete Mathematics for Teachers 3 cr. Offered intermittently in summer. Prereq., MATH 305 or consent of instr. Elements and operations of finite structures, combinatorics, recursion, graph theory, matrix representations, and finite state transition models.

G 530 Geometries for Teachers 3 cr. Offered intermittently in summer. Prereq., MATH 431 or equiv. Comparison of synthetic, analytic, vector, and transformational approaches to geometry. Includes classification of geometries, geometric representations, axioms, and the applications of modern geometries.

G 531 Topology 3 cr. Offered autumn even-numbered years. Prereq., MATH 451 or consent of instr. Set theory, topological spaces, metrizability, continuous mappings and selected topics.

G 532 Topology 3 cr. Offered spring odd-numbered years. Prereq., MATH 531 or consent of instr. Continuation of 531.

G 540 Probability and Statistics for Teachers 3 cr. Offered intermittently in summer. Prereq., MATH 341 or equiv. A survey of modern topics in probability and statistics. Emphasis will be on applications of statistics in real situations.

G 541 Advanced Mathematical Statistics 3 cr. Offered intermittently. Prereq., MATH 442. Advanced theory of estimation and hypothesis testing including large sample theory.

G 542 Applied Linear Models 3 cr. Offered autumn even-numbered years. Prereq., MATH 442 or consent of instr. Numerical and graphical data summaries, simple and multiple regression and analysis of variance, including estimation, hypothesis testing, residual analysis, diagnostics, and model-building strategies. Use of the computer and real data sets integrated throughout.

G 543 Applied Multivariate Statistical Analysis 3 cr. Offered spring even-numbered years. Prereq., MATH 445 or MATH 442, or consent of instr. Introduction to multivariate statistical methods and applications. Includes appropriate linear algebra, random vectors, multivariate normal distribution, multivariate ANOVA, principal components, clustering, discriminant analysis, and related topics. Use the computer and real data sets integrated throughout. Intended for students in mathematics and in other fields.

G 544 Topics in Probability and Statistics 3 cr. (R-12) Offered intermittently. Prereq., MATH 442 and consent of instr. May include theory of nonparametric statistics, generalized linear models, stochastic processes or other topics chosen by the instructor.

G 545 Theory of Linear Models 3 cr. Offered autumn odd-numbered years. Prereq., MATH 442. Multivariate normal distribution, distribution of quadratic forms, estimation and hypothesis testing in the full rank and less than full rank general linear models.

G 547 Applied Nonparametric Statistics 3 cr. Offered autumn odd-numbered years. Prereq., MATH 441 or 445 or consent of instr. Statistical estimation and inference based on ranks and elementary counting methods. Applications to a variety of situations including one- and two-sample, correlation, regression, analysis of variance, and goodness-of-fit problems. Use of the computer and real data sets integrated throughout. Intended for students in mathematics and in other fields.

G 549 Applied Sampling 3 cr. Offered autumn even-numbered years. Theory and application of methods for selecting samples from populations in order to efficiently estimate parameters of interest. Includes simple random, systematic, cluster, stratified, multistage, line transect, distance and adaptive sampling. Use of the computer and
real data sets integrated throughout. Intended for students in mathematics and in other fields.

G 550 Analysis for Teachers 3 cr. Offered intermittently in summer. Prereq., MATH 251 or equiv. Notions of limits, continuity, differentiation, and integration in $\mathbb{R}^n$.

G 551 Real Analysis 3 cr. Offered spring even-numbered years. Prereq., MATH 451 or consent of instr. Measure theory, abstract integration theory, theory of Lp-spaces.

G 555 Functional Analysis 3 cr. Offered spring odd-numbered years. Prereq., MATH 451 or consent of instr. Normed linear spaces, linear functionals, separation theorems, topological linear spaces, weak topologies, dualities.

G 564 Topics in Analysis 3 cr. (R-12) Offered autumn odd-numbered years. Prereq., consent of instr. Research projects or topics in analysis. May include but not restricted to Banach algebras, Fourier analysis, Harmonic analysis, Hilbert space theory, integral equations, or operator theory.

G 581 Combinatorics 3 cr. Offered autumn odd-numbered years. Prereq., consent of instr. Theory and applications of combinatorial mathematics. Topics chosen from enumeration, combinatorial analysis, and graph theory.

G 582 Optimization 3 cr. Offered autumn even-numbered years. Prereq., consent of instr. Theory and applications of optimization. Topics chosen from linear, non-linear, and discrete optimization, including duality theory, convexity and networks.

G 584 Topics in Combinatorics and Optimization 3 cr. (R-12) Offered spring odd-numbered years. Prereq., consent of instr. Topics chosen from the areas of combinatorics and optimization. May include classical problems, current trends, research interests or other topics chosen by the instructor.

G 593 Professional Project Variable cr. (R-6) Offered autumn and spring. Prereq., consent of advisor.

G 595 Special Topics Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 597 Research Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 598 Cooperative Education Experience Variable cr. (R-12) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Thesis Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr.

G 600 Mathematics Colloquium 1 cr. (R-3) Offered autumn and spring. Prereq., consent of advisor.

G 602 Teaching College Mathematics 3 cr. Prereq., second year standing in graduate school. Topics include publishing, grant writing, writing in mathematics classes, media use in mathematics, evaluation and assessment of curricular materials and programs, instructional methods in university mathematics courses, and other selected topics.


G 606 Current Topics in the History of Mathematics 3 cr. Examination of mathematical history topics from the latter part of the 20th century. Discussions may focus on the impact of Hilbert’s Problems. Research on current mathematics.

G 610 Graduate Seminar in Applied Mathematics Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 620 Graduate Seminar in Algebra Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 630 Graduate Seminar in Geometry/Topology Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 640 Graduate Seminar in Probability and Statistics Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 650 Graduate Seminar in Analysis Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 670 Graduate Seminar in Numerical Analysis Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 680 Graduate Seminar in Combinatorics and Optimization Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 691 Research Methods in Mathematics Education 3 cr. Prereq., consent of instr. Resources for learning of reported research, critical reviews of research, quantitative and qualitative processes.

G 694 Seminar Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 699 Dissertation Variable cr. (R-9) Offered autumn and spring.

Faculty

Professors
Rudy A. Gideon, Ph.D., University of Wisconsin, 1970
James J. Hirstein, Ed.D., University of Georgia, 1976 (Chair)
Leonid Kalachev, Ph.D., Moscow State University, 1987
P. Mark Kayll, Ph.D., Rutgers University, 1994 (Associate Chair)
Johnny W. Lott, Ph.D., Georgia State University, 1973
Jennifer McNulty, Ph.D., University of North Carolina at Chapel Hill, 1993
D. George McRae, Ph.D., University of Washington, 1967
David A. Patterson, Ph.D., University of Iowa, 1984
Karel M. Stroethoff, Ph.D., Michigan State University, 1987
Thomas Tonev, Ph.D., Moscow State University, 1973

Associate Professors
Jonathan Graham, Ph.D., North Carolina State University, 1995
Libby Krussel, Ph.D., Oregon State University, 1994 (on leave 2004-2005)
Greg St. George, Ph.D., The University of Montana, 1989
Brian Steele, Ph.D., The University of Montana, 1995
Nikolaus Vonessen, Ph.D., Massachusetts Institute of Technology, 1988

Assistant Professors
John Bardsley, Ph.D., Montana State University, 2002
Adam Nyman, Ph.D., University of Washington, 2001
Bharath Sriraman, Ph.D., Northern Illinois University, 2002
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Lecturers
Lauren Fern, M.S., Northern Illinois University, 1994
Matt Roscoe, M.Ed., The University of Montana, 2000
Regina Souza, Ph.D., Massachusetts Institute of Technology, 1990
Carol Ulsafer, Ph.D., The University of Montana, 1984

Emeritus Professors
William R. Ballard, Ph.D., University of Chicago, 1957
Charles A. Bryan, Ph.D., University of Arizona, 1963
William R. Derrick, Ph.D., Indiana University, 1966
Stanley I. Grossman, Ph.D., Brown University, 1969
Gloria C. Hewitt, Ph.D., University of Washington, 1962
Don O. Loftsgaarden, Ph.D., Montana State University, 1964
Merle E. Manis, Ph.D., University of Oregon, 1964
Robert W. McKelvey, Ph.D., University of Wisconsin 1954
William M. Myers, Jr., Ph.D., Ohio State University, 1952
Howard E. Reinhardt, Ph.D., University of Michigan, 1959
George F. Votruba, Ph.D., University of Michigan, 1964
I. Keith Yale, Ph.D., University of California, Berkeley, 1966

Department of Military Science

Reserve Officers Training Corps
Heather J. Ierardi, Chair

Army ROTC (Reserve Officers' Training Corps) offers college students the opportunity to serve as commissioned officers in the U.S. Army, the Army National Guard, or the U.S. Army Reserve upon graduation. ROTC enhances a student's education by providing unique leadership and management training, along with practical leadership experience. Students develop many of the qualities basic to success while earning a college degree and an officer's commission at the same time.

Four-Year Program. The four-year Army ROTC program is divided into two parts, the Basic Course and the Advanced Course.

Basic Course. The basic course is usually taken during the first two years of college and covers such subjects as management principles, national defense, military history, and leadership development. In addition, a variety of outside social and professional enrichment activities are available. All necessary ROTC textbooks, uniforms, and other essential materials for the basic course are furnished to students at no cost. After they have completed the basic course, students who have demonstrated the potential to become officers and who have met the physical and scholastic standards are eligible to enroll in the Advanced Course.

Elective credit is granted for military science courses and the freshman and sophomore years (Basic Course) may be taken without incurring any military obligation. Compression of the Basic Course into two semesters may be arranged for those students who did not take military science courses during the freshman year.

Basic course classes include adventure training such as rappelling and small arms marksmanship. Additional opportunities also are available to conduct small unit training exercises at Lubrecht Forest.

Army ROTC Scholarship. Students receiving Army ROTC scholarships and enrolling in Basic Course classes must sign an oath of loyalty to the U.S. Constitution, as directed by the Congress of the United States, and will be required to complete enrollment forms specified by the Department of the Army.

Advanced Course. The Advanced Course is usually taken during the final two years of college. Instruction includes organization and management, tactics, ethics, professionalism, and further leadership development. Uniforms and equipment in the Advanced Course are furnished to students at no cost. Advanced Course students are required to purchase all textbooks (ROTC scholarship cadets are provided a book stipend each semester). During the summer between their junior and senior years of college, Advanced Course cadets attend the National Advance Leadership Camp (NALC), a fully paid five-week leadership practicum. NALC gives cadets the chance to practice what they have learned in the classroom and introduces them to Army life in the field. Completion of the Advanced Course requires two years of study. Each cadet in the Advanced Course receives a subsistence allowance of up to $4,000 for each year of attendance.

Two-Year Program. The two-year program is for rising juniors and community college graduates, students at four-year colleges who did not take ROTC during their first two years of school, and students entering a two-year postgraduate course of study. To enter the two-year program, students must attend a fully paid four-week Leadership Training Course (LTC), normally held during the summer between their sophomore and junior years of college. At LTC, students learn to challenge themselves physically and mentally, and to build their confidence and self-respect. After they have successfully completed LTC, students who meet all enrollment requirements may enroll in the Advanced Course.

Scholarships and Financial Assistance. Army ROTC scholarships are offered for four, three and two years and are awarded on a competitive basis to the most outstanding students who apply. Four-year scholarships are awarded to students who will be entering college as freshmen. Two and three-year scholarships are awarded to students already enrolled in college and to Army enlisted personnel on active duty. Additionally, students who attend the LTC of the two-year program may compete for two-year scholarships while at the course. Each scholarship pays for college tuition and required educational fees and provides a specified amount for textbooks, supplies, and equipment. Each scholarship also includes a subsistence allowance of up to $4,000 for every year the scholarship is in effect. Special consideration for Army ROTC scholarships is given to students pursuing degrees in nursing, engineering, the physical sciences, and other technical areas. Additional room and board offset are available to deserving students. Students who receive scholarships are required to attain undergraduate degrees in the fields in which their scholarships were awarded.
Veterans. Veterans may apply their military experience as credit toward the ROTC Basic Course. If credit is granted, a veteran may omit the freshman and sophomore years of the program and enroll directly in the Advanced Course, when eligible.

Simultaneous Membership Program. This program allows students to be members of the Army National Guard or the Army Reserve and to enroll in Army ROTC at the same time.

**Courses**

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

**Military Science Leadership (MSL)**

A total of 24 credits are allowed toward the bachelor degree for contracted students. A total of 6 credits are allowed toward the bachelor degree for non-contracted students.

**U 101S Foundations of Officerhood 3 cr.** Offered autumn and spring. The Constitutional role of the military, military tradition, current defense posture, service roles and missions. An introduction to issues and competencies that are central to a commissioned officer's responsibilities. Establishes framework for understanding officerhood, leadership and army values.

**U 102 Basic Leadership 3 cr.** Offered autumn and spring. Establishes foundation of basic leadership fundamentals such as problem-solving, communications, goal setting and improving listening techniques. Introduction to the principles of military leadership and organizational values through discussion, observation and practice exercises.

**U 195 Special Topics Variable cr. (R-6)** Offered autumn. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 201 Individual Leadership Studies 3 cr.** Offered autumn. Demonstration and practice of individual military leadership skills with emphasis on communication and observation through experiential learning exercises. Establishes framework for understanding of "life skills" such as physical fitness and time management. Examination and practical application of tasks training and military style briefings.

**U 202 Leadership and Teamwork 3 cr.** Offered spring. Building successful teams through influencing actions and effective communication in setting and achieving goals. Use of creativity in the problem solving process. Introduction of individual and team aspects of military tactics in small unit operations. Practical exercises in techniques for training others as an aspect of continued leadership development.

**U 203 Ranger Challenge 2 cr. (R-4)** Offered autumn. Practical hands-on training in rappelling, rope bridge, land navigation, military weapons assembly/disassembly, and physical conditioning. A team selected from this class will represent the University in competition against four other colleges and universities within the Bigsky Task Force. Students may include up to but not more than four credits earned in the HHP 100-179 and DRAM 385 activity courses and MSL 203 and 315 in the total number of credits required for graduation.

**U 204 Leadership Practicum 1-4 cr. (R-4)** Offered autumn and spring. Prereq., consent of instr. Intensive supervised study in applied leadership and management development in an organizational setting.

**U 295 Special Topics Variable cr. (R-6)** Offered spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 301 Leadership and Problem Solving 3 cr.** Offered autumn. Prereq., consent of instr. Coreq., MSL 303. Developing a personal leadership philosophy; through the learning and application of various small unit leadership techniques. Fundamentals of leadership development, land navigation, troop leading, small units tactics, rappelling, rifle marksmanship and physical fitness. Study of the organization and operation of the U.S. Army as a profession. Students are required to attend one weekend field exercise during the semester.

**U 302 Leadership and Ethics 3 cr.** Offered spring. Prereq., consent of instr. Coreq., MSL 303. Continuation of the study and application of small unit leadership tasks. Advanced leadership skills taught including medical evacuation procedures, radio procedures, and increased involvement in planning and executing military operations in preparation for attendance at the National Advanced Leadership Camp at Fort Lewis, Washington. Students participate in rifle marksmanship instruction including qualification with the M16A2 rifle, rappel, and attend one weekend exercise with students from other universities in the area and the Montana Army National Guard.

**U 303 Leadership Laboratory 1 cr. (R-4)** Offered autumn and spring. Prereq., consent of instr. Coreq., MSL 301, 302, 401, or 402E. Practical application of skills learned in the classroom.

**U 315 Drill and Conditioning 1 cr. (R-4)** Offered autumn and spring. The study and application of military drill and ceremony: formation, ceremonies, and marching; the study of the fundamentals of the military physical conditioning program, and the practical application of skills learned. Physical education activity course; a maximum of four credits of activity courses may be counted toward graduation.

**U 395 Special Topics Variable cr. (R-9)** Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 401 Leadership and Management 3 cr.** Offered autumn. Prereq., consent of instr.; coreq., MSL 303. The application of leadership principles and techniques involved in leading young men and women in today's Army. Students explore training management. methods of effective staff collaboration and development counseling techniques. Develops student proficiency in planning and executing complex operations, functioning as a member of a staff and mentoring subordinates.

**U 402E Officerhood and Ethics 3 cr.** Offered spring. Prereq., consent of instr.; coreq., MSL 303. Study includes case study of military law and practical exercises on establishing an ethical command climate. Examines the role communications, values and ethics play in effective leadership. Students complete a semester long Senior Leadership Project that requires them to plan, organize, collaborate, analyze and demonstrate their leadership skills. Restricted to contracted Military Science students.

**U 404 Advanced Leadership Practicum Variable cr. (R-4)** Offered every term. Prereq., consent of instr. Required study and internship in military tactics, leadership and organizational behavior. Supervised by active duty military officers.
Department of Modern and Classical Languages and Literatures

Linda Gillison, Chair

Instruction is offered in the following languages and literatures: Arabic, Chinese, French, German, Greek, Japanese, Latin, Russian and Spanish, as well as in linguistics, foreign literatures in English translation, and the study of foreign cultures. Undergraduate courses have been planned to meet the needs of students who began studying a language in high school as well as those who undertake such study for the first time at the University.

The courses are intended to serve several purposes: (1) Contribute to the general education of students by giving them an opportunity to gain insight into patterns of living and thinking which are different from their own; (2) Enable students to gain proficiency in the language; (3) Prepare candidates for careers in research and college teaching by providing a solid basis for graduate studies in the various languages; (4) Prepare future teachers of foreign languages; (5) Give language training requisite to careers in government, foreign commerce and library work; (6) Enable students to read foreign publications and to meet graduate foreign language requirements in their field.

A 28 position multi-media computer laboratory and a joint 40 position language laboratory with facilities for video/audio individual and group interaction, computerized language programs, and satellite TV are used to supplement regular class work, and are available to give the individual student opportunity to develop active use of the language. Language tapes are available for individual student checkout from Instructional Materials Service.

The Department of Modern and Classical Languages and Literatures offers undergraduate majors in Classics (Greek and Latin), French, German, Japanese, Russian, and Spanish. Within the French or German major it is possible to elect options in linguistics. Within Classics, it is possible to elect options in Classical Languages (Latin and Greek), Classical Civilization, and Latin. There is an undergraduate minor in Chinese. The Master of Arts degree is offered in French, German and Spanish. A master degree with a concentration in linguistics. Within Classics, it is possible to elect an option in linguistics within the B.A. program.

High School Preparation: Credit is automatically granted for Advanced Placement scores of 3, 4, or 5. At each UM Orientation, the department offers a computerized placement/assessment examination in French, Spanish and German (the FCAPE, SCAPE and GCAPE). Students also can arrange individually to take the CLEP exam, administered by the Clinical Psychology Center in French, German or Spanish.

These exams are not required, but serve one or more of three purposes:

1. Exemption from the General Education Competency Requirement in Foreign Language: if the student achieves a score that indicates a competence equivalent to the completion of French, German, or Spanish 102 (second semester). (See the General Education Requirements section of this catalog.)

2. Placement for further study in the language: the score achieved on this test is an accurate indicator of the course level at which language study should be resumed at the University (e.g. 102, 201, 202).

3. Credit by examination: A student with extensive language study may score high enough on the placement exam to qualify for University credits if she or he places into 202 or 301. By taking the course into which she or he placed (202 or 301) and receiving a B (3.00) or better, the student may then receive four by-pass credits (Pass grade only) for the preceding course (201 or 202).

Students who elect not to take this exam may:

1. Satisfy the General Education Competency Requirement in Foreign Language by successfully completing a University foreign language 102 (second semester) course.

2. Estimate their placement level for further study by the approximate equating of one year of high school study to one semester of university study. Students should consult with the department in making this estimate.

The Department of Modern and Classical Languages and Literatures strongly recommends that foreign language majors take, as early as possible in their college career, Liberal Studies 151L-152L Introduction to the Humanities, and MCLG 160L Classical Mythology.

Foreign Study Programs. The Department of Modern and Classical Languages and Literatures offers programs of accredited study in Austria, France, Germany, Italy, Spain, Mexico, Japan, and Russia. Each program is supervised by a University of Montana department faculty member, and is open to any student who meets the respective foreign language prerequisites. Details concerning individual programs are available from the Department of Modern and Classical Languages and Literatures. The department also sponsors graduate student exchanges with the Universities of Heidelberg and Burgundy, as well as work/study internships abroad for students in French, German, and Japanese.
Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.
Total credits required for a major in a modern or classical language vary with the student’s high school preparation or language credit transferred from another college or university. Requirements for academic majors are set forth below under the various languages. Requirements for teaching majors and minors also are listed under the School of Education. Three semesters or equivalent of a second language are required for all students majoring in French, German, or Russian except: double majors, teaching majors, and students completing the linguistics option. English 101 must be completed by both academic and teaching majors or minors.
Students are required to maintain a minimum overall GPA of 2.5 in all upper-division courses within their major language presented in fulfillment of requirements for the language major.
All majors must register in the department and be assigned an advisor. A student is not considered a major in the Department of Modern and Classical Languages and Literatures until he or she has registered with the department.

Classics

Classical Languages Option:
1. Latin 101 to 212 inclusive or equivalent.
2. Greek 101 to 212 inclusive or equivalent.
3. At least 6 credits of Latin 300 and 6 credits of Greek 300.
4. Also required for majors are: LS 151L, and MCLG 160L, 301H, 303H.
5. The upper-division Writing Expectation will be fulfilled by completion of MCLG 301H, 302H, 303H, 320, or 365E.
6. Recommended for majors are: LS 251, 252L; MCLG 360H, 361L; PHIL 251H.
7. Students are required to maintain a minimum overall GPA of 2.5 in all upper-division LAT and GRK courses presented in fulfillment of requirements for the Classics/Classical Languages major.

Classical Civilization Option:
1. Latin 101 to 211 inclusive or equivalent or Greek 101 to 211 inclusive or equivalent or Latin 101-102 and Greek 101-102.
2. LS151L, MCLG 160L, PHIL 251H and nine (9) credits from MCLG 301H, 302H, 303H, 320, 360H, 361H.
3. Nine (9) additional credits from recommended or specially approved courses. Recommended courses are: MCLG 250, 251, 252L; LAT 212, 300; GRK 212, 300; PHIL 461, 463; RELS 311, 312.
4. The upper-division Writing Expectation will be fulfilled by completion of MCLG 301H, 302H, 303H, 320 or 365E.
5. Students are required to maintain a minimum overall GPA of 2.5 in all upper-division courses presented in fulfillment of requirements for the Classics/Classical Civilization major.

Latin Option:
1. Latin 101 to 212 inclusive or equivalent.
2. At least 15 credits of Latin 300. (Greek 101-102 may be substituted for 4 credits of Latin 300).
3. Latin 402, Composition.
4. MCLG 160H, 303H, 361L.
5. The upper-division Writing Expectation will be fulfilled by completion of MCLG 301H, 302H, 303H, 320 or 365E.
6. Students are required to maintain a minimum overall GPA of 2.5 in all upper-division LAT courses presented in fulfillment of requirements for the Classics/Latin major.

French
1. French 101 to 202 or equivalent.
2. At least 24 credits of upper-division work in French exclusive of repeated credits in composition and conversation (FREN 301 and 408). The 24 credits must include FREN 301, 302, 311L, 312L, 408, and at least 3 credits of 400-level literature courses. Of these specifically required courses, a minimum of 6 credits must be completed in courses with UM French faculty.
3. Three semesters, or equivalent, of another foreign language.
5. Students are required to maintain a minimum overall GPA of 2.5 in all upper-division FREN courses presented in fulfillment of requirements for the French major.
6. The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Linguistics Option:
For a complete listing of Linguistics offerings see Linguistics.
1. FREN 101 to 202 or equivalent.
2. FREN 401 or approved equivalent.
3. Eighteen credits of Linguistics, including: LING 270 or 470, 471, 473S.
4. Strongly recommended for the French major are: nine upper-division credits in literature and/or culture, and at least one course in the history of Europe.

German
1. German 101 to 202 or equivalent.
2. At least 24 credits of upper-division work in German, including 301, 302, 311L, 312L or 313L, 403 and at least two 3-credit courses in literature at the 400 level. Native or near-native speakers of German must substitute two 400-level courses for 301 and 302.
3. Three semesters, or equivalent, of another foreign language.
4. One semester in history of central or western Europe above the 100 level. One semester of German 303H, 304H, 355, 361L, or 362H.
5. Students are required to maintain a minimum overall GPA of 2.5 in all upper-division GERM courses presented in fulfillment of requirements for the German major.
6. The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Linguistics Option:
For a complete listing of Linguistics offerings see Linguistics.
1. GERM 101 to 202 or equivalent.
2. GERM 403 (or approved equivalent).
3. Eighteen credits of Linguistics, including: LING 270 or 470, 471, 473S.
4. Strongly recommended for the German major are: nine upper-division credits in literature and/or culture, and at least one course in the history of Europe.
Japanese
1. Japanese 101 to 202 or equivalent.
2. At least 26 credits of upper-division work in Japanese language courses and electives, including 301, 302, 411 (repeatable once), 415, and at least 12 credits from JPNNS 306, 311L, 312L, 386, 390 (up to 3 credits only), 393 (up to 3 credits only), 412, 431L, and 495. Japanese 395 also may be counted as an elective when the course is a Japanese literature, Japanese pedagogy/linguistics, or cultural course not part of basic Japanese language instruction.
3. Japanese 210H and at least two Asian studies or history courses on Japan or Asia at any level not in the Modern and Classical Languages and Literatures Department: for example, HIST 201H, 381H; AS 101H, 201H.
4. Students are required to maintain a minimum overall GPA of 2.5 in all upper-division JPNNS courses presented in fulfillment of requirements for the Japanese major.
5. The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Spanish
1. Spanish 101 through 202 or equivalent.
2. At least 24 credits of upper-division work in Spanish, 18 of which must be in the target language and must include 301 and 302. The remainder must include 305L and 306L.
3. Three semesters, or equivalent, of another foreign language.
4. One semester of Russian history.
5. Students are required to maintain a minimum overall GPA of 2.5 in all upper-division SPAN courses presented in fulfillment of requirements for the Spanish major.
6. The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Russian
1. Russian 101 to 202 or equivalent.
2. At least 24 credits of upper-division work in Russian, 18 of which must be in the target language and must include 301 and 302. The remainder must include 305L and 306L.
3. Three semesters, or equivalent, of another foreign language.
4. One semester of Russian history.
5. Students are required to maintain a minimum overall GPA of 2.5 in all upper-division RUSS courses presented in fulfillment of requirements for the Russian major.
6. The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Teacher Preparation in Foreign Languages
General Requirements for an Endorsement in the Extended Major, Major, and Minor Teaching Fields: For an endorsement in the extended major, major and minor teaching fields of French, German, Latin, Russian or Spanish, three semesters or equivalent of another foreign language are not required. Students must gain admission to Teacher Education and Student Teaching (see the School of Education section of this catalog). A departmental recommendation on the student’s proficiency is required for student teaching. An over-all minimum grade point average of 3.0 is required for upper-division work. Students must meet the requirements for certification as a teacher (see the School of Education section of this catalog).

Extended Major Teaching Field of French: For an endorsement in the extended major teaching field of French, a student must complete the requirements for the B.A. with a major in French including FREN 401 and MCLG 410. Study in a French-language country, provided either through the University’s Study Abroad Program or an experience considered to be equivalent, also is required.

French qualifies for a single-field endorsement. However, there is a limited demand in the majority of Montana high schools for teachers with a single endorsement in French. Students should complete the requirements for a second teaching endorsement (major or minor) in another field in more demand in high schools.

Minor Teaching Field of French: For an endorsement in the minor teaching field of French, a student must complete FREN 101-102, FREN 201-202, FREN 301, 302, 401 and MCLG 410. Study in a French-language country, provided either through the University’s Study Abroad Program or an experience considered to be equivalent, also is required.

Extended Major Teaching Field of German: For an endorsement in the extended major teaching field of German, a student must complete the requirements for the B.A. with a major in German plus GERM 270 and MCLG 410. Study in a German-language country, provided either through the University’s Study Abroad Program or an experience considered to be equivalent, also is required.

German qualifies for a single-field endorsement. However, there is a limited demand in the majority of Montana high schools for teachers with a single endorsement in German. Students are encouraged to complete the requirements for a second teaching endorsement (major or minor) in another field in more demand in high schools.

Minor Teaching Field of German: For an endorsement in the minor teaching field of German, a student must complete GERM 101-102, GERM 201-202, GERM 301, 302, 403, LING 270, and MCLG 410. Study in a German-language country, provided either through the University’s Study Abroad Program or an experience considered to be equivalent, also is required.

Major Teaching Field of Latin: For an endorsement in the major teaching field of Latin, a student must complete LAT 101-102, LAT 211-212, 6 credits of LAT 300, LAT 402, and MCLG 410.

Minor Teaching Field of Latin: For an endorsement in the minor teaching field of Latin, a student must complete LAT 101-102, LAT 211-212, 6 credits of LAT 300, LAT 402, and MCLG 410.
Major Teaching Field of Russian: For an endorsement in the major teaching field of Russian, a student must complete the requirements for the B.A. with a major in Russian including RUSS 301-302 and MCLG 410.

Minor Teaching Field of Russian: For an endorsement in the minor teaching field of Russian, a student must complete RUSS 101-102, RUSS 201-202, RUSS 301-302, 306L, and MCLG 410.

Extended Major Teaching Field of Spanish: For an endorsement in the extended major teaching field of Spanish, a student must complete the requirements for the B.A. with a major in Spanish including SPAN 301, 302, 405, 408 and MCLG 415. Study in a Spanish-language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required.

Spanish qualifies for a single-field endorsement. However, there is a limited demand in the majority of Montana high schools for teachers with a single endorsement in Spanish. Students are encouraged to complete the requirements for a second teaching endorsement (major or minor) in another field in more demand in high schools.

Minor Teaching Field of Spanish: For an endorsement in the minor teaching field of Spanish, a student must complete SPAN 101-102, SPAN 201-202, SPAN 301L or 312L, SPAN 405 and MCLG 410. Study in a Spanish-language country, provided either through the University’s Study Abroad Program or an experience considered to be equivalent, also is required.

Suggested Course of Study

The following is a sample first year program to aid students in planning their first year before they arrive on campus and have the opportunity to work out a full four-year course plan with their academic advisor. Each student intending to major or minor in a foreign language must consult with an advisor before registering. For any further information contact the Secretary, Department of Modern and Classical Languages and Literatures.

For freshmen without previous training in the major language (French, German, Russian, Spanish):

First Year

A S

Specific Recommendations:

Major language 101-102 Elementary ............... 5 5
LS 151L-152L Introduction to the Humanities ...... 4 4
HIST 105H-105H European Civilization .......... 4 4
ENEX 101 Composition ............................... 3

Suggested electives:

ENLT 120L-121L The Contemporary Imagination/
Introduction to Poetry .......................... (3) (3)
MCLG 160L Classical Mythology ................ (3) (3)
General Education courses in
Perspectives 1, 4, or 5 .................. 0-3 3-6

Requirements for a Minor

Minors are offered in Chinese, French, Business French, German, Japanese, Russian, Spanish, Classical Civilization, Latin and Greek.

Total credits required for a minor in a foreign language vary with a student’s high school preparation or language transferred from another college or university. A student with foreign language experience equivalent to 101-102, 201-202 may obtain the minor in French, German, or Russian by earning 12 credits at the upper-division level (see additional requirements for Spanish following). A student with no previous language experience, in order to earn a minor in one of the following languages, French, German, or Russian must complete a minimum of 30 credits in that language, 12 of which must be at the upper-division level. In Spanish the required number of upper-division credits is 18.

In Business French, upper-division courses must include 301, 302, and 306.

In Chinese, students must complete MCLG 280H and six credits in upper-division Chinese literature courses. With prior approval, three of these credits may be in China-focus­ed courses offered by other departments.

In German, upper-division courses must include 301, 302, 311, and 312, and students must maintain a minimum overall GPA of 2.5 in these courses. Native or near-native speakers of German must substitute two 400-level courses for 301 and 302.

In Japanese, the student must complete 101-102, 201-202 (or equivalent) and JPNS 210H, as well as 9 credits in Japanese literature or other courses from among the following: JPNS 306, 311L, 312L, 386, 390 (up to 3 credits only), 400 (up to 3 credits only), 412, 431L, and 495. Minoring students may substitute either Japanese 195 (3 credits) or Japanese 295 (3 credits) for one of the above. Also permitted in substitution would be one course from outside the department, if it has a substantial Japan-related element: Asian studies, Japanese history, etc. In Spanish, upper-division courses must include 301, 311 or 312, and a 400-level literature course.

To earn a minor in Classical Civilization the student must complete either Latin 102 or Greek 102: LS 151L, HIST 104H, MCLG 160L, and PHIL 251H; and nine (9) credits from: MCLG 251, 252L, 301H, 302H, 303H, 360H, 361H, 365E; LAT 211, 212, 300; GRK 211, 212, 300.

To earn a minor in Latin the student must complete LAT 211-212 and 9 credits in courses numbered 300 and above.

To earn a minor in Greek the student must complete GRK 211-212 and 9 credits in Greek numbered 300 and above.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Modern and Classical Literatures

These courses are given in English for the general student body and do not require knowledge of a foreign language. They do not count as language credit toward a B.A. degree in any given foreign language.

General Studies (MCLG)

U 100H Introduction to Latin American Studies 3 cr. Offered autumn. Same as ANTH 100H. Multi-disciplinary survey and introduction to Latin America from pre-Columbian times to the present.

U 160L Classical Mythology 3 cr. Offered every spring; offered intermittently in summer. Same as LS 160L. Deities and myths of the Greeks and Romans, with emphasis on those of most importance to Western literature and art.

U 170 Myth Seminar: Honors 1 cr. Offered every spring. Same as LS 170. Coreq., MCLG/LS 160L. Research, writing, and discussion about the mythologies of the Greeks and Romans in a small group setting.

U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.
U 198 Cooperative Education Experience Variable cr. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 210H Japanese Culture and Civilization 3 cr. Offered intermittently. Same as AS, JPNS and LS 210H. The historical religious, artistic, literary and social developments in Japan from earliest times to the present.

U 211H Chinese Culture and Civilization 3 cr. Offered intermittently. Same as AS and LS 211H. A comprehensive study of Chinese culture and civilization in the manifold aspects of anthropology, sociology, economics, art, literature, religion, and philosophy.

U 222L The German Cinema 3 cr. Offered intermittently. Same as LS 282L. The development of the German film from its beginnings in 1895 down through the contemporary New German Cinema. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, and the post-war film in East and West Germany. Credit not allowed for LS 282L, MCLG 222L and GERM 361L.

U 231H Germanic Mythology and Culture 3 cr. Offered intermittently. Same as LS 221H. Germanic culture and mythology from 200 B.C. to 1200 A.D. Topics include the Germanic pantheon, Germanic religious practices, Germanic migrations, and major literary masterpieces. Credit not allowed for LS 221H, MCLG 231H and GERM 362H.

U 250L Survey of Classical Greek and Latin Literature 3 cr. Offered autumn odd-numbered years. Same as LS 250L. Primary literature of major Greek and Latin authors of the classical period. Emphasis on the development of genres and on Greece’s influence upon Rome. All readings in English.

U 251L The Epic 3 cr. (R-6) Offered intermittently. Same as LS 251L. Reading, study and discussion of epic poems. Selections will vary from Western and non-Western traditions.

U 252L Tragedy 3 cr. (R-6) Same as LS 252L. Offered intermittently. A study of the literary, artistic and philosophical dimensions of tragedy. Selections will vary.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 301H Classical Greece 3 cr. Offered autumn odd-numbered years. Same as HIST 301H. Greek history from the earliest times through the Macedonian ascendency, based on the writings of Greek historians.

UG 302H Classical Greece II: Ancient Greek Social History 3 cr. Offered spring even-numbered years. Same as HIST 302H. Various aspects of personal, social, and political life of classical times in Greece. Primary readings in various ancient authors supplemented by audio-visual or other informational presentations.

UG 303H Classical Rome 3 cr. Offered autumn even-numbered years. Same as HIST 303H. Roman history from the time of the Kings through the early Empire, based on the writings of the Roman historians.

UG 305L Introduction to Russian Literature 3 cr. Offered autumn. Same as LS and RUSS 305L. A survey of Russian poetry and prose from their beginnings (medieval period) to mid-nineteenth century. Included are the works of Karamzin, Pushkin, and Lermontov.

UG 306L Introduction to Russian Literature 3 cr. Offered spring. Same as LS and RUSS 306L. A survey of Russian poetry and prose from the mid-nineteenth century through the Symbolist period of the early 20th century. Included are the works of Gogol, Turgeniev, Dostoievsky, Tolstoy, and the Symbolists.

U 309 Reading the City: Rome 3 cr. Offered autumn. Same as LS 309. Prereq., previous acceptance in subsequent intersession Italy program. Overview of the history of Rome from its beginnings until modern times, with lectures on various periods and artists across the spectrum of Italian art history. Orientation to the city of Rome, practicalities of life and study in the city.

UG 311L Classical Japanese Literature in English Translation 3 cr. Offered autumn. Same as JPNS 311L. Introduction to the classical literature of the Japanese court, ca. 7th to 14th century. Kojiki, Man’yoshu, Kokinshu, Genji Monogatari, and other major classics of the period.

UG 312L Japanese Literature from Medieval to Modern Times in English Translation 3 cr. Offered spring. Same as JPNS 312L. Introduction to the literature of Japan from the 15th to the 20th century.

UG 313L Classical Chinese Poetry in English Translation 3 cr. Offered intermittently. Same as AS, CHIN, and LS 313L. The works of major Chinese poets to 1300 A.D.

UG 314L Traditional Chinese Literature in English Translation 3 cr. Offered intermittently. Same as AS, CHIN, and LS 314L. Highlights of Chinese literature to 1800; includes philosophy, poetry, prose, and fiction.

U 315L Major Hispanic Authors and Their Times 3 cr. Offered autumn. Same as LS 315L. The intensive study of the life times, and works of a major Hispanic author.

U 319 UM Students in Rome 1 cr. Offered intermittently. Prereq., MCLG 309. Approximately three-week experience in Rome. Study of the classical, medieval, and modern city. Presentation of research on site.

U 320 Women in Antiquity 3 cr. Offered autumn odd-numbered years. Same as LS and WS 320. Examination of varied sources from Ancient Greece, the Hellenistic World, and republican and imperial Rome to clarify the place of women in communities. Women’s contribution to community and the mechanisms by which communities attempted to socialize female populations.

U 330H German Culture to 1900 3 cr. Offered spring. Same as LS 321H. Overview of major events and currents in German culture to 1900 with emphasis on the arts, literature, and intellectual movements. Credit not allowed for both MCLG 330H and GERM 303.

U 331H German Culture from 1900 to Present 3 cr. Offered spring. Same as LS 322H. Overview of major events and currents in German culture from 1900 to the present with emphasis on the arts, literature, and intellectual movements. Credit not allowed for MCLG 331H and GERM 304.

U 338 The French Cinema 3 cr. (R-6) Offered intermittently. Same as FREN and LS 338. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realisme, Nouvelle Vogue, etc.) with an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.

U 345 Introduction to Spanish Section Study Abroad Program 3 cr. Offered autumn semester. Introduction to spring semester study abroad program in Spain or Latin America.
U 358 Latin American Civilization through Literature and Film 3 cr. Offered in autumn odd-numbered years. The development of the traditional society of Latin American civilization through the interaction of European, Indian and African elements. Credit not allowed for both LS/MCLG 358 and SPAN 359.

UG 360H Ancient Greek Civilization and Culture 3 cr. Offered autumn even-numbered years. Same as ART 380H and LS 340H. Slide-lecture course. Ancient Greek works of art and architecture, related to and explained by contemporary ideas and values of Greek society.

UG 361L Roman, Early Christian and Byzantine Art 3 cr. Offered autumn odd-numbered years. Same as ART 381L and LS 341L. A survey of developing styles in painting, mosaic and building, with attention to philosophic and religious content and its influence on later ages. Slide lectures.

U 365E The Roots of Western Ethics 3 cr. Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr. Same as LS 325E. Studies of the origins of Western ethical theories in the original writings of Greek philosophers and their application to current situations.

U 380L Chinese Folktales 3 cr. Same as LS 31L. Offered intermittently. The study of the aspirations, desires, loves, fears, moral and aesthetic values of the Chinese people as expressed in their folk-stories.

U 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offering of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

U 396 Independent Study 1-9 cr. (R-9) Offered intermittently.

U 398 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 410 Methods of Teaching Foreign Languages 3 cr. Offered spring. Prereq., one of FREN 401, GER 403, LAT 300, RUSS 302, or SPAN 405. Fundamental concepts, objectives and techniques in teaching of languages.

UG 413 Soviet Russian Literature 3 cr. Offered autumn. Same as RUSS 413. A chronological survey of Soviet Russian literature since 1917.

UG 431L Post-War Japanese Literature 3 cr. Offered spring odd-numbered years. Same as JPNS 431L. Introduction to issues, literature, and criticism of Japanese literature from the postwar (1945) through the contemporary period, using texts in English translation.


UG 440 Studies in Comparative Literature 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Same as ENLT 430 and LS 455. The study of important literary ideas, genres, trends and movements. Credit not allowed for the same topic in more than one course numbered 440, 494, ENLT 430 or LS 455.

U 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 494 Seminar in Foreign Literatures 1-3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Specialized topics in various foreign literatures. Topics announced in class schedules. Credit not allowed for the same topic in more than one course numbered 440, 494 or LS 455.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

G 501 Research Methods 3 cr. Offered intermittently. Prereq., graduate standing in an M.A. program. Study of technical terms and overview of literary theory. Intensive analysis of research tools, materials and methods in literature, linguistics and pedagogy. Guided work in writing components of a research paper or thesis. Required of both thesis and non-thesis candidates for an advanced degree in French, German, Spanish, or Interdisciplinary Studies which includes Classics.

G 522 Seminar in Comparative Literature 3 cr. (R-9) Offered intermittently. Prereq., graduate standing. Same as ENLT 522. Topics will vary.

G 594 Graduate Seminar Variable cr. (R-6) Offered intermittently.

G 596 Independent Study Variable cr. (R-6) Offered intermittently.

G 598 Cooperative Education Experience Variable cr. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

Linguistics (MCLX)

U 395 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 470 Introduction to Linguistic Analysis 3 cr. Offered autumn and spring. Same as ANTH, LING 470. Introduction to the field of modern linguistics and to the nature of language. Emphasis on linguistic analysis.

UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Arabic (ARAB)

U 101 Elementary Modern Standard Arabic 5 cr. Offered autumn. Active skills in elementary modern standard Arabic: listening, speaking, reading, and writing, plus basic cultural study.

U 102 Elementary Modern Standard Arabic 5 cr. Offered spring. Continuation of ARAB 101. Active skills in elementary modern standard Arabic: listening, speaking, reading, and writing, plus basic cultural study.

U 295 Special Topics Variable cr. (R-8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Chinese (CHIN)

U 101 Elementary Chinese I 6 cr. Offered autumn. Emphasis on speaking, reading and writing elementary Mandarin.


U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.
U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.


U 202 Intermediate Chinese II 6 cr. Offered spring. Prereq., CHIN 201 or equiv. Continuation of 201.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 301 Advanced Chinese I 3 cr. Offered autumn. Prereq., CHIN 202 or consent of instr. Advanced Chinese, with emphasis on literary style, advanced grammar, and literary oral expression.

U 302 Advanced Chinese II 3 cr. Offered spring. Prereq., CHIN 301 or consent of instr. Advanced Chinese, with emphasis on literary style, advanced grammar, and literary oral expression.

U 313L Classical Chinese Poetry in English Translation 3 cr. Offered intermittently. Same as AS, MCLG, and LS 313L. The works of major Chinese poets to 1300 A.D.

U 314L Traditional Chinese Literature in English Translation 3 cr. Offered intermittently. Same as AS, MCLG, and LS 314L. Highlights of Chinese literature to 1800; includes philosophy, poetry, prose, and fiction.

U 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 395 Special Topics 1-12 cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.


UG 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

French (FREN)

U 101 Elementary French I 5 cr. Offered autumn. Active skills: listening, speaking, reading and writing plus basic cultural analysis.


U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 201 Intermediate French I 4 cr. Offered autumn. Prereq., FREN 102 or equiv. Expansion of active skills: listening, speaking, reading, writing plus further cultural analysis.

U 202 Intermediate French II 4 cr. Offered spring. Continuation of 201.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 295 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.


U 302 French Civilization and Culture 3 cr. (R-6) Offered spring. Prereq., FREN 301 or consent of instr. Chronological/topical study of French culture.


U 307 La Bourgogne 2 cr. Offered spring. Prereq., FREN 202 or equiv. Survey of the province of Burgundy, its history, culture, literature, art, and institutions. Only for students registered for the Burgundy Study Abroad Program.

U 311L Survey of French Literature 3 cr. Offered spring. Prereq., FREN 202 or equiv. French literature of the Middle Ages, Renaissance and 17th century.

U 312L Survey of French Literature 3 cr. Offered spring. Prereq., FREN 301 or consent of instr. French literature of the 18th, 19th, and 20th centuries.

UG 338 The French Cinema 3 cr. (R-6) Offered intermittently. Same as MCLG and LS 338. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realisme, Nouvelle Vague, etc.) With an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.

U 355 Special Topics in French Language, Literature, and Culture 1-3 cr. (R-9) Offered intermittently. To be taken in conjunction with the Burgundy Study Abroad Program.

U 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 396 Independent Study 1-3 cr. (R-3) Offered intermittently.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 401 Applied Linguistics 3 cr. Offered autumn. Prereq., FREN 301 and LING 270 or consent of instr. Same as LING 401. Contrastive phonology (including phonetics), morphology and syntax.

UG 408 Advanced Composition and Conversation 3 cr. (R-6) Offered spring. Prereq., FREN 301 and 311L or 312L or consent of instr. Intensive practice in writing and speaking French; close examination of different levels of usage and style.


UG 430 Studies in French Drama 3 cr. Offered intermittently. Prereq., FREN 311L and 312L. Evolution of textuality from the Renaissance to the 20th century: the theatre.

UG 485 Topics in the Linguistic Structure of French 3 cr. (R-6) Offered intermittently. Prereq., FREN 401 or LING 270 and consent of instr. Same as LING 485. Synchronous and diachronic topics in French phonology, morphology, syntax and lexicon.

U 493 Omnibus Variable cr. (R-9) Offered intermittently. Independent work under the University omnibus option. See index.

UG 494 Seminar Variable cr. (R-12) Offered autumn and spring. Prereq., FREN 202, 311L and 312L. Studies in major authors, periods or genres or linguistic and/or pedagogical areas.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 540 Advanced Topics in the Teaching of French Variable cr. (R-4) Offered autumn. Prereq., graduate standing. Study of problems encountered by the French teacher: lesson planning, testing, use of supplementary materials, contribution of linguistics to the foreign language classroom. Methods and techniques of teaching culture.

G 594 Graduate Seminar 3 cr. (R-6) Offered autumn and spring. Prereq., graduate standing.

G 595 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., graduate standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., graduate standing.

G 599 Professional Paper 1-3 cr. (R-6) Offered intermittently. Prereq., graduate standing.

G 699 Thesis Variable cr. (R-9) Offered intermittently. Prereq., graduate standing.

German (GERM)

U 101 Elementary German I 5 cr. Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.

U 102 Elementary German II 5 cr. Offered spring. Prereq., GERM 101. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading, and writing.

U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 201 Intermediate German I 4 cr. Offered autumn. Prereq., GERM 102 or equiv. Continuation of active skills approach to German listening, speaking, reading, and writing.

U 202 Intermediate German II 4 cr. Offered spring. Prereq., GERM 201 or equiv. Continuation of 201.

U 301 Oral and Written Expression I 3 cr. Offered autumn. Prereq., GERM 202 or equiv. Native or near-native speakers of German may not apply credit for this course toward a German major or minor.

U 302 Oral and Written Expression II 3 cr. Offered spring. Prereq., GERM 301 or equiv. Native or near-native speakers of German may not apply credit for this course toward a German major or minor.

U 303H German Culture to 1900 3 cr. Offered intermittently in spring. Prereq., GERM 202 or consent of instr. Overview of major events and currents in German culture to 1900 with emphasis on the arts, literature, and intellectual movements. Lectures in English. Credit not allowed for both MCLG 330H and GERM 303.

U 304H German Culture from 1900 to the Present 3 cr. Offered intermittently in spring. Prereq., GERM 202 or consent of instr. Overview of major events and currents in culture of German-speaking world from 1900 to the present with emphasis on the arts, literature, and intellectual movements. Lectures in English. Credit not allowed for both MCLG 331H and GERM 304.

U 305 Practicum in German Language 4 cr. Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Heidelberg, Germany and/or Vienna, Austria. Concentration on grammar topics and advanced language usage.

U 311L Introduction to German Literature: Prose 3 cr. Offered autumn. Prereq., GERM 202 or equiv.

U 312L Introduction to German Literature: Drama and Poetry 3 cr. Offered spring. Prereq., GERM 202.

U 313L Introduction to German and Austrian Theater 3 cr. Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Heidelberg, Germany and/or Vienna, Austria. Introduction to the basics of German-speaking theater. Students read, discuss, and analyze plays before seeing them performed on stage.

U 355 Introduction to German and Austrian Culture 3 cr. Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Heidelberg, Germany and/or Vienna, Austria. Introduction to cultural topics, current events, and historical topics of Germany and Austria. Course content supplemented with on-site visits.

U 360 Advanced Conversation in German 3 cr. Offered intermittently. Offered in the study program in Heidelberg, Germany and/or Vienna, Austria. Development of conversational skills.

U361L The German Cinema 3 cr. Offered intermittently. The development of the German film from its beginnings in 1895 down through the contemporary New German Cinema. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, the post-war film in East and West Germany, and film in unified Germany. Credit not allowed for LS 282L or MCLG 222L and GERM 361L.

U 362H Germanic Mythology and Culture 3 cr. Offered intermittently. Germanic culture and mythology from 200 B.C. to 1200 A.D. Topics include the Germanic pantheon, Germanic religious practices, Germanic migrations and major literary masterpieces. Credit not allowed for LS 221H, MCLG 231H and GERM 362H.

U 393 Omnibus Variable cr. (R-10) Offered intermittently. Prereq., consent of instr. Independent work under the university omnibus option. See index.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., GERM 202 or equiv. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study 1-12 c.r. Offered intermittently. Prereq., consent of instr.

U 398 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 403 Applied Linguistics 3 cr. Offered autumn even-numbered years. Same as LING 403. Specific problems in contrastive analysis of phonology, morphology and syntax.
UG 431 German Literature from 1760 to 1832 3 cr. Offered autumn. Prereq., GERM 311L and 312L or consent of instr. Readings, study, and discussion of writers, texts, and contexts in German literature from 1760 to 1832, including Enlightenment, Storm and Stress, Romanticism, and Classicism.

UG 441 19th Century German Literature 3 cr. Offered autumn. Prereq., GERM 311L and 312L or consent of instr. Readings, study, and discussion of writers, texts, and contexts in German literature from 1832 to 1900.

UG 451 20th Century German Literature to 1945 3 cr. Offered spring. Prereq., GERM 311L and 312L or consent of instr.

UG 452 20th Century German Literature Since 1945 3 cr. Offered spring. Prereq., GERM 311L and 312L or consent of instr.

UG 493 Omnibus Variable cr. (R-10) Offered intermittently. Prereq., consent of instr. Independent work under the University omnibus option. See index.

UG 494 Seminar in German Studies Variable cr. (R-12) Offered autumn. Prereq., GERM 311L and 312L. Advanced studies in major topics in German literature and culture.

UG 495 Special Topics 1-9 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 500 Directed Readings 1-3 cr. (R-6) Offered intermittently. Prereq., undergraduate major in German.


G 594 Graduate Seminar 3 cr. (R-6) Offered intermittently. Prereq., graduate standing.

G 595 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., graduate standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., graduate standing. Out-of-class independent work of a research nature which involves intensive use of the University or other libraries; also research carried on in another country under the direction of a University professor.

G 599 Professional Paper 1-3 (R-6) Offered intermittently. Prereq., graduate standing.

G 699 Thesis Variable cr. (R-9) Offered intermittently. Prereq., graduate standing.

Greek (GRK)

U 101 Elementary Greek I 5 cr. Offered autumn. Introduction to Classical Greek, designed to enable the student to read Greek authors in the original Greek as rapidly as possible. Based upon selected texts from Plato, Xenophon, Menander, New Testament, Tragedians, and other major authors.

U 102 Elementary Greek II 5 cr. Offered spring. Prereq., GRK 101. Continuation of 101. Greek grammar, vocabulary, readings of ancient Greek writings with the aid of a lexicon.

U 211 Greek Readings 3 cr. Offered autumn. Prereq., GRK 102 or equiv. Attic prose and poetry Plato, Thucydides, Xenophon, Euripides.

U 212 Greek Readings 3 cr. Offered spring. Prereq., GRK 211 or equiv. Readings from Homer’s Iliad.

UG 300 Major Greek Writers 3 cr. (R-12) Offered autumn and spring. Prereq., GRK 212 or equiv. Homer, lyric poets, Aeschylus, Sophocles, Euripides, Aristophanes, Herodotus, Thucydides, Xenophon, Plato, Aristotle, Hellenistic philosophers, New Testament, etc. Selection to fit students' interests and programs.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study 1-9 cr. (R-9) Offered intermittently. Consent of instr.

Japanese (JPNS)

U 101 Elementary Japanese I 5 cr. Offered autumn. Understanding of grammar and basic sentence structures are taught as a foundation for oral comprehension. The students will learn Hiragana and Katakana, two syllabic writing systems, and approximately 400 Kanji ideographs.


U 195 Special Topics Variable cr. (R-6) Offered spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 201 Intermediate Japanese I 5 cr. Offered autumn. Prereq., JPNS 102 or equiv. Reading and writing kanji; building oral/aural fluency.

U 202 Intermediate Japanese II 5 cr. Offered spring. Prereq., JPNS 201 or equiv. Continuation of JPNS 201.

U 210H Japanese Culture and Civilization 3 cr. Offered intermittently. Same as MCLG and LS 210H. The historical, religious, artistic, literary and social developments in Japan from earliest times to the present.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 301 Advanced Japanese 4 cr. Offered autumn. Prereq., JPNS 202 or equiv. Development of greater reading and speaking proficiency. Vocabulary enhancement and kanji (Chinese characters) are emphasized.

U 302 Advanced Japanese 4 cr. Offered spring. Prereq., JPNS 301 or equiv. Continuation of 301.

UG 306 Japanese for Business and Tourism 3 cr. Offered autumn. Vocabulary and idiom of oral and written communication in business and tourism. Professional, ethical practices and special etiquette.

UG 311L Classical Japanese Literature in English Translation. 3 cr. Offered autumn. Same as MCLG 311L. Introduction to the classical literature of the Japanese court, ca. 7th to 14th century. Kojiki, Man yoshu, Kokinshu, Genji Monogatari, and other major classics of the period.

UG 312L Japanese Literature from Medieval to Modern Times in English Translation 3 cr. Offered spring. Same as MCLG 312L. Introduction to the literature of Japan from the 15th to the 20th century.

UG 386 History of the Japanese Language 3 cr. Offered intermittently. Prereq., JPNS 202. Overview of Japanese language history from earliest times to the modern day. Topics include the development of writing systems, changes in phonology, and issues concerning orthography and lexicon.
U 390 Supervised Internship 1-12 cr. Offered intermittently. Paid work experience in Japan, combined with language/culture course work by correspondence directed by UM department staff.

U 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 395 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 411 Modern Japanese Writers and Thinkers 3 cr. (R-6) Offered autumn or spring. Prereq., JPNS 302. Introduction to the important writers, thinkers, and poets of the 20th century. Readings include topics in the humanities, including philosophy, history, sociology, and the arts.


UG 415 Advanced Japanese for Professionals 3 cr. Offered spring even-numbered years. A high-level professional language course covering all coordinated reading, writing, and speaking skills. Intended for majors hoping to enter the Japanese job market and prepare for professional testing in Japan.

UG 431L Post-War Japanese Literature 3 cr. Offered spring odd-numbered years. Same as MCLG 431L. Introduction to issues, literature, and criticism of Japanese literature from the postwar (1945) through the contemporary period, using texts in English translation.

UG 495 Special Topics 1-9 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 500 Directed Readings in Japanese Text 1-3 cr. (R-3) Offered intermittently. Prereq., undergraduate major in Japanese or equiv. Guided readings in a selected research field.

Latin (LAT)

U 101 Elementary Latin I 5 cr. Offered autumn. The first course of a two semester sequence designed to impart to the student a solid foundation in the Latin language. Successful completion of the sequence will enable the student to read any Latin author.


U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 211 Latin Reading and Grammar Review 4 cr. Offered autumn. Prereq., LAT 102 or equiv. Selections of Latin prose from the classical period, with complementary exercises in elementary composition.

U 212 Latin Readings: Vergil 3 cr. Offered spring. Prereq., LAT 211 or equiv. Latin epic poetry: Vergil's Aeneid.

UG 300 Major Latin Authors 3 cr. (R-18) Offered autumn and spring. Prereq., LAT 212 or equiv. Plautus, Terence, Lucretius, Livy, Cicero, Vergil, Horace, Ovid, Tacitus, Juvenal, Pliny, Martial, etc.; also, Early Church fathers, Medieval and Renaissance Latin. Selection to suit students' needs and interests.

U 393 Omnibus Variable cr. (R-9) Offered intermittently. Independent work under the University omnibus option. See index.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 402 Advanced Prose Composition 3 cr. Offered intermittently. Prereq., LAT 212 or equiv. Latin prose composition, based on the best classical models.

UG 496 Independent Study 1-12 cr. (R-12) Offered intermittently.

G 596 Independent Study 1-6 cr. (R-6) Offered intermittently.

Russian (RUSS)

U 101 Elementary Russian I 5 cr. Offered autumn.

U 102 Elementary Russian II 5 cr. Offered spring. Prereq., RUSS 101 or equiv. Continuation of 101.

U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 201 Intermediate Russian I 4 cr. Offered autumn. Prereq., RUSS 102 or equiv.

U 202 Intermediate Russian II 4 cr. Offered spring. Prereq., RUSS 201. Continuation of 201.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 301 Oral and Written Expression 3 cr. Offered autumn. Prereq., RUSS 202 or consent of instr. Emphasis on active use of Russian. Intensive practice in conversation and practice in writing on different levels of usage and style.

U 302 Russian Culture and Civilization 3 cr. Offered spring. Prereq., RUSS 301 or consent of instr. An introduction to various aspects of Russian cultural life.

UG 305L Introduction to Russian Literature 3 cr. Offered autumn. Same as MCLG and LS 305L. A survey of Russian poetry and prose from their beginnings (medieval period) to the nineteenth century.

UG 306L Introduction to Russian Literature 3 cr. Offered spring. Same as MCLG and LS 306L. A survey of Russian poetry and prose from the mid-nineteenth century through the Symbolist period of the early 20th century. Included are the works of Gogol, Turgenev, Dostoevsky, Tolstoy, and the Symbolists.

U 393 Omnibus Variable cr. Offered intermittently. University omnibus option for independent work. See index.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements
off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 411 19th Century Major Russian Authors 3 cr. Offered intermittently in autumn. Prereq., RUSS 202. A study of various authors; may include Dostoevsky, Pushkin, Tolstoy, etc.

UG 412 20th Century Major Russian Authors 3 cr. Offered intermittently in spring. Prereq., RUSS 202. A study of one author in depth; may be Solzhenitsyn, Sholokhov and others.


UG 430 20th Century Russian Literature Between the Wars (1914-1941) 3 cr. Offered intermittently in spring. Prereq., RUSS 202 or consent of instr. Important trends in fiction and theory later suppressed by the Social Realism.

UG 431 20th Century Russian Literature: Contemporary Period 3 cr. Offered intermittently in spring. Prereq., RUSS 202 or consent of instr. Focus on post-Stalinist Russian literature and culture including the contemporary post-modern fiction and theory.

UG 440 Russian Poetry 3 cr. Offered intermittently in autumn. Prereq., RUSS 202 or consent of instr. The evolution of Russian poetry from the end of the 18th century to the early 20th century.

UG 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Spanish (SPAN)

U 101 Elementary Spanish 1 5 cr. Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading and writing.


U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 201 Intermediate Spanish I 4 cr. Offered autumn. Prereq., SPAN 102. Continued practice in the oral skills with added emphasis on grammar and reading proficiency.

U 202 Intermediate Spanish II 4 cr. Offered spring. Prereq., SPAN 201. Continuation of 201.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 301 Oral and Written Expression in Cultural Contexts 3 cr. Offered autumn and spring. Prereq., SPAN 202 or equiv. Development of oral and written skills with an emphasis on Hispanic cultural context.

U 302 Spanish Phonetics 3 cr. Offered autumn and spring. Prereq., SPAN 202 or consent of instr. Applied phonetic theory: practice in feature identification and transcription of Spanish from an articulatory point of view.


U 308 Intensive Spanish Abroad 1-9 cr. (R-9) Offered spring. Prereq., SPAN 202 or equiv. Intensive Spanish language course to coincide with intensive language course given at an institute or college during the Spanish Study Abroad Program. Credits vary according to the hours and intensity of the foreign language course and are determined by the director of the program.

U 311L Introduction to Contemporary Spanish Literature 3 cr. Offered autumn. Prereq., SPAN 202 or equiv. The study of contemporary works by peninsular authors, including an introduction to literary genres.

U 312L Introduction to the Literature of Contemporary Latin America 3 cr. Offered spring. Prereq., SPAN 202 or equiv. The study of representative works by Latin-American authors with emphasis on the 20th century. Includes an introduction to literary genres.


U 355 Special Topics in Hispanic Literature and Culture Variable cr. (R-9) Offered intermittently in spring. Prereq., SPAN 311L or 312L or consent of instr.

U 359 Spanish-American Civilization through Literature and Film 3 cr. Offered spring. Prereq., at least one upper-division class in Spanish and SPAN 301. Same as MCLG and LS 359. The development of the traditional society of Spanish American civilization through the interaction of European, Indian, and African elements. Credit not allowed for both LS/MCLG 358 and SPAN 359.

U 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 405 Applied Linguistics 3 cr. Offered autumn. Prereq., SPAN 302 and LING 270. Same as LING 405. Topics and issues from various linguistic approaches, selected for their applicability to the teaching of Spanish.

UG 408 Advanced Composition and Conversation 3 cr. Offered spring. Prereq., SPAN 301 or consent of instr. Intensive practice in writing on different levels of usage and style, combined with guided oral practice.

UG 420 Spanish Literature: Renaissance and Golden Age 3 cr. (R-6) Offered autumn even-numbered years. Prereq., 311L or 312L or consent of instr.

UG 430 Spanish Literature: Modern and Contemporary 3 cr. (R-6) Offered spring even-numbered years. Prereq., 311L or 312L or consent of instr.

UG 450L Latin American Literature 3 cr. (R-6) Offered spring odd-numbered years. Prereq., 311L or 312L or consent of instr. Emphasis on major works of the 20th century.

U 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

UG 494 Seminar Variable cr. (R-12) Offered intermittently. Prereq., SPAN 311L or 312L. Studies in major authors, periods, or genres.

UG 495 Special Topics 1-9 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-6 cr. (R-6) Offered intermittently.
G 500 Directed Readings 1-3 cr. (R-6) Offered intermittently. Prereq., undergraduate major in Spanish.
G 594 Graduate Seminar 3 cr. (R-6) Offered intermittently. Prereq., graduate standing.
G 595 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., graduate standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
G 596 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., graduate standing. Out-of-class independent work of a research nature which involves intensive use of University or other libraries; also research work carried on in another country under the direction of a University professor.
G 599 Professional Paper 1-3 cr. (R-6) Offered intermittently. Prereq., graduate standing.
G 699 Thesis Variable er.

Faculty

Professors
Robert W. Acker, Ph.D., University of Texas at Austin, 1974
Christopher Anderson, Ph.D., University of Iowa, Iowa City, 1990
Hayden Ausland, Ph.D., University of California, Berkeley, 1987
Anthony F. Beltramo, Ph.D., Stanford University, 1972
Maria Jose Bustos Fernandez, Ph.D., University of Colorado, 1990
Gerald A. Fetz, Ph.D., University of Oregon, 1972 (Dean, College of Arts and Sciences)
Linda Rutland Gillison, Ph.D., University of Minnesota, 1975 (Chair)
Dennis R. McCormick, Ph.D., University of Texas at Austin, 1972
Sigyn Minier, Ph.D., University of Connecticut, 1977
Ludmila Prednewa, Ph.D., University of Pennsylvania, 1982
Judith N. Rabinovitch, Ph.D., Harvard University, 1981
Stanley L. Rose, Ph.D., University of Wisconsin, 1969
James M. Scott, Ph.D., University of Washington, 1986 (Associate Dean, College of Arts and Sciences)

Associate Professors
Elizabeth Graff Ametsbichler, Ph.D., University of Maryland at College Park, 1992
Hiltrudis Arens, Ph.D., University of Maryland, 1997
Timothy Bradstock, Ph.D., Harvard University, 1984
M. Ione Crummy, Ph.D., Stanford University, 1992
Clary Loisel, Ph.D., University of Florida, 1996
Yuka Tachibana, Ph.D., Tohoku University, 1999
Michel Valentin, Ph.D., University of Minnesota, 1980

Assistant Professors
Fazia Aitel, Ph.D., City University of New York, 2000
Charles Cabell, Ph.D., Harvard University, 1999
Eduardo Chirinos, Ph.D., Rutgers University, 1997
Jannine Montauban, Ph.D., Rutgers University, 2000
Ona Renner-Fahey, Ph.D., Ohio State University, 2003
Matthew S. Semanoff, Ph.D., University of Wisconsin, 2002

Lecturer
Brisa Tueltli, M.A., Universidad de las Americas-Puebla, 2001

Adjunct Assistant Professor
Zhen Cao, Ed.D., The University of Montana, 1997

Adjunct Instructors
Samir Bitar, Advanced Level Arabic G.C.E., 1974
Alicia Gignoux, M.A., The University of Montana, 1994
Claire Mouflard, Licence, University of Burgundy, 2004
Elisabeth Panuner, University of Vienna
Kenneth Wiering, M.A., Loyola University Chicago, 2002

Emeritus Professors
Kenneth C. Brett, Ph.D., University of Wisconsin, 1972
Raymond L. Corro, Ph.D. University of Utah, 1971
Maureen Cheney Curnow, Ph.D., Vanderbilt University, 1975
James A. Flightner, Ph.D., State University of New York at Buffalo, 1971
John G. Hay, Ph.D., University of Minnesota, 1973
Horst Jarka, Ph.D., University of Vienna, 1955
Gertrud Lackschewitz, Ph.D., Goettingen University, 1954
David K. Loughran, Ph.D., Johns Hopkins University, 1969
Philip H. Lutes, Ph.D., University of Michigan, 1969
Ward H. Powell, Ph.D., University of Colorado, 1956
O. W. Rolfe, Ph.D., Stanford University, 1967
John B. Wang, Ph.D., University of Maryland, 1967

Emeritus Associate Professor
Robert R. Brock, M.A., University of Washington, 1961
Department of Native American Studies

Kathryn W. Shanley, Chair

Native American studies is an academic discipline committed to examining the contemporary and past experiences and life ways of the first Americans from their perspective. The curriculum is designed to provide a study of American Indians from a holistic and humanistic viewpoint by focusing upon their cultural, historical, and contemporary life. Courses are designed for both Native American and non-Native American students so they can better understand human similarities and differences, thereby leading to the development of better communications and interpersonal relationships.

The Native American studies major supports the objectives of a liberal arts education. The curriculum helps students develop cultural breadth through the study of Native American perspectives and world view. At the same time, the tribal perspective of the major offers students a broader view of history and cultural change than is ordinarily found in the traditional liberal arts courses and is appropriate to the pluralistic society of our time. As a result, the Native American studies major is interdisciplinary, offering courses from literature to history, and provides a perspective that critically analyzes and evaluates the strengths and limitations of each contributing discipline.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

For the Bachelor of Arts with a major in Native American Studies, students must complete a minimum of 39 credits, 30 credits in Native American studies plus nine elective credits which can be met within the department or out-of-department. The required NAS courses are: 100H, 200, 201H, 202L, 301E, 303E, 341S, 465H, 466H, and 494. The nine credits met optionally out-of-department may be chosen from the following: ANTH 180S, 323H, 330H; HIST 365, 366, 467; and SOC 308S.

Beyond the requirement of 30 credits in NAS, students have the option to take an additional 17 credits from NAS as electives for a maximum of 47 credits in NAS courses. These electives include NAS 195, 295, 300, 324H, 329, 342H, 388, 394, 395, 400, 496, and 499.

The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

As part of the major's liberal arts and interdisciplinary focus, all students completing the major must complete a minor in another field. The department recommends cognate areas of study for the minor including anthropology, history, sociology, and political science. Students also are encouraged to pursue a double major. The department recommends a compatible major in one of the following disciplines: anthropology, English, modern or classical languages and literatures, history, linguistics, political science, sociology, or social work. Students who pursue a second major are not required to complete a minor in addition to the second major.

Suggested Course of Study

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<thead>
<tr>
<th>First Year</th>
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<tbody>
<tr>
<td>ENEX 101 Composition</td>
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<td>MATH 107 Contemporary Mathematics</td>
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<tr>
<td>NAS 100H Introduction to Native American Studies</td>
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<tr>
<td>NAS 201H Indian Culture as Expressed Through Language</td>
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<th>Second Year</th>
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<tr>
<td>NAS 200 Native American Studies Research and Writing Methods</td>
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<tr>
<td>NAS 202L Oral and Written Traditions of the Native American</td>
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<tr>
<td>General Education</td>
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<tr>
<td>NAS 301E American Indian Religion and Philosophy</td>
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<tr>
<td>NAS 303E Ecological Perspectives in Native American Traditions</td>
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<td>3</td>
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<tr>
<td>NAS 341S Contemporary Issues of American Indians</td>
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<tr>
<td>Upper-division writing course</td>
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<td>NAS 465H History of Indian Affairs to 1865</td>
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<tr>
<td>NAS 466H History of Indian Affairs Since 1865</td>
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<td>3</td>
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<tr>
<td>NAS 494 Readings in Native American Studies</td>
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Requirements for a Minor

To earn a minor in Native American studies the student must complete the following requirements:

1. Complete NAS 100H, 202L, 301E and 303E.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Native American Studies (NAS)

U 100H Introduction to Native American Studies 3 cr.
Survey course to acquaint the student with Native American studies by a general overview of Indian history, culture, philosophy and religious beliefs.
U 195 Special Topics Variable cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196 Cooperative Education Experience Variable cr. (R-6) Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 200 Native American Studies Research and Writing Methods 3 cr. Prereq., NAS major or minor. Introduction to the research materials pertaining to the study of American Indian peoples and cultures. Emphasis on current research trends and writing.

U 201H Indian Culture as Expressed through Language 3 cr. Introduction to the language of American Indian peoples. Understanding, through the language, the history, traditions, and modern life of Indian peoples.

U 202L Oral and Written Traditions of Native America 3 cr. Analysis of the oral traditions of Native Americans including a study of the literary works of early leading American Indian writers.

U 231 Indigenous World View Perspectives 3 cr. Offered even-numbered years. Same as ANTH 231. Examination of indigenous belief systems, with regard to world views, religious ceremonies, cultural ways and the impact that Anglo-European culture has had upon these systems. Focus on indigenous peoples of Australia, New Zealand, and North America from Canada and the United States.

U 295 Special Topics Variable cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 300 American Indian Education 3 cr. A study of modern Indian education to the present; examination of Johnson O'Malley funding for Indian education; and a look at the unique needs of the Indian child.

U 301E American Indian Religion and Philosophy 3 cr. Prereq., lower-division course in Perspective 5 or consent of instr. Same as RELS 301E. A study of selected ethical systems; origins, world views, religious beliefs and the way they have been affected by western civilization.

U 303E Ecological Perspectives in Native American Traditions 3 cr. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.

U 324H Indians of Montana Since the Reservation Era 3 cr. Offered autumn odd-numbered years. Same as ANTH 324H. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.

U 329 Native American Literature 3 cr. Prereq., three credits of lower-division ENLT courses and NAS 100H or 202L. Same as ENLT 329. Selected readings from Native American Literature with special emphasis on the literature of writers from the Rocky Mountain West.

U 341S Contemporary Issues of American Indians 3 cr. Same as ANTH 341S. An examination of the major issues that affect the contemporary experiences of American Indians.

U 342H Gender Studies in Native American Studies 3 cr. Offered intermittently. Same as WS 342H. Focus on American Indian gender relations and their cultural continuity and historical evolution. National in scope with concentration on certain tribes. Group analysis of contemporary gender issues relevant to Native American peoples.

U 367H Art of the Ancient Americas 3 cr. Prereq., consent of instr. Same as ART 367H. Development of major ceremonial and urban centers throughout the Americas before the coming of Europeans. Analysis of how the visual arts articulate ancient world views or cosmologies in relation to nature. Focus on various strategies of reading the structure and meaning encoded in the layout of cities, stone sculpture, wall murals, ceramics, precious metals, and textiles.

UG 368H Latin American Art 3 cr. Prereq., consent of department. Same as ART 368H. Offered alternate years. Exploration of themes in the development of Latin American art from the colonial period to the present, including Renaissance ideals in the "New World", syncretism of European, African, and indigenous roots, the Black Legend, and the advent of such movements as Academism, Modernism, Social Realism, Magic Realism, and Post-Modernism.

UG 388 Native American Health and Healing 3 cr. Same as ANTH 388. Offered alternate years. Examination of traditional and contemporary uses of medicine in Native American societies. Issues discussed will be the current health status of American Indians, the relationship between medicine and culture, and introduction to various techniques for assessing health status of American Indian populations.

U 394 Seminar Variable cr. (R-6) Offered alternate years. Variable topics addressing Indian law, policy and culture by visiting scholars.

U 395 Special Topics Variable cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-6) Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 400 Tribal Sovereignty 3 cr. Offered alternate years. An examination of the evolution of tribal governments from a historical and political perspective. Particular attention is devoted to the issues of tribal sovereignty and tribal-state conflicts.

UG 410L Studies in Native American Autobiography 3 cr. Offered intermittently. Same as ENLT 429L. Prereq., ENLT 301 or ENLT/NAS 329, or consent of instr. Study of texts that present a first-person story of an American Indian individual’s life within historical and cultural contexts, with discussion of theories of autobiography.

UG 465H History of Indian Affairs to 1865 3 cr. Same as HIST 465H. A study of tribal encounters and adjustments to European and American powers.

UG 466H History of Indian Affairs Since 1865 3 cr. Same as HIST 466H. A study of tribal encounters and adjustments to the American nation from 1865.

U 494 Reading Seminar in Native American Studies 3 cr. (R-6) Offered spring. Prereq., NAS major or minor, 18 credits in NAS, and junior standing or higher. Senior reading capstone course for the review of past and current literature on and by American Indians.

UG 495 Special Topics Variable cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-6) Prereq., upper-division standing and consent of instr. Selected topics on American Indians under the direct supervision of a faculty member.

U 499 Senior Thesis in Native American Studies 3-9 cr. (R-9) Offered every term. Prereq., NAS major or minor, 18 credits in NAS, junior standing, and consent of instr. Independent research project in Native American Studies, supervised by a faculty member, and leading to completion of baccalaureate degree.
College of Arts and Sciences - Nonprofit Administration - 139

G 560 Methods and Sources in Native American Studies 3 cr. Prereq., consent of instr. Methods, sources for, and actual experience in the use of field observations, interviews, special collections, federal records, and library materials in Native American studies research and writing. Required of all Native American studies affiliated graduate students.

G 594 Seminar in Native American Studies 1-3 cr. (R-6) Prereq., consent of instr.

G 595 Special Topics Variable cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-6) Prereq., consent of instr. Study of selected topics or problems on American Indians under the direct supervision of a faculty member.

G 598 Cooperative Education Experience Variable cr. (R-6) Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

Faculty
Professor
Richmond L. Clow, Ph.D., University of New Mexico, 1977

Associate Professors
David R. M. Beck, Ph.D., University of Illinois at Chicago, 1994
Stephen Greyemorning, Ph.D., University of Oklahoma, 1992
Kathryn W. Shanley, Ph.D., University of Michigan, 1987
(Chair)

Assistant Professor
Wade M. Davies, Ph.D., Arizona State University, 1998

Instructor
Angelica Lawson, A.B.D., University of Arizona, 2001

Adjunct Professors
George Price, M.A., The University of Montana, 1996
Robert Stahl, Ph.D., The University of Oklahoma, 1978

Nonprofit Administration

Jonathan R. Tompkins, (Professor of Political Science), Advisor

The interdisciplinary minor in nonprofit administration concentrates on nonprofit board and committee development, fund raising principles and practices, nonprofit financial management, human resource development, nonprofit management and program planning, risk management, and nonprofit marketing. It is designed to complement students' major areas of study and prepare them to enter careers in the nonprofit sector.

Students pursuing the nonprofit administration minor will have the option to obtain certification from the national American Humanics organization if they complete additional requirements that include participation in the campus-based student association, extra-curricular training sessions and events, and attendance at a national American Humanics Management Institute. The director of the Office for Civic Engagement serves as the director for the national certification program. Students should contact that office for information regarding certification.

Requirements for a Minor

Students must complete successfully 21 credits in the following courses:

1. PSC 466 Nonprofit Management and Public Service, 3 cr.
2. PSC 467 Advanced Nonprofit Management, 3 cr.
3. PSC 498 Nonprofit Internship, 3 cr.
4. Twelve credits from at least four of the following six areas:

a. Communication Skills
   - COMM 110S, Introduction to Interpersonal Communication
   - COMM 240S Communication in Small Groups
   - COMM 320 Introduction to Organizational Communication
   - COMM 420 Advanced Organization Communication

b. Youth and Adult Development
   - PSYC 240S Child and Adolescent Development
   - PSYC 245 Adult Development and Aging
   - SOC 330S Juvenile Delinquency
   - SOC 335 Juvenile Justice System

c. Human Resources Development and Supervision
   - PSC 460 Human Resource Management
   - RECM 380 Recreation Administration and Leadership

d. Nonprofit Program Planning
   - RECM 230 Programming in Recreation
   - RECM 485 Recreation Planning (for RECM majors only)

e. Nonprofit Marketing
   - MKTG 363 Marketing Communications (prereq., 360)
   - MKTG 495 Nonprofit Marketing (prereq., 360)

f. Nonprofit Accounting/Financial Management
   - ACCT 201 Financial Accounting
Department of Philosophy

Burke Townsend, Chair

Philosophy is the search for an understanding of how the world as a whole hangs together and of how we are to assume our place in the world. Philosophy pursues its goal first of all historically. It is the trustee of the heritage of great philosophical texts, and it engages those texts in a conversation with contemporary problems. Second, philosophy turns to the contemporary world directly and tries to illuminate and advance its concerns with ethics and art, with science and technology, with ecology and feminism, with law and medicine. Bachelor of Arts and Master of Arts degrees are offered.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

The following requirements must be completed for the Bachelor of Arts degree with a major in philosophy: a minimum of 33 credits including PHIL 210, 215, 251H and 252H; at least 21 credits in courses numbered 300 and above, including PHIL 300E, and one course for each of the following groups: History (PHIL 450, 453, 461, 463); Value Theory (PHIL 323E, 325E, 421E, 422E, 427E, 429E, 441E, 443E, 444, 477); Continental (PHIL 465, 467); Logic and Analytic Philosophy (PHIL 410, 411, 469, 471). A PHIL 395 or 495 Special Topics course may be used to count as a course from any of the above four groups as its topic makes appropriate (consult the department advisor).

Majors are expected to complete lower-division requirements before beginning upper-division work. No credit toward the major will be awarded for any course in which the student receives a grade less than a C.

The Upper-division Writing Expectation must be met by successfully completing PHIL 300E and 480.

All philosophy majors must complete at least three semesters of a foreign language or certify equivalent competency. Recommended languages for philosophy are Greek, Latin, French, and German.

Suggested Course of Study

First Year

PHIL 100 Introduction to Philosophy ............... 3 -
PHIL 210 Introduction to Logic ................. 3 -
ENEX 101 Composition ......................... 3 -
Foreign language .......................... 5 5
HIST 104H, 105H or 107H, 108H .......... 4 4
European Civilization .......................... 4 4
College mathematics course .......................... 3 -
Total ........................................... 15 15

Second Year

PHIL 215 Philosophical Reasoning ............... 3 -
PHIL 251H History of Ancient and Medieval Philosophy ............... 3 -
PHIL 252H History of Modern Philosophy ............... 3 -
PHIL 300E Systematic Ethics .......................... 3 -
Foreign language .................................. 4 -
LS 151L and 152L Introduction to the Humanities ............... 4 4
Electives and General Education ............... 6 -
Total ........................................... 14 16

Students should not neglect mathematics and the physical and biological sciences in choosing elective courses. Philosophy majors are encouraged to pursue a minor in another discipline.

Requirements for a Minor

To earn a minor in philosophy the student must complete: PHIL 210, 215, 251H, 252H, 300E, and an additional course numbered above 300.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Philosophy (PHIL)

U 100 Introduction to Philosophy 3 cr. (R-12) Offered intermittently. An introduction to philosophy through examination of the thought of selected great philosophers or of traditional positions on classical philosophical problems.

U 105 Topical Introduction to Philosophy 3 cr. Offered intermittently. An introduction to philosophy through examination of a selected theme. Themes will vary; existentialism, technology and the good life, justice, environmental value, and science and society are examples.

U 119H Philosophical Perspectives on Women in the Western Hemisphere 3 cr. Offered intermittently. Same as LS and WS 119H. Introduction to the discipline and scope of Western philosophy focusing on women as the subject rather than men. A chronological study following the ideological development in the West of social attitudes and scientific theses.

U 190 Supervised Internship 1-6 cr. (R-6) Offered intermittently. Prereq., consent of faculty supervisor and department chair.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 198 Cooperative Education Experience 1-6 cr. (R-6) Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 200E Ethics: The Great Traditions 3 cr. Offered every term. An examination of the Western vision of morality through the careful study of selected writings from Aristotle, Kant and Mill. Additional works in ethics may supplement primary readings.

U 201E Political Ethics 3 cr. Offered autumn and spring. An examination of the issues of political ethics through the careful study of selected writings from the three great Western political traditions: classical natural law theory, modern individualism, and contemporary distributive justice.

U 210 Introduction to Logic: Deduction 3 cr. Offered autumn and spring. Understanding general principles of reasoning and the habits of clear and correct thinking. Emphasis on the analysis of the logical structure of claims in natural language and the skills of elementary deductive inference.


U 215 Philosophical Reasoning 3 cr. Offered autumn. Prereq., consent of instr. Focus on basic skills essential to success in philosophy: careful reading, critical analysis, and
well-structured writing. Emphasis on repeated practice in recognizing, reading, analyzing, and writing philosophical arguments. Intended primarily for philosophy majors and minors.

U 223E Business and Ethics 3 cr. Offered intermittently. An analysis of ethical conflicts that may arise in business.

U 251H History of Ancient and Medieval Philosophy 3 cr. Offered autumn. The origin of philosophy in ancient Greece; its development in the Roman Empire; its encounter with the Jewish, Christian and Islamic traditions.

U 252H History of Modern Philosophy 3 cr. Offered spring. A survey of the history of philosophy from Descartes to Hegel, which includes other Continental Rationalists, the British Empiricists, and Kant.

U 290 Supervised Internship Variable cr. (R-9) Offered intermittently. Prereq., consent of faculty supervisor and department chair.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study 1-6 cr. (R-6) Offered intermittently.

U 298 Cooperative Education Experience Variable cr. (R-9) Offered intermittently. Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus.

U 300E Systematic Ethics 3 cr. Offered spring. Prereq., PHIL 215. Development of the fundamental principles grounding moral reasoning in the Western tradition. A more thorough treatment of the material offered in PHIL 200E intended for the philosophy major or prepared student interested in a rigorous introduction to the foundations of ethics.

U 325E Morality and the Law 3 cr. Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr. Analysis of moral reasoning in Anglo-American law, emphasizing certain ethical and legal concepts and the role of the Supreme Court.

U 327E Environmental Ethics I 3 cr. Offered autumn. Same as EVST 327E. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment. Issues parallel to those in PHIL 427E, but presented in a manner available to those without prior experience in philosophy. Credit not allowed for both EVST/PHIL 327E and EVST/PHIL 427E.

U 340L Aesthetics 3 cr. Offered intermittently. Prereq., upper-division standing. The nature of aesthetic experience, of the standards of art criticism, and of the kinds of knowledge communicated by art. Readings from philosophers, artists, and art critics.

U 390 Supervised Internship 1-12 cr. (R-12) Offered intermittently. Prereq., consent of faculty supervisor and department chair.

U 393 Omnibus Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Independent work under the University Omnibus option. See index.

U 394 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

U 397 Research Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

U 398 Cooperative Education Experience 1-12 cr. (R-12) Offered intermittently. Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus.

U 410 Formal Logic: Scope and Limits 3 cr. Offered intermittently. Prereq., PHIL 210 or equiv. A systematic study of first-order logic, including development of standard metalanguage and the significance of modern formal methods.

U 411 Philosophy of Science 3 cr. Offered intermittently. Prereq., upper-division standing. A consideration of philosophical issues relating to the nature of modern physical science: method, explanation, theory, progress, space/time, causality, relation of science to philosophy.

U 421E Medical Ethics 3 cr. Offered intermittently. Prereq., upper-division standing and lower-division course in Perspective 5, or consent of instr. An examination of ethical problems raised by the practice of medicine and by recent developments in medically-related biological sciences.

U 422E Contemporary Moral and Political Theory 3 cr. Offered intermittently. Prereq., upper-division standing and PHIL 200E or 201E. Recent theories in ethics and their implications; recent work in political theory, emphasizing contemporary liberalism and its critics.

U 427E Environmental Ethics II 3 cr. Offered spring. Prereq., lower-division course in Perspective 5 or consent of instr. Same as EVST 427E. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment. Issues parallel to those in PHIL 327E, but considered from a more philosophically sophisticated perspective. Credit not allowed for both EVST/PHIL 327E and EVST/PHIL 427E.

U 429E Feminist Ethics 3 cr. Offered intermittently. Prereq., lower-division perspective 5 course or consent of instr. PHIL 200 strongly recommended. Examination of the implications for philosophic ethics of the claim that Western men and women have different moral perspectives.

U 441E Philosophy in Literature 3 cr. Offered intermittently. Prereq., upper-division standing or consent of instr. Philosophical thought in selected works of literature.

U 443E Ethics and Public Affairs 3 cr. Offered intermittently. Prereq., lower-division perspective 5 course or consent of instr. Examination of morally relevant issues in government, journalism, education and other social institutions. Issues considered include deception, confidentiality, conflicts of interest, privacy, paternalism, responsibilities in conflict with other institutions and responsibilities across national boundaries, among others.

U 444 Topics in the Philosophy of the Arts 3 cr. (R-9) Offered intermittently. Prereq., upper-division standing. Examination of philosophical problems related to the particular art form or discussion of the nature of the arts. Topics include music, visual arts, literature, and film.

U 450 Classical Modern Philosophy 3 cr. (R-6) Offered autumn even-numbered years. Prereq., PHIL 252H or consent of instr. Intensive reading of one major philosopher from the rationalist tradition (Descartes, Spinoza or Leibniz) and one from the empiricist tradition (Locke, Berkeley or Hume).

U 453 Kant 3 cr. Offered intermittently. Prereq., PHIL 252H or PHIL 450 or consent of instr. Reading and interpretation of selected works.

U 461 Plato 3 cr. Offered intermittently. Prereq., PHIL 251H. General introduction to the philosophy of Plato emphasizing dialogues of the Early and Middle periods.

U 463 Aristotle 3 cr. Offered intermittently. Prereq., PHIL 251H. General introduction to Aristotle. Early biological writings, Categories, De Interpretatione, Nicomachean Ethics, selections from Physics, De Anima and Metaphysics.
**UG 465** Major Philosophers of the 19th Century 3 cr. (R-6) Offered intermittently. Prereq., PHIL 252H or consent of instr. Selection to be announced in the class schedule.

**UG 467** 20th Century Continental Philosophy 3 cr. (R-9) Offered intermittently. Prereq., upper-division standing. Intensive study of the works of one philosopher (Heidegger, Husserl, Sartre, Merleau-Ponty, Ricoeur, Derrida, etc.) or several texts representing a major movement in 20th century continental thought (Phenomenology, Existentialism, Hermeneutics, Post-structuralism, etc.)

**UG 469** 20th Century Anglo-American Philosophy 3 cr. (R-9) Offered intermittently. Prereq., upper-division standing. Readings in analytic philosophy, contemporary empiricism, and contemporary pragmatism.

**UG 471** Topics in the Philosophy of Language 3 cr. (R-6) Offered intermittently. Prereq., upper-division standing. Same as LING 482. Discussion of one or more of the following topics: theories of meaning, theories of reference, pragmatics, the origin of language, psycholinguistics, and foundations of linguistic theory.

**UG 477** Philosophy of Society and Culture 3 cr. Offered intermittently. Prereq., upper-division standing. A philosophical examination of cultural forces shaping modern society, forces such as science, technology, or domesticity.

**UG 480** Senior Seminar 3 cr. (R-9) Offered intermittently. Prereq., senior standing. Research in problems in philosophy.

**U 490** Supervised Internship Variable cr. (R-12) Offered intermittently. Prereq., consent of faculty supervisor and department chair.

**U 493** Omnibus Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Independent work under the University omnibus option. See index.

**UG 494** Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

**UG 495** Special Topics Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 496** Independent Study Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

**U 497** Research Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

**G 501** Topics in Epistemology, Philosophy of Technology and Philosophy of Science 3 cr. (R-6) Offered every year.

**G 502** Topics in Value Theory 3 cr. (R-6) Offered every year.

**G 503** Topics in the History of Philosophy 3 cr. (R-6) Offered every year.

**G 504** Colloquium in the Philosophy of Ecology 3 cr. (R-6) Offered autumn and spring. Same as EVST 504. Critical study/discussion of current (as well as benchmark) texts and issues in environmental ethics, environmental politics, and the philosophy of ecology. Interdisciplinary; open to concerned students from all disciplines.

**G 505** Topics in Contemporary Philosophy 3 cr. (R-6) Offered intermittently.

**G 506** Nature, Language and Politics 3 cr. Offered intermittently. Same as ENL T 524 and EVST 506. Investigation of environmental, social and political thought from the perspective of contemporary language theory.
Department of Physics and Astronomy

James P. Jacobs, Chair

Physics is considered to be the most fundamental of all the disciplines in the natural sciences. In physics we try to describe and understand a myriad of physical phenomena ranging from subatomic to cosmological scales by quantifying the relationships among different physical quantities. Not only does physics have its own merit as a challenging but exciting scientific endeavor, it provides the basis for understanding underlying processes in astronomy, biology, chemistry, geology, computer science, engineering, and even in behavioral sciences. Applications of physics are virtually unlimited: computers, communications, energy production, medical technology, and space flight, to name just a few.

The Department of Physics and Astronomy offers a range of physics courses from introductory to advanced undergraduate level in both experimental and theoretical physics with computational methods in mind. In addition, we offer introductory to advanced astronomy and astrophysics courses in which astronomical applications of physics are emphasized. These courses deal with the Universe, from the solar system to clusters of galaxies, both theoretically and observationally.

The Department of Physics and Astronomy offers the Bachelor of Arts degree with a major in physics. Graduates with this degree are prepared for further study in physics or related fields at the masters or Ph.D. level, as well as a wide variety of technical positions in industry. In addition, the department offers two other degree paths which combine a background in both physics and computer science, enabling students to receive a thorough study of computer science and computational physics as well as a solid background in physics and mathematics. Graduates from this program have gone on to graduate programs in astronomy and astrophysics while others have found career opportunities at national astronomical observatories.

Computational Physics: The computational physics option provides a thorough study of computer science and computational physics as well as a solid background in physics and mathematics. Graduates from this program have gone on to graduate programs in physics and computer science while others have found career opportunities in technical fields.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

All majors must meet the Upper-division Writing Expectation by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Bachelor of Arts with a major in Physics

Thirty-eight credits in physics must be earned for the Bachelor of Arts degree with a major in physics. Required courses in physics are: 221N-222N or 121N-122N (221N-222N strongly recommended), 301, 322, 341, 371 (372 strongly recommended), 414 (415 strongly recommended), 441, 461, and 480. Mathematics 152, 153, 251, and 311 also must be taken.

Physics majors must satisfy successfully the general education requirements including the following requirement in Foreign Language/Symbolic Systems: Completion of the second semester of a foreign language or demonstration of equivalent skill in a foreign language in testing administered by the Counseling Center and Department of Modern and Classical Languages and Literatures, and completion of at least one computer science language course (CS 131, 203, or 204).

Recommended courses in other departments include Mathematics 317, 412, 418.

Bachelor of Arts with a major in Physics: Astronomy Option

During their first two years, students in the astronomy option should take ASTR 131N, 132N, 134N, 135N, PHYS 221N-222N (normally during the sophomore year), and MATH 152, 153, and 251 (MATH 121, if necessary).

Forty-one credits in astronomy and physics courses are required for the B.A. degree in physics with astronomy option. Required course in physics are: 221N-222N, 480 plus at least two of the following course sequences: 322-323, 371-372, 414-415, or 341-461 plus at least one additional upper-division physics course from this list. Required astronomy courses are: 131N, 132N, 134N, 135N, 353, 363, and 364 (351 and 362 recommended), MATH 152, 153, 251, and 311 also must be taken. Foreign language requirements must be met as set forth above under Bachelor of Arts with a major in Physics.

Bachelor of Arts with a major in Physics: Computational Physics Option:

The purpose of the computational physics option is to provide a thorough background in both physics and computer science and to inculcate a deeper understanding of their goals and methods. A student earns the computational physics option by completing at least 50 credits in the two disciplines, 30 of these credits in physics courses and 20 of these in computer science courses. The following courses are required: Physics 221N-222N, 301, 331, 341, 371, 414, and 480 (PHYS 372, 441, and 415 recommended); Computer Science 131-132, 331, 332, and six credits of CS electives selected from courses numbered 200 and above (CS 231, 335, or 415E recommended); Mathematics 152-153, 225, 251, 311 and 325 (MATH 305, 341, and 471 recommended). Foreign language requirements must be met as set forth above under Bachelor of Arts with a major in Physics.

Teacher Preparation in Physics

Major Teaching Field of Physics: For an endorsement in the major teaching field of Physics, a student must complete the following course requirements: 34 credits in Physics including Physics 121N-122N or 221N-222N, 301, 322-323, 328, 341, 371, 414, and 461. Also required are Astronomy 131N-132N; Mathematics 152-153, 241, 311 or 341, and 251; Computer Science 131 or 201 or 203; Curriculum & Instruction 426; Chemistry 151N and 485; Biology 101N or 103N or 120N or 121N; and Geology 100N and 301. Students also must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

Minor Teaching Field of Physics: For an endorsement in the minor teaching field of Physics, a student must complete Physics 121N-122N or 221N-222N, 322-323, 328, 341 and
Suggested Course of Study

**Bachelor of Arts with a Major in Physics**

For physics majors with four years of college preparatory mathematics or exemption from MATH 121 by examination:

**First Year**
- A S
- CS 131 Fundamentals of Computer Science ... 3
- MATH 152-153 Calculus* .................... 5
- Electives and General Education ........... 5

*Semester of enrollment depends on beginning letter of student's last name.

**Second Year**
- MATH 251 Calculus III .................. 4
- PHYS 301 Vector Analysis ............... 3
- PHYS 322-323 Optics .................... 2
- PHYS 341 Fundamentals of Modern Physics 3
- Electives ................................ 1

*Can be waived with two years of foreign language in high school.

**Third Year**
- MATH 311, 412-Differential Equations .... 3
- PHYS 371-372 Mechanics .................. 3
- PHYS 414-415 Electromagnetism .......... 3
- Electives ................................ 3

**Fourth Year**
- PHYS 446 Thermodynamics ............... 3
- Electives and General Education ......... 1

For physics majors with fewer than four years of college preparatory mathematics (students who begin MATH 152 in the second semester use this suggested course of study for physics courses):

**First Year**
- A S
- CS 131 Fundamentals of Computer Science ... 3
- MATH 121 Precalculus .................... 3
- Electives ................................ 1

**Second Year**
- MATH 153-Calculus II .................. 4
- PHYS 221N-222N-Fundamentals of Physics 5
- Electives or General Education .......... 3

**Third Year**
- MATH 311, 412-Differential Equations .... 3
- PHYS 322-323 Optics .................... 2
- PHYS 341-Fundamentals of Modern Physics 3
- Electives and General Education ......... 4

**Fourth Year**
- PHYS 414-415 Electromagnetism .......... 3
- Electives and General Education ......... 3

*ENEX 101 is required unless exempted by testing.

**Bachelor of Arts with a Major in Physics and an Option in Astronomy**

**First Year**
- A S
- ASTR 131N-132N Elementary Astronomy ... 3
- ASTR 134N-135N Elementary Astronomy ..... 3
- Electives and General Education ......... 3

**Second Year**
- MATH 153, 251 Calculus II, III .......... 4
- PHYS 221N-222N-Fundamentals of Physics with Calculus* .............. 5
- Electives or General Education .......... 3

*Student who are ready for calculus in their first year could take PHYS 221N-222N in their first year instead of a foreign language.

**Third Year**
- MATH 311 Ordinary Differential Equations 3
- PHYS 301 Vector Analysis ................ 3
- Electives or General Education .......... 3

*Can be waived with two years of foreign language in high school.
### Courses

U=for undergraduate credit only, UG=for undergraduate or graduate credit, G=for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

#### Astronomy (ASTR)

**U 131N Elementary Astronomy I** 3 cr. Offered autumn. Prereq., high school algebra and geometry. An introduction to historical and solar system astronomy.

**U 132N Elementary Astronomy II** 3 cr. Offered spring. Prereq., high school algebra and geometry. An introduction to stars, stellar evolution, galaxies, and the universe.

**U 134N Elementary Astronomy Laboratory I** 1 cr. Offered autumn. Prereq. or coreq., ASTR 131N. Laboratory exercises in observational and solar system astronomy.

**U 135N Elementary Astronomy Laboratory II** 1 cr. Offered spring. Prereq. or coreq., ASTR 132N. Laboratory exercises in stellar and galactic astronomy.

**U 195 Special Topics Variable cr.** (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

**U 198 Cooperative Education Experience Variable cr.** (R-10) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

**UG 351 Planetary Science** 3 cr. Offered autumn even-numbered years. Prereq., PHYS 221N or 121N and MATH 150 or 152. Same as GEOL 309. Physical and geological characteristics of planets, satellites, asteroids, comets, and meteoroids, with an emphasis on comparative planetology.

**UG 353 Galactic Astrophysics and Cosmology** 3 cr. Offered spring odd-numbered years. Prereq., ASTR 132N, PHYS 222N, MATH 251. The nature of the Milky Way galaxy and other galaxies, galactic evolution, the large scale structure of the universe, active galaxies and quasars, and cosmology, including the early universe.

**UG 362 Observational Astronomy** 2 cr. Offered autumn even-numbered years. Prereq., ASTR 132N, PHYS 222N. Telescopes and instrumentation for the determination of the positions, brightness, colors and other properties of stars; particular attention to photoelectric photometry. Includes observational and computational problems.

**UG 363 Stellar Astronomy and Astrophysics I** 3 cr. Offered autumn odd-numbered years. Prereq., ASTR 132N, MATH 251, and PHYS 222N; PHYS 341 recommended. Detailed application of physical laws to determine the nature of the stars; analysis of stellar spectra and atmospheres; solar astrophysics; structure of stars and their evolution.

**UG 364 Stellar Astronomy and Astrophysics II** 3 cr. Offered spring even-numbered years. Prereq., ASTR 363. Continuation of ASTR 363.

**U 395 Special Topics Variable cr.** (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 398 Cooperative Education Experience Variable cr.** (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

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### Requirements for a Minor in Astronomy

To earn a minor in astronomy the student must complete PHYS 121N-122N or 221N-222N; ASTR 131N-132N (ASTR 134N-135N strongly recommended); and eight credits from ASTR 351, 353, 362, or 363-364. (Mathematics prerequisites for the astronomy minor are MATH 152, 153, and 251.)

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### Requirements for a Minor in Physics

To earn a minor in physics the student must complete PHYS 121N-122N or 221N-222N; PHYS 371-372; and six credits from PHYS 301, 322-323, 341, 414, 415, 446, or 461-462. (Mathematics prerequisites for the physics minor are MATH 152, 153, 251, and 311.)

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### Bachelor of Arts with a Major in Physics with an Option in Computational Physics

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CS 131-132 Fundamentals of Computer Science</td>
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<tr>
<td>ENEX 101 Composition</td>
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</tr>
<tr>
<td>MATH 152-153 Calculus I, II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 221N-222N Fundamentals of Physics</td>
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**Second Year**

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<td>CS 231 Computer Architecture/Assembly</td>
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<tr>
<td>MATH 225 Discrete Math</td>
<td>3</td>
</tr>
<tr>
<td>MATH 251 Calculus III</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 301 Vector Analysis</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 331 Introduction to Computational Physics</td>
<td>(3)</td>
</tr>
<tr>
<td>PHYS 341 Fundamentals of Modern Physics</td>
<td>3</td>
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<td>Foreign language+ or General Education</td>
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**Third Year**

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<tbody>
<tr>
<td>CS 331-332 Data Structures and Algorithms</td>
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<tr>
<td>MATH 311 Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 325 Discrete Math II</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 331 Introduction to Computational Physics</td>
<td>(3)</td>
</tr>
<tr>
<td>PHYS 371-372 Mechanics*</td>
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<tr>
<td>PHYS 441 Modern Experimental Physics</td>
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**Fourth Year**

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<tr>
<td>CS 335 Theory of Programming Languages*</td>
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</tr>
<tr>
<td>CS 415E Computers, Ethics, and Society*</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 414-415 Electromagnetism*</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 480 Senior Seminar</td>
<td>1</td>
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<tr>
<td>General Education</td>
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</table>

* CS and PHYS courses marked with * are recommended. Other courses in physics and computer science can be substituted for them.
Physics (PHYs)

U 121N Fundamentals of Physics I 5 cr. Offered autumn and spring. Prereq., working knowledge of high school algebra and trigonometry. Mechanics, sound, and heat. For non-physical science majors. Satisfies medical school requirements. Credit not allowed for both PHYS 121N-122N and 221N-222N.

U 122N Fundamentals of Physics II 5 cr. Offered autumn and spring. Prereq., PHYS 121N. Electricity, magnetism, light, and modern physics. Credit not allowed for both PHYS 121N-122N and 221N-222N.

U 141N Relativity: From Galileo to Einstein and Beyond 3 cr. Offered spring. Prereq., working knowledge of high school physics and high school calculus, or consent of instr. Modern theoretical study of space, time, the principle of relativity, and its implications. Analysis of apparent paradoxes and applications to particle physics.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 198 Cooperative Education Experience Variable cr. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 221N Fundamentals of Physics with Calculus I 5 cr. Offered autumn. Prereq. or coreq., MATH 152 or equiv. This course satisfies medical and technical school requirements in general physics. Mechanics, sound, and heat. Credit not allowed for both PHYS 221N-222N and 121N-122N.

U 222N Fundamentals of Physics with Calculus II 5 cr. Offered spring. Prereq., PHYS 221N and coreq., MATH 153. Heat, electricity, magnetism, and light. Credit not allowed for both PHYS 221N-222N and 121N-122N.

U 251 Laboratory Arts I 1 cr. (R-2) Offered intermittently. Prereq., PHYS 222N and upper-division standing in physics. Elements of glass blowing, machine shop practice and electronic construction techniques.

U 301 Vector Analysis 3 cr. Offered spring. Prereq. or coreq., PHYS 222N and MATH 251. Selected topics in vector algebra and vector calculus, with examples from applications in physics.

U 322 Optics I 2 cr. Offered autumn. Prereq., PHYS 222N. And coreq., MATH 251. Topics in light and optics at the intermediate level, with laboratory.

U 323 Optics II 2 cr. Offered spring. Prereq., PHYS 322. Continuation of PHYS 322. Topics in light and optics at the intermediate level, with laboratory.

U 328 Methods of Teaching Physics 2 cr. Offered spring odd-numbered years. Prereq., PHYS 222N or 122N. Lectures topics, demonstrations and laboratory experiments used in contemporary approaches to the teaching of high school and introductory college physics.

U 331 Introduction to Computational Physics 3 cr. Offered spring even-numbered years. Prereq., PHYS 222N; coreq., any upper-division PHYS course (301 or higher). Solution of advanced problems in physics using computational methods. Students will learn a variety of numerical methods, including FORTRAN programming techniques.

U 341 Fundamentals of Modern Physics 3 cr. Offered autumn. Prereq., one year of college physics; coreq., MATH 251. Includes historical background for development of modern physics and an introduction to quantum mechanics, atomic and nuclear physics. Credit not allowed for graduate degree in physics.

UG 371 Mechanics I 3 cr. Offered autumn. Prereq., PHYS 301; coreq., MATH 311. Topics in classical mechanics at the intermediate level.

UG 372 Mechanics II 3 cr. Offered spring. Prereq., PHYS 371. Continuation of PHYS 371. Topics in classical mechanics at the intermediate level.

UG 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 396 Honors Physics Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Independent research in topics of current interest in physics.

UG 414 Electromagnetism I 3 cr. Offered autumn. Prereq., PHYS 301. Electricity and magnetism at the intermediate level.

UG 415 Electromagnetism II 3 cr. Offered spring. Prereq., PHYS 414. Continuation of PHYS 414. Electricity and magnetism at the intermediate level.

UG 441 Modern Experimental Physics Laboratory 3 cr. Offered spring. Prereq., PHYS 222. Advanced experiments in digital electronics, modern physics, spectroscopy and laser science. Emphasis on individual initiative in the laboratory and advanced measurement techniques. This course is recommended for students entering graduate school in experimental science.

UG 446 Thermodynamics and Statistical Mechanics 3 cr. Offered autumn odd-numbered years. Prereq., PHYS 341; coreq., MATH 311. Topics in thermodynamics and statistical mechanics.

UG 461 Quantum Mechanics I 3 cr. Offered autumn. Prereq., PHYS 341; coreq., MATH 311. Introduction to quantum mechanics. Topics include Schrodinger equation, piecewise constant potential, harmonic oscillator, hydrogen atom, angular momentum theory, electron spin.

UG 462 Quantum Mechanics II 3 cr. Offered spring even-numbered years. Prereq., PHYS 461 or consent of instr. Advanced topics in quantum mechanics including linear vector spaces and Dirac notation, quantum dynamics, time-dependent perturbation theory, and scattering theory.

UG 463 Selected Topics in Modern Physics 3 cr. (R-6) Offered spring odd-numbered years. Prereq., PHYS 461 or consent of instr. Studies of a topic in advanced modern physics including nuclear physics, solid state physics, and quantum optics. The topic chosen will vary according to instructor.

UG 480 Senior Seminar 1 cr. Offered autumn. Prereq., junior or senior standing in physics. Each student will present a seminar on research performed prior to or during their senior year.

UG 493 Omnibus Variable cr. (R-9) University omnibus option for independent work. See index.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 597 Research 1-6 cr. (R-9) Offered intermittently. Prereq., consent of instr. Research in selected physics topics.

G 598 Cooperative Education Experience Variable cr. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.
**Department of Political Science**

**Jonathan R. Tompkins, Chair**

From the time of Plato and Aristotle, the study of politics has been concerned with how human communities use power to shape the lives of individuals. Students of politics observe the world's political institutions, from local governments to international organizations. They are interested in the quality of political leadership, the values which underlie public affairs, the political and legal processes used to make governmental decisions, and the wisdom of policies. Politics is the continuing dialogue about the best way for communities to govern themselves.

The department offers a varied undergraduate curriculum covering domestic, foreign, and international politics. By meeting requirements outlined below, a student may earn a bachelor degree in political science or in political science-history; a minor in political science; or a bachelor degree in political science with an option in American politics, international relations and comparative politics, public administration or public law. A Master of Arts degree in political science and a Master of Public Administration degree are also offered.

The scope of the faculty's interest and research is wide. They bring special insights gained through study and residence in Canada, England, Western Europe, the former Soviet Union, Africa, India, the Far East and Latin America, as well as in Montana and Washington, D.C. All members of the department teach introductory and advanced courses.

Courses offered in the department are designed to: (1) assist students to secure a broad liberal education and to equip them with the foundations for American citizenship; (2) provide undergraduate preparation for those students who propose to continue study at the graduate level with the ultimate goal of college teaching and research; (3) offer a broad program of training for those students who plan careers in government or politics; 4) assist in preparing students for careers in teaching at both the elementary and secondary levels; (5) provide a sound background for those students who intend to enroll in law and other professional schools.

The major fields of political science are (1) American government and politics with national, state and local government, politics, and public law as sub-fields; (2) public administration; (3) political theory; (4) comparative government; (5) international relations, organization and law.

Majors are eligible for membership in Pi Sigma Alpha, the national political science honorary and are active in student political activities. The Department of Political Science secures a number of legislative and administrative internships in state and local government each year. Internships and other learning opportunities in Washington, D.C., are also available.

**Special Degree Requirements**

Refer to graduation requirements listed previously in the catalog. See index.

All majors must meet the Upper-division Writing Expectation by successfully completing PSC 400.

**Political Science Major:** Students majoring in political science must take a minimum of 36 credits of political science, including 100S, 120S, 130E, 150E; and one 300-400 level course in four of the five major fields listed above. Twenty-one of the 36 credits must be in upper-division courses. No more than 7 credits of independent study (PSC 496) and internship (PSC 498) combined may count toward the 36 required credits.

**Political Science Major with an Option in American Politics:** A student may earn a major in political science with an option in American politics by completing 39 credits in political science, including: 100S, 120S, 130E, 150E; one 300-400 level course in four of the five major fields of political science listed previously; and five of the following courses: 341, 342, 343, 352, 366, 370, 387. Courses used to complete the upper-division requirement of this option also fulfill the 300-400 level requirement in the respective major fields of political science.

**Political Science Major with an Option in International Relations and Comparative Politics:** A student may earn a major in political science with an option in international relations and comparative politics by completing 39 credits in political science, including: 100S, 120S, 130E, 150E; one 300-400 level course in four of the five major fields of political science listed previously; and three courses from each of the following groups: a) 321H, 322H, 325, 326H, 327, 328H, 329H, 420; and b) 332, 335, 336, 430, 431, 433E. Strongly recommended: a) minimum of two years of foreign language study; b) internship/study-abroad program. Courses used to
complete the upper-division requirement of this option also fulfill the 300-400 level requirement in the respective major fields of political science.

Political Science Major with an Option in Public Administration: A student may earn a major in political science with an option in public administration by completing a minimum of 39 credits in political science, including: 100S, 120S, 130E, 150E; one 300-400 level course in four of the five major fields of political science listed previously; 361, 461, 463S. A legislative or administrative internship is strongly recommended. Courses used to complete the upper-division requirement of this option also fulfill the 300-400 level requirement in the respective major fields of political science.

Political Science Major with an Option in Public Law: A student may earn a major in political science with an option in public law by completing a minimum of 39 credits in political science, including: 100S, 120S, 130E, 150E; one 300-400 level course in four of the five major fields of political science listed previously; 370, and four of the following courses: 352, 420, 433E, 461, 471, 472. Courses used to complete the upper-division requirement of this option also fulfill the 300-400 level requirement in the respective major fields of political science.

Teacher Preparation in Political Science (Government)

Major Teaching Field of Political Science (Government): Students seeking licensure to teach government in a middle or secondary school must complete the requirements for the B.A. degree with a major in political science and C&I 428. Students must complete a teaching minor in another curriculum area taught in grades 5-12. Students must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of this catalog. Students are encouraged to seek licensure advising from the Department of Curriculum & Instruction (see the School of Education section of this catalog).

Minor Teaching Field of Political Science (Government): Students seeking a teaching minor in political science (government) must complete the requirements for the academic minor in political science and C&I 428. Students must complete a teaching major in another curriculum area taught in grades 5-12. Students must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of the catalog. Students are encouraged to seek licensure advising from the Department of Curriculum & Instruction (see the School of Education section of this catalog).

Combined Political Science-History degree and Comprehensive Social Science teaching major: The B.A. degree with a major in Political Science-History is designed for students seeking licensure to teach history and the social sciences in middle and secondary schools, grades 5-12. The political science-history major qualifies as a single-field endorsement and does not require a teaching minor. Students complete at least 48 (maximum 60) credits in political science and history, 9 credits in economics, and 12 credits in geography. Specific requirements for the degree in history-political science and the comprehensive social studies license include the following: PSC 100S, PSC 120S, PSC 130E; 15 upper-division elective credits in political science; at least three of the following four courses: HIST 104H, 105H, 151H, 152H; Hist 300; 9 upper-division elective credits in history; ECON 111S; ECON 112S; 3 upper-division elective credits in economics; GEOG 101; one regional geography course; 6 lower- or upper-division elective credits in geography; and C&I 428. Students also must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of this catalog. Students are encouraged to seek licensure advising from the Department of Curriculum & Instruction (see the School of Education section of this catalog).

Suggested Course of Study

Political Science Major:

First Year
- PSC 100S Introduction to American Government/A S
- PSC 120S Comparative Government
- Seven General Education courses
- One elective

Second Year
- PSC 130E International Relations
- PSC 150E Political Theory
- Seven General Education courses
- One elective

Third Year
- Four PSC 300-400-level courses
- Six electives

Fourth Year
- Four PSC 300-400-level courses
- Six electives

Political Science with American Politics Option:

First/Second Year: same for all options
- Third Year
- Three 300-400-level American Politics courses
- Two other 300-400-level PSC courses
- Five electives

Fourth Year
- Two 300-400-level American Politics courses
- Two other 300-400-level PSC courses
- Six electives

Political Science with International Relations and Comparative Politics Option:

First/Second Year: same for all options
- Third Year
- Three 300-400-level International and Comparative courses
- Two other 300-400-level PSC courses
- Five electives

Fourth Year
- Three 300-400-level International and Comparative courses
- One other 300-400-level PSC course
- Six electives

Political Science with Public Administration Option:

First/Second Year: same for all options
- Third Year
- PSC 361 Public Administration
- One 300-400-level public administration course
- Two other 300-400-level PSC courses
- Six electives
**Fourth Year**

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<tr>
<td>One 300-400-level public administration course</td>
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<td>PSC 460 Human Resource Management</td>
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<td>Three other 300-400-level PSC courses</td>
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<tr>
<td>Five electives</td>
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<td><strong>Total</strong></td>
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**Political Science with Public Law Option:**

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<th>First/Second Year: same for all options</th>
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<td>Third Year</td>
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<tr>
<td>PSC 370 Courts and Judicial Politics</td>
<td>3</td>
</tr>
<tr>
<td>Two 300-400-level Public Law courses</td>
<td>3</td>
</tr>
<tr>
<td>Two other 300-400-level PSC courses</td>
<td>3</td>
</tr>
<tr>
<td>Five electives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
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</thead>
<tbody>
<tr>
<td>Two 300-400-level Public Law courses</td>
<td>3</td>
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<tr>
<td>Two other 300-400-level PSC courses</td>
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<td>Six electives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

**Requirements for a Minor**

To earn a minor in political science the student must complete a minimum of 21 credits of political science, including 100S, 120S, 130E, 150E; and three additional 300-400-level courses in three of the five major fields of political science listed previously. Nine of the 21 credits must be in 300-400-level courses.

**Courses**

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

**Political Science (PSC)**

**U 100S Introduction to American Government** 3 cr.
Offered every term. Not open to senior level political science majors except with consent of chair. Constitutional principles, structures, and the political processes of the national government. Credit not allowed for both PSC 100S and POL 146S.

**U 120S Introduction to Comparative Government** 3 cr.
Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world's diverse societies and cultures.

**U 130E International Relations** 3 cr.
Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.

**U 150E Political Theory** 3 cr.
Offered autumn and spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society.

**U 195 Special Topics Variable cr.** (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 196 Independent Study 1-6 cr.** (R-6) Offered intermittently.

**U 300 Writing in Political Science 1 cr.** (R-3) Offered every term. Coreq., any upper-division political science course. Designed for students seeking an approved writing course or desiring additional experience in writing.

**UG 321H Politics of Western Europe** 3 cr.
Offered autumn. Prereq., PSC 100S and junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.

**UG 325 Politics of Latin America** 3 cr.
Offered autumn. Latin American politics from both historical and contemporary perspectives.

**UG 326H Politics of Africa** 3 cr.
Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.

**UG 327 Politics of Mexico** 3 cr.
Offered spring. Prereq., junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.

**UG 328H Politics of China** 3 cr.
Offered autumn. Prereq., junior standing or consent of instr. Institutions and political development in China.

**UG 329H Politics of Japan** 3 cr.
Offered spring. Prereq., junior standing or consent of instr. Institutions and political development in Japan.

**UG 332 International Organizations** 3 cr.
Offered autumn. Prereq., PSC 130E and junior standing or consent of instr. A theoretical and political examination of the United Nations (and selected other organizations) as an instrument of international cooperation.

**UG 335 American Foreign Policy** 3 cr.
Offered spring. Prereq., PSC 130E and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.

**UG 336 The Causes of War** 3 cr.
Offered spring. Prereq., junior standing or consent of instr. A colloquium to clarify the definitional and philosophical problems besetting the search for the causes (and the prevention) of war.

**UG 341 Political Parties and Elections** 3 cr.
Offered spring even-numbered years. Prereq., PSC 100S. Political party organization, nominations, campaigns and elections in the United States.

**UG 342 Media and Public Opinion** 3 cr.
Offered intermittently. Prereq., PSC 100S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.

**UG 343 Politics of Social Movements** 3 cr.
Offered intermittently. Prereq., junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.

**UG 350E Ancient and Medieval Political Philosophy** 3 cr.
Offered autumn. Prereq., PSC 150E or consent of instr. The classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of "legitimate" authority.

**UG 352 American Political Thought** 3 cr.
Offered spring. Prereq., PSC 150E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.

**UG 353E Modern Political Theory** 3 cr.
Offered autumn. Prereq., PSC 150E or consent of instr. Analysis of Hobbes, Locke, Rousseau, Burke, James and John Stuart Mill, Marx and Lenin with regard to their "modern" views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas.
UG 354 Contemporary Issues in Political Theory 3 cr. (R-6) Offered intermittently in autumn. Prereq., PSC 150E or consent of instr. Topics variable. Research and assessment of current political and social issues through the study of a representative text and related literature.

UG 355 Theories of Civil Violence 3 cr. Offered autumn. Prereq., junior standing or consent of instr. Survey of the theoretical literature on civil violence, its causes and consequences. Analysis of violence as a political technique and of counter measures designed to prevent or control it.

UG 361 Public Administration 3 cr. Offered autumn. Prereq., PSC 100S. Legal and institutional setting of the administrative system; dynamics of organization and processes of public management.


UG 366 The American Presidency 3 cr. Offered autumn. Prereq., PSC 100S. The constitutional foundation and evolution of the executive branch, the structure of the office and executive functions and powers.

UG 370 Courts and Judicial Politics 3 cr. Offered spring. Prereq., PSC 100S and junior standing. Introduction to American courts with emphasis on judicial policy making.

UG 387 Legislative Politics 3 cr. Offered spring. Prereq., PSC 100S. Structure, processes, and politics of U.S. Congress and state legislatures. During legislative years, special emphasis will be devoted to the Montana Legislature.

UG 395 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 400 Advanced Writing in Political Science 1 cr. (R-3) Offered every term. Coreq., any upper-division political science course. Designed for political science students to satisfy their upper-division writing requirement for the major or for students desiring additional experience in writing.

UG 420 Comparative Legal Systems 3 cr. Offered spring. Prereq., junior standing. Emphasis on non-western approaches to law, specifically Islamic law and the legal systems of East Asia. Focus on constitutional law, judicial process, civil liberties, and law enforcement and corrections.

UG 430 Inter-American Relations 3 cr. Offered intermittently. Prereq., PSC 325 or consent of instr. Examination of problems, issues and concepts in the international relations of nations of the western hemisphere.

UG 431 Politics of Global Migration 3 cr. Offered spring. Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.

UG 433E International Law 3 cr. Offered spring. Prereq., PSC 332 and junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations.

UG 450 Utopianism and Its Critics 3 cr. Offered intermittently. Examination of classic and contemporary utopias, from Plato's Republic to Barbara Goodwin's Justice by Lottery as well as their critics.

UG 460 Human Resource Management 3 cr. Offered spring. Prereq., PSC 361 or consent of instr. Study of the essential elements of human resource management, including analysis and evaluation of work, and the selection, management, and evaluation of public employees.

UG 461 Administrative Law 3 cr. Offered autumn odd-numbered years. Prereq., PSC 100S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.

UG 463S Development Administration 3 cr. Offered autumn. Prereq., junior standing or consent of instr. Case studies of judicial policy making by interpretation of the United States Constitution.

UG 466 Nonprofit Management and Public Service 3 cr. Offered autumn. Investigation of the aspects involved in nonprofit management and public service and the complexity of the role of nonprofit organizations in society.

UG 467 Advanced Nonprofit Management 3 cr. Offered spring. Prereq., PSC 466. In-depth exploration of the special issues related to nonprofit management including fund raising, budgeting, and program planning.


UG 493 Omnibus Variable cr. (R-15) Offered every term. Prereq., consent of instr. Independent study under the University omnibus option. See index.

UG 495 Special Topics in Political Science 1-3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study in Political Science 1-3 cr. (R-6) Offered every term. Prereq., nine credits in political science courses numbered at the 300- or 400-level and consent of instr. Research in fields appropriate to the needs and objectives of the individual student.

UG 498 Internship 1-10 cr. Offered every term. Prereq., sophomore standing and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Offered pass/not pass only.


UG 502 MPA Research Methods 3 cr. Offered autumn. A survey of methods employed in social science and applied research with emphasis on preparing research designs. Intended specifically for MPA students.

UG 503 Policy Analysis 3 cr. Offered spring. The role of public administrators in the policymaking process with emphasis on methods of policy analysis and program evaluation.

UG 504 Organization Theory 3 cr. Offered spring. Concepts and theories relevant to the administration of complex organizations, including administrative structure, behavior, process and functions.

UG 505 Budgeting and Finance 3 cr. Offered spring. Seminar focusing on principles of public finance and analysis of budgeting as a primary tool of public sector management.

UG 520 Comparative Government 3 cr. Offered autumn. Prereq., consent of instr. Concentrated reading and examination of selected subject areas in the field of comparative government.
Pre-Engineering

Eijiro Uchimoto (Professor of Physics), Advisor

The pre-engineering curriculum is for students planning to transfer to technical engineering schools. Since engineering curricula differ for the different divisions of engineering, the general curriculum listed below serves only as a guide. A student planning to transfer into a particular type of engineering or into a particular school should work out a special program with his or her advisor.

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CS 101 Introduction to Programming</td>
<td>3</td>
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<tr>
<td>CS 203 FORTRAN Programming</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>2</td>
</tr>
<tr>
<td>**MATH 152-153 Calculus I, II</td>
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Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry and Lab</td>
<td>5</td>
</tr>
<tr>
<td>ECON 111S-112S Introduction to</td>
<td></td>
</tr>
<tr>
<td>Micro/Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 251 Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 158 Differential Equations</td>
<td>-3</td>
</tr>
<tr>
<td>PHYS 341 Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 301 Vector Analysis</td>
<td>-3</td>
</tr>
<tr>
<td>Electives</td>
<td>2</td>
</tr>
</tbody>
</table>

**The mathematics sequence should begin with MATH 121 for students deficient in mathematics.

Faculty

Professors

Jeffery D. Greene, Ph.D., University of South Carolina, 1992

Paul L. Haber, Ph.D., Columbia University, 1992

Louis D. Hayes, Ph.D., University of Arizona, 1966

Peter Koehn, Ph.D., University of Colorado, 1973

James J. Lopach, Ph.D., University of Notre Dame, 1973

Jonathan R. Tompkins, Ph.D., University of Washington, 1981 (Chair)

Associate Professor

Ramona Grey, Ph.D., University of California, Riverside, 1991

Assistant Professors

Karen Adams, Ph.D., University of California, Berkeley, 2000

Gregory Koger, Ph.D., University of California, Los Angeles, 2002

Emeritus Professor

Forest L. Grieves, Ph.D., University of Arizona, 1967
Pre-Law

David Sherman (Assistant Professor of Philosophy), Coordinator

Pre-law students are required to choose a degree major in which they will specialize. No one major best prepares students for law school and no particular course of study is a prerequisite for admission to law school. The Pre-Law Advising Committee suggests that the best preparation for law school is a broad education which ensures exposure to the varieties of thought about the social, political, economic, philosophical, and cultural forces which have shaped law and the societies it governs. Pre-law students must develop substantial skills in writing and be able to think critically and logically.

The Pre-Law Advising Committee urges students to see one of its members as soon as they consider going to law school. Advice on the specific character of each student’s pre-law program, help of its members with LSAT preparation, and help of the committee in admission to law school are the aims of each member of the committee.

Pre-Law Advising Committee

Irene Appelbaum (Assistant Professor, Philosophy)
Thomas P. Huff (Professor, Philosophy)
Michael R. Brown (Professor, Accounting)
James W. Burfeind (Associate Professor, Sociology)
Daniel P. Doyle (Professor, Sociology)
Harry W. Fritz (Professor, History)
Jerry L. Furniss (Professor, Management)
Forest L. Grieves (Professor, Political Science)
David H. Jackson (Professor, Forestry)
James J. Lopach (Professor, Political Science)
Michael Mayer (Professor, History)
Jack K. Morton (Professor, Management)
Dennis O’Donnell (Professor, Economics)
John G. Photiades (Professor, Economics)
David Sherman (Assistant Professor, Philosophy, Coordinator)
Jon Tompkins (Professor, Political Science)

Pre-Nursing

Kate Delaney, Pre-Nursing Advising Program, Lommasson Center, Room 286

The pre-nursing curriculum is a two-year program which is designed to provide the basic undergraduate education needed for entry into the professional portion of a baccalaureate nursing program.

Through an arrangement with the College of Nursing at Montana State University-Bozeman, The University of Montana-Missoula offers approved prerequisite courses for pre-nursing students. Students who intend to pursue the Bachelor of Science in Nursing degree offered through Montana State University can complete the 12 credits of sophomore level nursing courses in Bozeman. In addition, these 12 credits of sophomore level nursing courses are currently offered through a limited option on one of the “Upper Division” campuses located at Billings, Great Falls, and Missoula. Students may apply for acceptance into clinical nursing (junior and senior years), to one of MSU’s “Upper Division” campuses, up to a year prior to placement regardless of whether or they have been admitted to MSU. Depending upon the specific placement, students can complete the entire nursing program in Missoula.

A grade of "C" (2.00) or better is required in the following specific courses for admission to clinical nursing. The following courses may not be repeated more than once regardless of where taken. Though a grade of "C" (2.00) is minimally acceptable, students are advised to attain the highest grade average possible in these classes for placement considerations at the upper-division level. Acceptance to clinical nursing is based on the average of the grades received in required prerequisite courses at the time of application. Admission is based strictly on grade prioritization. There is a competitive component to a successful application. MSU general education requirements and elective credits need to be satisfied prior to graduation. Due to occasional changes in the curriculum and degree requirements, it is essential to contact the pre-nursing advisor before course selection and enrollment.

Suggested Course of Study

First Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL</td>
<td>106N Elementary Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM</td>
<td>151N-152N General and Inorganic Chemistry/Organic and Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM</td>
<td>154N Organic and Biochemistry and Lab</td>
<td>3</td>
</tr>
<tr>
<td>COMM</td>
<td>111A Introduction to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>ENEX</td>
<td>101 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>241 Statistics</td>
<td>4</td>
</tr>
<tr>
<td>PSYC</td>
<td>100S Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC</td>
<td>110S Principles of Sociology</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td></td>
<td>3</td>
</tr>
<tr>
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Second Year

<table>
<thead>
<tr>
<th>Subject</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL</td>
<td>212-213 Anatomy and Physiology I &amp; II</td>
<td>4</td>
</tr>
<tr>
<td>HHP</td>
<td>236 Basic Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>MATH</td>
<td>241 Statistics</td>
<td>4</td>
</tr>
<tr>
<td>PSYC</td>
<td>240S Child and Adolescent Development</td>
<td>3</td>
</tr>
<tr>
<td>PSYC</td>
<td>245 Adult Development and Aging</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

Individual programs may differ from the suggested course of study to better fill the needs of the particular student.

Students desiring admission to other schools of nursing are encouraged to obtain a catalog from the college and, in consultation with the pre-nursing advisor, develop a plan of study tailored to meet the specific course requirements of the college of their choice. In Montana the associate degree in nursing (ASN) can be obtained at MSU-Northern, Havre; Miles Community College, Miles City; Montana Tech of The University of Montana, Butte, and Salish Kootenai College, Pablo. A B.S.N. completion program can be obtained at MSU-Northern, Havre; Montana Tech of The University of Montana, Butte, and Salish Kootenai College, Pablo. A baccalaureate in nursing can be obtained at Carroll College, Helena and Montana State University, Bozeman.
Department of Psychology

Nabil Haddad, Chair

Psychology is the science of the behavior of humans and other animals. The psychologist, using scientific methods, seeks to understand the causes and purposes of behavior. Psychologists pursue their research and its application in academia, business, government, health, military and social service. The department offers the Bachelor of Arts, Master of Arts and Doctor of Philosophy degrees.

Admission Requirements

To be admitted to either option of the psychology major, a student must satisfy the following requirements:
1) completion of 30 credits overall
2) completion of 6 credits in psychology courses, including PSYC 100S and 110

In addition, to be admitted to the research option of the psychology major, students also should have:
3) a minimum overall GPA of 3.0

Students who intend to major in psychology but who have not yet met the credit hour requirements are admitted to the program as pre-psychology majors. Prior to meeting the above requirements for admission pre- psychology students should go to University College in Corbin Hall for advising.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

To earn a Bachelor of Arts degree in psychology, the student must complete one of the options. Students are not restricted to the courses listed under either option, although one option must be completed by majors.

All majors are required to earn a "C" (2.00) or better in all psychology classes taken to fulfill requirements, including the Math course.

The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Majors are required to remain in periodic contact with departmental advisors to facilitate advanced and individual program planning, to deal with impending difficulties, and as a communication channel between student and department.

Students who are particularly interested in child, adult or family development should investigate the human and family development minor. See index.

General Option

The general option is intended for students who have a major interest in psychology, but do not intend to pursue graduate training in psychology.
1) PSYC 100S Introduction to Psychology
2) PSYC 110 Careers in Psychology
3) PSYC 120 Introduction to Psychological Research Methods
4) PSYC 220 Psychological Statistics
5) At least two of the following:
   -PSYC 260S Fundamentals of Learning
   -PSYC 265S Cognition
   -PSYC 270N Fundamentals of Biological Psychology
6) At least four of the following:
   -PSYC 240S Child and Adolescent Development
   -PSYC 245 Adult Development and Aging
   -PSYC 330S Abnormal Psychology
   -PSYC 350S Social Psychology
   -PSYC 351S Psychology of Personality
7) At least one of the following:
   -MATH 117 Probability, Linear Mathematics
   -MATH 150 Applied Calculus
   -MATH 152 Calculus I
8) At least four other three-credit psychology courses, not to include 296, 298, 396, 398, 493, or 499.

Research Option

The research option provides the student with an adequate foundation for graduate studies in psychology.
1) PSYC 100S Introduction to Psychology
2) PSYC 110 Careers in Psychology
3) PSYC 120 Introduction to Psychological Research Methods
4) PSYC 220 Psychological Statistics
5) PSYC 320 Advanced Psychological Research Methods
6) PSYC 297 Supervised Research (minimum of 2 credits)
7) At least two of the following:
   -PSYC 260S Fundamentals of Learning
   -PSYC 265S Cognition
   -PSYC 270N Fundamentals of Biological Psychology
8) At least four of the following:
   -PSYC 240S Child and Adolescent Development
   -PSYC 245 Adult Development and Aging
   -PSYC 330S Abnormal Psychology
   -PSYC 350S Social Psychology
   -PSYC 351S Psychology of Personality
9) At least one of the following:
   -PSYC 335S Fundamentals of Clinical Psychology
   -PSYC 336 Child and Adolescent Psychological Disorders
   -PSYC 337 Principles of Cognitive Behavior Modification
   -PSYC 340 Current Topics in Developmental Psychology
   -PSYC 385 Family Violence
10) At least two of the following:
    -PSYC 301 Personalized Student Instruction
    -PSYC 371 Fundamentals of Human Neuropsychology
    -PSYC 372 Intermediate Behavioral Biology
    -PSYC 400 History and Systems of Psychology
11) At least one of the following:
    -MATH 117 Probability, Linear Mathematics
    -MATH 152 Calculus I

Teacher Preparation in Psychology

Major Teaching Field of Psychology: For an endorsement in the major teaching field of Psychology, a student must complete the requirements for the B.A. degree with a major in Psychology, General Option. Students also must complete C&I 428, gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).
Students are advised that the demand in Montana high schools for teaching of courses in this field is limited. Students should complete the required second endorsement (major or minor) in a field other than Drama, Economics, Geography, Journalism or Sociology.

Minor Teaching Field of Psychology: For an endorsement in the minor teaching field of Psychology, a student must complete the requirements for the psychology minor as given in the section, Requirements for a Minor. Students also must complete C&I 428, gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

### Suggested Course of Study

<table>
<thead>
<tr>
<th>First Year</th>
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<tbody>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
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<tr>
<td>PSYC 110 Careers in Psychology</td>
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<td>1</td>
</tr>
<tr>
<td>PSYC 120 Introduction to Psychological Research Methods</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>MATH 117 Probability and Linear MATH or 150 or 152 Calculus</td>
<td>-</td>
<td>3-4</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Four General Education courses</td>
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<tr>
<td>Two elective courses</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
<td><strong>16-17</strong></td>
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<thead>
<tr>
<th>Second Year</th>
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<tbody>
<tr>
<td>PSYC 220 Psychological Statistics</td>
<td>3</td>
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<tr>
<td>Three other 200-level psychology courses</td>
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<tr>
<td>Four General Education courses</td>
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<tr>
<td>Two elective courses</td>
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<tr>
<td>PSYC 297 Supervised Research</td>
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<tr>
<td>PSYC 320 Advanced Psychological Research Methods (upper-division writing)</td>
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<td>Electives and General Education</td>
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<td>PSYC courses</td>
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<td>15-16</td>
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<td><strong>Total</strong></td>
<td><strong>12</strong></td>
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### Requirements for a Minor

To earn a minor in psychology the student must complete a minimum of 21 credits of psychology including:

1. PSYC 100S Introduction to Psychology
2. PSYC 120 Introduction to Psychological Research Methods
3. One of:
   - PSYC 240S Child and Adolescent Development
   - PSYC 350S Social Psychology
   - PSYC 351S Psychology of Personality
4. One of:
   - PSYC 335S Fundamentals of Clinical Psychology
   - PSYC 330S Abnormal Psychology
   - PSYC 336 Child and Adolescent Psychological Disorders
   - PSYC 337 Principles of Cognitive Behavior Modification
5. Two of:
   - PSYC 260S Fundamentals of Learning
   - PSYC 265S Cognition
   - PSYC 270N Fundamentals of Biological Psychology

PSYC 371 Fundamentals of Human Neuropsychology
PSYC 372 Intermediate Behavioral Biology

At least six of the 21 credits must be at the 300-level or above.

All minors are required to earn a “C” (2.00) or better in all psychology classes taken to fulfill requirements.

### Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit, R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

U 100S Introduction to Psychology 4 cr. Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSYC 100S and PSYC 100S.

U 110 Careers in Psychology 1 cr. Offered spring. Exploration of the various careers available in the general area of mental health research and practice.

U 120 Introduction to Psychological Research Methods 3 cr. Offered every term. Prereq., PSYC 100S. Experimental and quantitative methods employed in the scientific study of behavior.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 220 Psychological Statistics 3 cr. Offered every term. Prereq., PSYC 100S, 120; MATH 117, 150 or 152. Application of statistical techniques to psychological data. Credit not allowed for both PSYC 220 and Soc 202.

U 240S Child and Adolescent Development 3 cr. Offered every term. Prereq., PSYC 100S. An overview of research findings on development from infancy through adolescence, with emphasis on application.

U 245 Adult Development and Aging 3 cr. Offered intermittently. Prereq., PSYC 100S. An overview of theories and research findings in the psychology of adulthood and aging.

U 260S Fundamentals of Learning 3 cr. Offered autumn. Prereq., PSYC 100S. Basic theory and research on the nature of animal learning and behavior.

U 265S Cognition 3 cr. Offered intermittently. Prereq., PSYC 100S. The acquisition and uses of knowledge. An examination of research and theories of human learning, memory, and thinking.

U 270N Fundamentals of Biological Psychology 3 cr. Offered every term. Prereq., PSYC 100S. Introduction to the relationships between biological structures and mechanisms, and their corresponding psychological processes and events. Origins and adaptations of structures and behaviors as well as the methods used to study these relationships.

U 294 Seminar Honors 1 cr. (R-3) Offered intermittently. Prereq., consent of instr.; coreq., another psychology course. Taken in conjunction with another psychology course to provide additional content and discussion for honors students. Consent of the corequisite course instructor is required for this course.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., PSYC 100S. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study Variable cr. (R-6) Offered every term.

U 297 Supervised Research Variable cr. (R-6) Offered every term.
U 298 Cooperative Education Experience 1-6 cr. (R-6) Offered every term. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off-campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 301 Personalized Student Instruction 3 cr. Offered every term. Prereq., PSYC 100S, consent of instr., and 3.0 GPA. Experience with the personalized student instruction method of teaching, gained through participating as a proctor in the introductory psychology course.

U 320 Advanced Psychological Research Methods 3 cr. Offered every term. Prereq., PSYC 100S, 120, and 220 and research option. An appreciation of the experimental approach to the scientific study of behavior through student-conducted experiments.

U 330S Abnormal Psychology 3 cr. Offered every term. Prereq., PSYC 100S. Description and classification of abnormal behavior.


U 336 Child and Adolescent Psychological Disorders 3 cr. Offered spring. Prereq., PSYC 100S and 240S. Study of causes, characteristics, assessment and treatment of emotional, social and intellectual disorders. The age span studied will range from infancy through adolescence.


U 340 Current Topics in Developmental Psychology 3 cr. Offered intermittently. Prereq., PSYC 240S or 245. Topical reviews of theories, research and applications in developmental psychology.

U 350S Social Psychology 3 cr. Offered every term. Prereq., PSYC 100S. Individual behavior as a function of interpersonal influences. Not equivalent to SOC 210S.

U 351S Psychology of Personality 3 cr. Offered intermittently. Prereq., PSYC 100S. Introduction to theories and research in personality. Intensive survey of theoretical concepts and a detailed examination of experimental methods and experiments in the field of personality.


U 372 Intermediate Behavioral Biology 3 cr. Offered autumn. Prereq., PSYC 270N. Advanced evaluation and analysis of animal behavior through the synthesis of theory, research, and methods found in comparative psychology, behavioral biology, ethology, and sociobiology.

U 385 Psychology of Family Violence 3 cr. Offered spring odd-numbered years. Prereq., PSYC 100S; recommended prerequisite, PSYC 220 and 330S. Exploration of theoretical explanations for the presence of violence in American families; research and interventions in such areas as child physical and sexual abuse, battering of women, marital rape, spousal homicide, etc.

U 395 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., nine credits in psychology and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study 1-3 cr. (R-3) Offered every term. Prereq., junior or senior standing and consent of instr.

U 397 Advanced Supervised Research Variable cr. (R-3) Offered every term. Prereq., 12 credits in psychology including PSYC 297 and consent of instr.

U 398 Cooperative Education Experience 1-3 cr. (R-3) Offered every term. Prereq., consent of department chair. Extended classroom experience which provides practical application of classroom learning during placements off-campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 400 History and Systems of Psychology 3 cr. Offered every term. Prereq., 15 credits in psychology. Origin and development of basic concepts and methods in scientific psychology.

UG 423 Addiction Studies 3 cr. Offered intermittently. Same as SOC 423. Examination of chemical dependency and behavioral compulsion, including alcohol and other drugs, gambling, eating disorders, sexual addictions. Ecosystems perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors.

U 493 Omnibus Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Academic credit for non-traditional educational experiences. Prior approval of a Psychology Department faculty member is required. Independent work under the University omnibus option. See index.

UG 494 Senior Seminar Variable cr. (R-6) Offered intermittently. Prereq., nine credits in psychology and consent of instr. Topics of current interest with critical examination of the literature.

UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., 12 credits in psychology and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 499 Baccalaureate Thesis Variable cr. (R-6) Offered autumn and spring. Prereq., junior or senior standing and consent of instr.

G 501 Teaching of Psychology 3 cr. Offered autumn. Prereq., graduate standing in psychology and consent of instr. Explanation and practice of effective teaching techniques.

G 510 Trends in Psychological Research 1 cr. Offered autumn. Brief survey of the departmental faculty's ongoing research interests.

G 511 Professional Development and Basic Skills in Clinical Psychology 1 cr. Offered autumn. Prereq., graduate standing in clinical psychology. Introduction to the professional role and skills in the clinical psychology field.

G 512 Field Placement in Clinical Psychology 1-12 cr. (R-12) Offered every term. Prereq., graduate standing in psychology and consent of instr. Supervised assessment and intervention experience in applied clinical settings.


G 521 Advanced Psychological Statistics II 4 cr. Offered spring. Prereq., PSYC 520 or consent of instr. Complex anova designs, model building with regression, linear model equivalences, covariance analysis, Latin Squares, and cross-over designs.
G 522 Applied Multivariate Statistics 3 cr. Offered intermittently. Prereq., PSYC 520 and 521. Advanced statistical methods commonly employed in the social sciences such as path analysis, exploratory and confirmatory factor analysis, discriminant analysis, cluster analysis, canonical correlation, multidimensional scaling, and multivariate analysis of variance. Focus on applying these methods to address particular research questions and on using various computer programs to perform the analyses.

G 523 Research Design 3 cr. Offered spring. Prereq., graduate standing in psychology. The examination and application of the principles and methods of experimental and quasi-experimental research design in psychology.


G 526 Psychological Evaluation II: Applications and Objective Methods 3 cr. Offered spring. Prereq., enrollment in doctoral program in psychology and consent of instr. Objective methods in psychological assessment; psychological evaluation techniques in the clinical context.

G 530 Interviewing and Case History Techniques 3 cr. Offered autumn. Prereq., graduate standing and consent of instr. Client-centered, supportive, and consulting interviewing practices. A behavioristic orientation toward case history techniques.

G 531 Principles of Psychological Intervention 3 cr. Offered autumn. Prereq., enrollment in doctoral program in clinical or experimental psychology. The philosophical and scientific bases of major systems of psychotherapy are reviewed. Psychotherapy research methods, issues, and findings are introduced.

G 532 Advanced Psychopathology 3 cr. Offered autumn. Prereq., graduate standing in psychology or consent of instr. Symptoms, etiology, diagnostic criteria and treatment of the major psychological disorders, with an emphasis on current research findings.

G 534 Applied Clinical Methodology 1-4 cr. (R-24) Offered every term. Prereq., graduate standing in the clinical program and consent of instr. Theoretical and applied work in a supervised clinical setting.

G 536 Advanced Child and Adolescent Psychological Disorders 3 cr. Offered spring odd-numbered years. Prereq., consent of instr. Advanced study of the characteristics, etiology, assessment, and treatment of the emotional, social, and intellectual problems of children covering the span from infancy through adolescence. Attention devoted to theory, research, and practice.

G 540 Advanced Developmental Psychology 3 cr. Offered intermittently. Prereq., undergraduate course in developmental psychology or consent of instr. Psychological and behavioral development through the life span.

G 545 Field Placement in Human Development 1-6 cr. (R-9) Offered autumn and spring. Prereq., PSYC 540 or equiv. Individualized, applied experience working with and/or observing a particular population of interest, including children, adolescents, or older adults. Involves the completion of an independent project, which may comprise program assessment, research proposal development, etc.

G 546 History and Theories of Developmental Psychology 3 cr. Offered intermittently. Prereq., PSYC 540 or equiv. History, theories, and research in developmental psychology. Consideration of selected topics.

G 550 Advanced Social Psychology 3 cr. Offered spring. Prereq., graduate course in social psychology or consent of instr. Theory and experiment in the analysis of individual behavior in relation to social stimuli.

G 551 Advanced Personality 3 cr. Offered spring odd-numbered years. Prereq., undergraduate course in personality or consent of instr. Theory and research on human personality and behavior. Emphasis on topics of contemporary importance.

G 560 Advanced Learning 3 cr. Offered autumn even-numbered years. Prereq., undergraduate course in learning or consent of instr. Principles and methods pertaining to the acquisition and retention of new behavior.

G 565 Advanced Cognition 3 cr. Offered autumn odd-numbered years. Prereq., undergraduate course in perception, cognition, or learning, or consent of instr. Examination of the acquisition of knowledge through perception and learning, the retention of knowledge, and the use of knowledge through thinking and reasoning.

G 571 Advanced Physiological Psychology 3 cr. Offered autumn even-numbered years. Prereq., consent of instr. Brain mechanisms and behavior; electrophysiological correlates of behavior.


G 581 Psychologists in School Organization 2 cr. Offered spring even-numbered years. Prereq., enrollment in school psychology program or consent of instr. Analysis of the psycho-social structures of schools as organizations from the perspective of school psychologists.

G 582 School Psychological Evaluation 4 cr. Offered spring. Prereq., PSYC 525 enrollment in school psychology program and consent of instr. Methods of gathering information and valid inferential use of it in evaluating children's school learning and adjustment problems.

G 587 School Psychology Methods 2 cr. (R-8) Offered every term. Prereq., graduate standing in school psychology and consent of instr. Theoretical and applied school psychology work in a supervised setting.

G 588 School Psychology Internship Variable cr. (R-12) Offered autumn and spring. Prereq., enrollment in school psychology program or consent of instr. Supervised work experience in the role and functions of school psychologists.

G 594 Seminar Variable cr. (R-12) Offered intermittently.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Assigned readings and other special study projects.

G 597 Research Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Independent supervised research projects, other than thesis or dissertation.


G 625 Psychological Evaluation III: Projectives and Integration 3 cr. Offered intermittently. Prereq., graduate standing in clinical program and consent of instr. Projective methods, emphasizing the Rorschach and TAT; integration and reporting of test findings.

G 629 Seminar in Measurement and Quantitative 1-3 cr. (R-12) Offered intermittently. Prereq., consent of instr. Advanced treatment of specialized research topics in measurement and quantitative psychology.

G 630 Ethics, Professional and Cultural Issues 3 cr. Offered spring. Prereq., enrollment in doctoral program in clinical or experimental psychology. Review of ethical principles and professional standards of psychologists. Analysis of the influence of cultural factors upon professional conduct.
The academic study of religions is coextensive with the broad field of humane learning in which questions pertaining to the meaning of human existence are most prominent. The study of religions in the University is therefore taken up in close conjunction with the humanities, arts, letters, and the sciences.
The offerings in Religious Studies do not constitute a pre-professional program. They are intended to extend and deepen the student's education in the liberal arts.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Religious Studies (RELS)

U 100 Introduction to the Study of Religion 3 cr. Offered intermittently. An inquiry into the literary and historical phenomena of religion in relation to the symbolic, cultural and social expressions of selected major world religions.

U 106H Introduction to Old Testament Studies 3 cr. Introduction to the literature and history of ancient Israel and to modern methods employed in studying Israel's religion as an academic discipline.


U 130S Sociology of Religious Cults 3 cr. Same as SOC 130S. Offered spring. Unconventional religious groups in American society. Topics include recruitment, conversion, commitment, defection, leadership, belief systems, organizational structure and change.

U 195 Special Topics Variable cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 198 Cooperative Education Experience Variable cr. (R-6) Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus.

U 232H Buddhism 3 cr. Offered autumn. A historical introduction to the development of Buddhist thought and practice in the cultures of Asia and the West.

U 233 Traditions of Buddhist Meditation 3 cr. Offered autumn. Prereq. or coreq., RELS 232H. A critical and phenomenological introduction to meditation as the Buddhist method of systematic inquiry into the nature of the mind and its role in the construction of experience.

U 249H The Medieval Vision 3 cr. Offered alternate years. Interdisciplinary introduction to the medieval west; study of symbolic structures in literature, philosophy, popular religion, art and architecture.

U 252L Medieval Allegory 3 cr. Offered alternate years. Study of creative allegories of the spiritual quest or journey and critical interpretive allegories of sacred texts. Typical authors include Gregory of Nyssa, Dante, the Pearl poet, Farid ud-Din Attar.

U 260H Religion in America 3 cr. Offered alternate years. A survey of the history of religion in American society, thought and culture from the advent of the first Europeans to the present.

U 276 Contemporary Religious Thought 3 cr. (R-6) Offered alternate years. Study of selected major critical and constructive proposals in modern religious thought in various traditions.

U 295 Special Topics Variable cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 301E American Indian Religion and Philosophy 3 cr. Prereq., lower-division course in Perspective 5 or consent of instr. Same as NAS 301E. A study of selected ethical belief systems; origins, world views; religious ceremonies and the way they have been affected by Western civilization.

UG 311 The Gospels 3 cr. Offered alternate years. An investigation of the origins, nature and development of the gospels.

UG 312 The Legacy of Paul 3 cr. Offered alternate years. The life and letters of Paul; the structure of the Pauline understanding of the Christian faith; the legacy of Paul in later Christian thought.

UG 335 Western Religious Thought I 3 cr. Offered autumn. Selected studies in the intellectual history of Western religions, alternating between studies of periods and seminal thinkers. Emphasis will be on the ancient and medieval periods.

UG 336 Western Religious Thought II 3 cr. Offered spring. Selected studies in the intellectual history of Western religions, alternating between studies of periods and seminal thinkers. Emphasis will be on the late medieval and early modern periods.

UG 347 Nature and Cosmology 3 cr. Offered intermittently. An investigation of religious views of nature in the west including ancient near eastern creation myths, medieval speculative cosmologies and nature mysticism, romanticism and contemporary accounts.

UG 360 Classics of Buddhist Literature 3 cr. (R-6) Offered spring. Close reading of a selection of core Buddhist texts drawn from various Asian cultures and spanning the three main phases of the tradition.

UG 365 South Asian Religious Traditions: Hinduism 3 cr. Offered spring even-numbered years. Same as AS and LS 365. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism's transformation and impact beyond South Asia.

UG 370 Mysticism 3 cr. (R-6) An inquiry into the literary and interpretation of mysticism in the major religious traditions. Each offering will focus on a specific tradition or period.

UG 381 Comparative Ethics 3 cr. Prereq., lower-division course in Perspective 5 or consent of instr. An examination of models for cross-cultural study, concentrating on the formation and exercise of values in eastern cultures as approached from the standpoint of western students.

UG 395 Special Topics Variable cr. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 396 Independent Study Variable cr. (R-6)

UG 495 Special Topics Variable cr. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Studies 3 cr. (R-9) Prereq., consent of instr. Work on selected problems by individual students under direct faculty supervision.

Faculty

Professors
Paul A. Dietrich, Ph.D., University of Chicago, 1981 (Director)
Alan Sponberg, Ph.D., University of British Columbia, 1980

Assistant Professor
Megan Williams, Ph.D., Princeton, 2002

Adjunct Professor
Thomas R. Lee, Ph.D., University of California, 1979
Russian Studies

Frederick W. Skinner (Associate Professor of History), Advisor

Students interested in Russian studies may choose a minor in Russian studies as listed below. Students will receive formal guidance for their interest in Russian studies and recognition for completing a defined program. For assignment to an advisor in Russian studies, the student may contact Dr. Fred Skinner, Department of History.

Requirements for a Minor

The following requirements must be successfully completed to obtain a minor in Russian studies:

1. Twelve credits of course work concerning the former Russian area and its successor states. The Russian Studies Faculty Committee will designate the courses which may be used for the minor. These twelve credits will include at least one course concerning Russian area studies in at least three of the following disciplines: anthropology, business administration, economics, modern and classical languages and literatures (not including the language requirement), geography, history, communication studies, political science, sociology.

2. Second year proficiency in the Russian language.

Related Courses

Following is a list of possible course selections for the minor in Russian Studies. It is not an exhaustive list so students are advised to consult with their advisors for course suggestions appropriate to the minor.

Anthropology
385S Indigenous Peoples and Global Development 3 cr.

Business Administration-Management
348 Entrepreneurship 3cr.
368 International Business 3cr.
465 World Trade and Commerce 3 cr.

Communication Studies
451S Intercultural Communications 3 cr.
452 Cultural Codes in Communication 3 cr.

Economics
374 Comparative Economic Systems 3 cr.

Geography
351 Geography of a Selected Region 3 cr.
396 Problems in Geography 3 cr.

History
319H Contemporary Europe 3 cr.
331H Foreign Relations of the Great Powers, 1870-Present 3 cr.
332H The Global Diplomacy of the Cold War 3 cr.
344 Russia to 1801 3 cr.
345 Russia Since 1801 3 cr.
348 Eastern Europe: Past and Present 3 cr.
395 Russia: Past and Present 3 cr.
446 The Russian Revolution, 1900-1930 3 cr.
460E Problems of Peace and National Security 3 cr.

Political Science
322H Soviet and Post Soviet Politics 3 cr.
323 Theories of Civil Violence 3 cr.

Russian
301 Oral and Written Expression 3 cr.
302 Russian Culture and Civilization 3 cr.
305L-306L Introduction to Russian Literature 6 cr.
395 Special Topics Variable cr.
401 Advanced Conversation and Composition 3 cr.
411 19th Century Major Russian Authors 3 cr.
412 20th Century Major Russian Authors 3 cr.
413 Soviet/Russian Literature 3 cr.
424 Russian Short Story 3 cr.
430 20th Century Russian Women Writers 3 cr.
432 20th Century Russian Literature: Contemporary Period 3 cr.
440 Russian Poetry 3 cr.
495 Special Topics Variable cr.

Sociology
320 Complex Organizations
325 Social Stratification
455 Classical Social Theory

Study in Russia
Primarily a language-based program taught by native Russian instructors for beginning through advanced language students.

Faculty

Professor
Frederick W. Skinner, Ph.D., Princeton University, 1973

Science

James P. Jacobs, (Professor and Chair, Department of Physics and Astronomy)

Science courses are designed for students desiring scientific knowledge and insight but are either majoring in non-scientific subjects or have limited science backgrounds. Enrollment in Science courses may serve as an introduction to further study in the sciences, to fulfill general requirements, or to fill specific requirements of the elementary education major.

Courses

U = Undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Science (SCI)

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of
current topics.

U 198 Cooperative Education Experience Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off-campus. Prior approval must be obtained from the faculty supervisor and the Center for Work-Based Learning.

U 225 General Science: Physical and Chemical Science 5 cr. Offered autumn. Prereq., MATH 100 or equiv. Integrated lectures, discussions, laboratory exercises, and demonstrations on topics in physical and applied science for prospective elementary school teachers and the non-scientist. A two-hour laboratory session is required each week.

U 226 General Science: Earth and Life Science 5 cr. Offered spring. Prereq., SCI 225N and MATH 130 or equiv. Integrated lectures, laboratory exercises, and field trips on topics in earth and biological science for prospective elementary school teachers and the non-scientist. A two-hour laboratory session is required each week and one or two Saturday field trips.

U 296 Independent Study 1-9 cr. (R-9) Offered intermittently.

U 350 Environmental Perspectives 2 cr. Offered autumn and spring. Critical analysis of the assumptions and effects of past and present patterns of land use, based on readings drawn from both the sciences and humanities.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study 1-12 cr. (R-12) Offered intermittently.

U 493 Omnibus Variable cr. (R-8) Offered intermittently. Prereq., consent of instr. Independent work under the University omnibus option. See index.

U 494 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Seminars and conferences designed to update teachers on developments in science and technology or to introduce interdisciplinary concepts.

U 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-12 cr. (R-12) Offered intermittently.

U 497 Research 1-10 cr. (R-10) Offered intermittently.

U 498 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. See SCI 198.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-12) Offered intermittently.

Department of Sociology

Daniel P. Doyle, Chair

Sociology offers a perspective—a way to view the world—that examines the social contexts in which people live. A sociological perspective enables us to grasp connections among individuals, their communities and the broader society. It facilitates understanding of complex social processes and problems, and can offer insights into how to improve social welfare. At The University of Montana-Missoula, the Sociology faculty, graduate students and undergraduates learn about the sociological perspective through coursework on a variety of theoretical and methodological approaches, and topics that engage social issues in our own Rocky Mountain region to places all around the globe.

At the University of Montana-Missoula sociology faculty, graduate students and undergraduates use a variety of theoretical and methodological approaches to study important social issues affecting our local community, the Rocky Mountain region, the nation and the world.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

The general sociology major requires a minimum of 33 sociology credits. Students may choose an option in criminology or in rural and environmental change. These options require 39 sociology credits. All sociology majors must complete a 3-credit extra-departmental requirement in computer science (does not count toward 33/39 credit minimum), a required core and four courses from the major content list, in order to insure broad exposure to the field of sociology. No more than 60 sociology credits may count for graduation. In addition to meeting the departmental requirements, students must meet all University-wide requirements, as specified in the catalog. These include: completing 120 credits, meeting the General Education requirements including the Upper-division Writing Proficiency Assessment, and taking 39 credits of upper-division coursework. See the Academic Policies and Procedures section of this catalog for other requirements.

Upper-Division Writing Expectation: To meet the Upper-Division Writing Expectation of the Bachelor of Arts with a major in sociology, student must successfully complete one course selected from SOC 421, 438, 465 or 488; or any other upper-division writing course approved for general education (see Academic Policies and Procedures section of the catalog).

Required Course Work:

1) Extra-departmental requirement (3 credits):
- CS 171--Communicating Via Computers or
- CS 172--Introduction to Computer Modeling, or a higher-level CS course.

2) Core Courses (12 credits):
- 110S--Principles of Sociology
- 201--Social Science Methods
- 202--Social Statistics
- 455--Classical Social Theory

3) Major Content—four courses, two of which must be numbered 300 or above, (12 credits):
- 220S--Race, Gender and Class
- 230S--Criminology OR 330S--Juvenile Delinquency
- 270--Introduction to Rural and Environmental Change
- 275S--Gender and Society
- 300--Sociology of the Family
- 306S--Sociology of Work
- 308S--Sociology of Education
- 320--Complex Organizations
- 325—Social Stratification
- 340—The Community
- 342–Urban/Metropolitan Sociology
- 350S—Social Psychology
- 355S—Population and Human Ecology
- 485—Political Sociology

Sociology 110S is a prerequisite for most courses numbered 200 and above. Additional prerequisites are listed in course descriptions. Students who have not completed specified prerequisites may enroll only with the instructor's consent. All courses to be applied toward the major must be taken for a traditional letter grade. Majors are expected to earn a "C-" or better in all core courses.

To earn 120 credits in four years, students must average 30 credits per year, or 15 credits per semester. Requirements for general sociology majors allow considerable flexibility in choosing courses. However, requirements for the criminology and rural and environmental sociology options are more stringent.

**General Sociology:**
Those students interested in the general sociology major, must take three electives in addition to the core skills and major content requirements listed above. Students whose primary interest is in a general sociology degree are urged to develop a plan of study with their advisors. The following courses are available for consideration: 120S, 130S, 140S, 212S, 235, 240S, 265S, 280S, 310, 325, 335S, 340, 342, 365, 370S, 381, 382, 386, 421, 424, 435, 438, 465, 466, 470, 490, 493, 496.

**Criminology Option:**
Criminology is an intriguing field of study which examines the making of law, the nature and extent of crime and criminality, and efforts to control crime. The option builds upon the required course work in sociology and allows students to pursue extended study of crime and the criminal justice system. In addition, the option provides opportunity for practical experience in the criminal justice system through internship placement. The criminology option prepares students for employment in public and private criminal justice agencies, as well as graduate study in sociology, criminal justice, and law.

In addition to courses required of all sociology majors in the core and content areas, students concentrating in criminology must complete the following:

- 230S—Criminology or 330S—Juvenile Delinquency
- 235—Criminal Justice System

and any three of the following courses:

- 322—Sociology of Law Enforcement
- 333—Criminal Adjudication
- 334—Sociology of Corrections
- 355—Juvenile Justice System
- 435—Sociology of Law
- 438—Seminar in Crime and Deviance

Research Experience/Internship

**Rural and Environmental Change Option:**
Rural environments, residents and agencies are facing rapid social, economic, demographic and political change. This option develops analytical and practical skills for understanding rural and environmental change globally and in the American West, and its policy implications in such areas as rural health, welfare and work; community development and assessment; native peoples and natural resource management. An option in rural and environmental change prepares students for employment with either a government, private or non-profit agency concerned with the above topics or for pursuing an advanced degree in sociology.

Requirements, in addition to courses in the core and content areas, include:

- 346—Rural Sociology
- 470—Society and Environment

and any three of the following courses:

- 320—Complex Organizations
- 322—Sociology of Poverty
- 340—The Community
- 355S—Population and Human Ecology
- 370S—Social Change and Global Development
- 424—Social Forestry
- 465—Technology and Social Change
- 485—Political Sociology

Research Experience/Internship

**Sociology Honors Program:** Sociology majors enrolled in the University Honors Program are expected to meet these additional requirements:

1) Each student must complete SOC 201 and 202 before the end of the sophomore year, and SOC 455 before the end of the junior year.

2) The student must enroll for an additional one or two credits to accompany a particular course in order to examine the course material in greater depth. Specific requirements for the student's independent work will be arranged in consultation with the instructor. Sociology 496 should be used when registering for extra credits.

3) The student must complete a senior project involving original research. Up to six credits may be earned under SOC 495. These credits are exempt from the 60-credit limit in the major.

**Teacher Preparation in Sociology**

**Major Teaching Field of Sociology:** For an endorsement in the major teaching field of Sociology, a student must complete the requirements for the B.A. degree with a major in Sociology and C&I 428. Students also must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog). Students are advised that the demand in Montana high schools for teaching of courses in this field is limited.

**Minor Teaching Field of Sociology:** For an endorsement in the minor teaching field of Sociology, a student must complete SOC 110S, 201, 220S, 230S or 330S, 455 and 6 elective credits in Sociology courses 200 and above. Students also must complete C&I 428, gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher. (See the School of Education section of this catalog.)

**Suggested Course of Study**

**General Sociology Majors:**

<table>
<thead>
<tr>
<th>First Year</th>
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<tbody>
<tr>
<td>SOC 110S Principles of Sociology</td>
<td>A 3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
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<tr>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
</tr>
<tr>
<td>Writing course</td>
<td>3</td>
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<tr>
<td>Electives and General Education</td>
<td>6 9</td>
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<tr>
<td>Total Credits</td>
<td>15 15</td>
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<table>
<thead>
<tr>
<th>Second Year</th>
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<tbody>
<tr>
<td>SOC 201 Social Science Methods</td>
<td>3</td>
</tr>
<tr>
<td>CS 171 Communicating Via Computers or 172</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>Sociology major content courses</td>
<td>3 6</td>
</tr>
</tbody>
</table>
Criminology core courses .................................. 3 3
Electives and General Education .......................... 6 3
                                                  15 15

All sociology majors are expected to have their general
education work completed by the end of their sophomore year.
The bulk of the work in sociology should occur during the
junior and senior years.

Third Year
SOC 202 Social Statistics .................................. 3 -
SOC 455 Classical Social Theory ........................... 3 -
Sociology major content course ........................... 3 -
Upper-division writing course ............................. 3 -
Electives and option courses (Crim or Rural) .......... 9 9
                                                  15 15

Fourth Year
Electives and option courses (Crim or Rural) .......... 12 12
Rural & Environmental Change core courses .......... 3 3
                                                  15 15

Students choosing an option in criminology are required to
complete the core in their option prior to taking the criminology
option courses. Students choosing the rural and environmental
change option should complete the option elective courses prior
to taking their core courses, which serve as capstone courses.

Requirements for a Minor
To earn a minor in sociology the student must complete a
minimum of 21 credits in sociology with at least 9 of these
credits at the upper-division level. Students must take SOC
110S, 201, 455 and two (2) major content courses.

Courses

U = for undergraduate credit only, UG = for undergraduate or
graduate credit, G = for graduate credit. R after the credit
indicates the course may be repeated for credit to the maximum
indicated after the R.

Sociology (SOC)

U 110S Principles of Sociology 3 cr. Offered every term.
Overview of the principles and concepts used in the study of
human social interaction, groups, communities and societies.
Required of all majors.

U 130S Sociology of Alternative Religions 3 cr. Offered
autumn. Same as RELS 130S. Unconventional religious groups
in American society. Topics include recruitment, conversion,
commitment, defection, leadership, belief systems, organizational structure and change.

U 140S Explaining the Holocaust 3 cr. Offered
intermittently. The calculated and systematic destruction of
Jews during the Nazi "Final Solution" is examined in lectures,
readings and films. Concepts and principles of social science
are used to explain the behaviors of the perpetrators, victims,
survivors and "bystanders".

U 195 Special Topics Variable cr. (R-6) Offered
intermittently. Experimental offerings of visiting professors,
experimental offerings of new courses, or one-time offerings of
current topics.

U 201 Social Science Methods 3 cr. Offered every term.
Prereq., SOC 110S. Methods of research in the social sciences
including naturalistic observation, interviewing, measurement,
experiments, surveys, content analysis, and basic data analysis.
Required of all majors.

U 202 Social Statistics 3 cr. Offered every term. Prereq.,
MATH 117 or consent of instr. Application of descriptive and
inferential statistical techniques to sociological data. Required
of all majors.

U 212S Southeast Asian Culture and Civilization 3 cr.
Offered intermittently. Same as AS and LS 212S.
Introduction to the history, geography, cultures, social
organization, and contemporary events of Southeast Asia.

U 220S Race, Gender and Class 3 cr. Offered
intermittently. Prereq., SOC 110S. Analysis of the intersecting
structure and dynamics of race, gender and class. Focus on power
relationships, intergroup conflict and minority-group status.

U 225 Community and Environment 3 cr. Offered spring.
Same as EVST 225. Exploration of the various ways that
communities address their environmental concerns.
Introduction to relevant social science concepts.

U 230S Criminology 3 cr. Offered autumn. Prereq., SOC
110S. A critical examination of crime in society: how crime is
defined, the extent and distribution of crime, theoretical
explanations of criminal behavior, and crime control efforts.

U 235 Criminal Justice System 3 cr. Offered spring.
Prereq., SOC 110S. A systematic survey of crime and the
administration of justice in the United States, including the
organizational structures, processes, and dynamics of law
enforcement, criminal adjudication, and corrections.

U 270 Introduction to Rural and Environmental Change
3 cr. Offered autumn. Introduction to the study of
relationships and interactions between people in rural societies
and the environment.

U 275S Gender and Society 3 cr. Offered autumn. Same as
WS 275S. Exploration of the social construction of gender,
especially in western, post-industrial societies such as the U.S.
How gender ideologies affect the social definition and position
of men and women in work, family, sexual relationships, sexual
divisions of labor, and social movements.

U 295 Special Topics Variable cr. (R-6) Offered
intermittently. Experimental offerings of visiting professors,
experimental offerings of new courses, or one-time offerings of
current topics.

U 300 Sociology of The Family 3 cr. Offered spring.
Prereq., SOC 110S. Historical, cross-cultural, and analytical
study of the family. Emphasis on ideology, social structures,
and agency affecting family composition and roles.

U 306S Sociology of Work 3 cr. Offered intermittently.
Prereq., SOC 110S. Structure and function of occupations and
professions. Problems of organization and relationships in work
groups, with emphasis on the study of actual work situations.

U 308S Sociology of Education 3 cr. Offered
intermittently. Prereq., SOC 110S. The structure and operation
of the educational system in the United States, with special
attention to the organization and effectiveness of schools.

U 310 Extraordinary Group Behavior 3 cr. Offered
intermittently. Prereq., SOC 110S. The study of emergent
social behavior including rumors, crowds, crazes, riots, panics,
terrorism, revolutions and social movements.

U 320 Complex Organizations 3 cr. Offered every term.
Prereq., SOC 110S. The structure and operation of complex
organizations and bureaucracies such as schools, government
agencies, small businesses and multi-national corporations.

U 322 Sociology of Poverty 3 cr. Offered intermittently.
Prereq., SOC 110S. An examination of the roots, prevalence
and social characteristics of the poor. Analysis of policies
intended to end poverty.

U 325 Social Stratification 3 cr. Offered intermittently.
Prereq., SOC 110S. The origins, institutionalization and change
of class, status, prestige, power and other forms of social
inequality. Special attention to the effects of stratification on
individuals.

U 330S Juvenile Delinquency 3 cr. Offered spring.
Prereq., SOC 110S. The study of juvenile delinquency as a
social phenomenon, including the emergence of "juvenile
delinquency" as a social and legal concept, the nature of
delinquency, and theoretical explanations of delinquent
behavior.
UG 332 Sociology of Law Enforcement 3 cr. Offered autumn even-numbered years. Prereq., SOC 110S, 235, and either 230S or 330S. An examination of policing in society, with emphasis on the cultural context in which it occurs, its structural characteristics, and social psychological processes.

UG 333 Criminal Adjudication 3 cr. Offered spring odd-numbered years. Prereq., SOC 110S, 235 and either 230S or 330S. An examination of adjudicatory processes applied to the criminally accused. Includes pretrial, trial, and sentencing practices and procedures. Special attention to the sociological dimensions of criminal adjudication: its cultural underpinnings, structural characteristics and interactional dynamics.

UG 334 Sociology of Corrections 3 cr. Offered spring even-numbered years. Prereq., SOC 110S, 235 and either 230S or 330S. An examination of the purposes, structures, and processes of jails, prisons, and community corrections, including probation and parole. Emphasis on historical development and current trends and issues in corrections.

UG 335 Juvenile Justice System 3 cr. Offered autumn odd-numbered years. Prereq., SOC 110S and 230S or 330S. An analysis of the juvenile justice system in the United States, including the historical development of policies and practices. The role of various social agencies in defining, preventing, and responding to problems in the justice system.

UG 340 The Community 3 cr. Offered spring even-numbered years. Prereq., SOC 110S. The study of families, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.

U 342 Urban/Metropolitan Sociology 3 cr. Offered spring even-numbered years. Prereq., SOC 110S. Classical social theories of urban growth. Contemporary urbanization in local, regional, national and global contexts. Internal urban/metropolitan social organization in terms of race, ethnicity, social class and gender.

U 346 Rural Sociology 3 cr. Offered spring. Prereq., SOC 110S; SOC 201 recommended. Demographic, economic and sociocultural change in rural communities with an emphasis on global economy, political structure, urbanization, and economic and social infrastructure. Special attention given to the rural west and Montana.

U 350S Social Psychology 3 cr. Offered autumn and spring. Prereq., SOC 110S. The study of the behavior of individuals in social contexts ranging from small groups to societies. Topics include attitude change, conformity, aggression, helping behavior, self-concept formation, and group cohesion and decision-making.

U 355S Population and Human Ecology 3 cr. Offered autumn even-numbered years. Prereq., SOC 110S. An introduction to world population growth and change, including the impact of population trends on family and community life, and local, national and world decision-making.

UG 370S Social Change and Global Development 3 cr. Offered spring even-numbered years. Prereq., SOC 110S. Introduction to the global roots and dimensions of social change. Broad perspective on the forces that have transformed how "development" is defined and understood, and the role of economic growth and welfare assistance organized nationally to a process of globally organized economic, political and cultural change.

U 386 Preceptorship in Sociology 2-3 cr. Offered autumn and spring. Prereq., SOC 110S and consent of instr. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors with instructor's consent. Proposals must be approved by department chair.

U 395 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of new courses or one time offerings of current topics.

U 398 Cooperative Education Experience Variable cr. (R-10) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 421 Issues in Sociology of Family 3 cr. Offered spring odd-numbered years. Prereq., SOC 300 or equiv. Analysis of selected topics on deviance, Montana families, family and the state, families and poverty, feminist perspectives on family, social psychology of families and families in cross-cultural perspective. This course will meet the upper-division writing expectation for sociology majors only.

UG 423 Addiction Studies 3 cr. Offered spring even-numbered years. Same as PSYC and SW 423. Examination of chemical dependency and behavioral compulsion, including alcohol and other drugs, gambling, eating disorders, sexual addictions. Ecosystems perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors.

UG 424 Social Forestry 3 cr. Offered spring even-numbered years. Same as FOR 424. A review of agroforestry, community forestry and opportunities and constraints to the use of forestry in rural development and protected area management.

UG 435 Sociology of Law 3 cr. Offered spring even-numbered years. Prereq., SOC 110S and either 230S or 330S recommended. The study of the law and society, including the origin, institutionalization, and impact of law and legal systems.

UG 438 Seminar in Crime and Deviance 3 cr. Offered every term. Prereq., SOC 110S, 235 and either 230S or 330S. Advanced studies in criminology/deviance theory and research. Emphasis on public policies related to crime. Meets the upper-division writing expectation for sociology majors only.

UG 455 Classical Social Theory 3 cr. Offered autumn and spring. Prereq., SOC 110S. Focus on the historical development of the field of sociology from 1850 to World War I. The classical writings of Comte, Tonnies, Weber, Durkheim, Marx, LePlay and Simmel emphasized. Required of all sociology majors.

UG 465 Technology and Social Change 3 cr. Offered intermittently. Prereq., SOC 110S; SOC 320 strongly recommended. Critical exploration of social theories and empirical studies of society and technology including organizational analysis, risk assessment and social impact identification. This course will meet the upper-division writing expectation for sociology majors only.

UG 470 Society and Environment 3 cr. Offered spring even-numbered years. Prereq., SOC 110S. Introduction to the field of environmental sociology and influential sociological perspectives on global environmental change. Case examples from agrarian and industrialized regions around the world.

UG 485 Political Sociology 3 cr. Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of political theory and behavior; social bases of power and policy determination; institutional interrelationships; intellectuals and ideologues; political trends and change; political participation and membership.

UG 488 Writing for Sociology 3 cr. Offered autumn and spring. Prereq., SOC 110S, 9 additional credits in sociology and satisfactory performance on the Upper-Division Writing Proficiency Assessment. Advanced study of variable topics or issues in sociology, with emphasis on writing for the discipline. This course satisfies the upper-division writing expectation for sociology majors only.

U 490 Internship Variable cr. (R-12) Offered every term. Prereq., SOC 110S, 201 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business which involves work experience related to sociology, criminology, and/or rural and environmental change.
U 493 Omnibus Variable cr. (R-12) Offered every term. Prereq., SOC 110S and consent of instr. Independent work under the University omnibus option. See index.

UG 494 Seminar 2-3 cr. Offered intermittently. Prereq., SOC 110S and at least junior standing. Selected sociological topics.

UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., SOC 110S. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study 1-3 cr. (R-9) Offered every term. Prereq., SOC 110S and consent of instr. Individual work with a faculty supervisor in an area of special interest. Proposals must be approved by department chair.

UG 520 Contemporary Social Theory 3 cr. Offered autumn. Prereq., SOC 455. The major sociological theories developed since World War I, including an examination of the critical issues under debate.

G 530 Criminological Theory 3 cr. Offered autumn. Prereq., SOC 235 and either 230S or 330S. Advanced study of the major theories of crime and criminality; includes the themes and theoretical perspectives of criminology together with relevant research findings.

G 538 Seminar in Crime and Deviance 3 cr. Offered intermittently. Advanced study of a specific criminological topic or issue with special emphasis on research and public policy. Possible topics include women and crime, cross-cultural criminal justice, sentencing, the social location of crime, drugs and crime, causal analysis of crime and criminality.

G 555 Research Methods for Social Change 3 cr. Offered autumn. Same as EVST 555. Introduction to qualitative methods of research design, data collection, and analysis. Emphasis on research that facilitates and documents social change processes. Hands-on research experience through fieldwork projects. Includes instruction on writing social science and on research ethics.

UG 561 Qualitative Methods 3 cr. Offered autumn. Prereq., SOC 110S and 201. Introduction to the basic methods used to conduct qualitative studies for advanced undergraduate and graduate students. Some methods covered are ethnography, case study, focus group, interview and field observation. Students carry out a study using one or more of the methods discussed in class.

UG 562 Quantitative Methods 3 cr. Offered spring. Prereq., SOC 110S, 201 and 202. Introduction to the basic methods used to conduct quantitative sociological research and program evaluation including proposal development, survey design, sampling techniques, data analysis, and dissemination of findings.

UG 563 Social Data Analysis 3 cr. Offered spring. Prereq., SOC 110S, 201, and 202. A hands-on introduction to preparing sociological reports and documents, performing research and statistical tasks common to the field. Presumes no previous knowledge of microcomputers.

G 571 Seminar: Rural and Environmental Change 3 cr. Offered spring odd-numbered years. Utilizing a critical perspective, students examine rural and environmental transitions and their implications for policies and debates on managing growth, development and natural resources in rural areas.

G 577 Seminar in Rural Development 3 cr. Offered spring odd-numbered years. Advanced study of rural sociology and community development in rural areas with an emphasis on an applied rural development research experience.

G 590 Internship Variable cr. (R-6) Offered every term. Prereq., consent of instr. Supervised placement for graduate students in an agency or business which involves work experience related to sociology, criminology and/or rural and environmental change.

G 594 Graduate Seminar 3 cr. (R-9) Offered intermittently. Selected sociological topics.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of instr. Work with a faculty supervisor in an area of special interest.

G 597 Graduate Research 2-3 cr. (R-9) Offered every term. Directed research. Students must develop a specific research or evaluation proposal which is approved by the instructor prior to registration. Those students electing the professional paper option may apply three credits of 597 toward graduation.

G 598 Cooperative Education Internship Variable cr. (R-6) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Thesis/Professional Paper Variable cr. (R-6) Offered every term. Students may apply six credits of 599 toward graduation.

Faculty

Professors
Robert W. Balch, Ph.D., University of Oregon, 1972
James W. Burfeind, Ph.D., Portland State University, 1984
Daniel P. Doyle, Ph.D., University of Washington, 1984 (Chair)
Paul E. Miller, Ph.D., State University of New York at Buffalo, 1970

Associate Professors
Rebecca T. Richards, Ph.D., Utah State University, 1990
Celia C. Winkler, Ph.D., University of Oregon, 1996

Assistant Professor
Kathy J. Kuipers, Ph.D., Stanford University, 1999
Dusten R. Holist, Ph.D., Washington State University, 2003
Sergio Romero, University of Oregon
Teresa R. Sobieszczyk, Ph.D., Cornell University, 2000
Women's Studies Program

Rita Sommers-Flanagan, Director

Women's Studies, an interdisciplinary program founded in 1971, encourages the production, discussion, and dissemination of knowledge about women's experiences, oppressions, and achievements, in Montana, the U.S., and the world. In the last decade this focus has broadened to include study of the social and cultural construction of gender, sex, and sexualities. By fostering awareness of cultural and international diversity, as well as of the circulations of power mediated by race, class, age, and sexual orientation, Women's Studies encourages students to think critically and to envision justice for all peoples.

The Women's Studies program is administered by the director, with assistance from the program coordinator, in consultation with the Women's Studies Steering Committee, an interdisciplinary group of faculty and professional associates with teaching, research, and scholarly interests in women and gender.

Students may include Women's Studies in their studies in two ways. They can major in Liberal Studies with an option in Women's Studies, or they can complete the Women's and Gender Studies minor. Students may select coursework from a wide variety of courses offered in the humanities, social sciences, natural sciences, law, education and other disciplines. Women's Studies offers scholarships, and sponsors or co-sponsors a variety of events including lectures, discussions, and performances that make a vibrant contribution to both the campus and the Missoula community life.

To be admitted, students must register with the Women's Studies director, who will explain option or minor requirements and supervise their program.

Special Degree Requirements

For the Women's Studies option under the Liberal Studies major, the following requirements must be met (not necessarily in sequence):

1) Completion of Liberal Studies core curriculum. (See the Liberal Studies section of this catalog.)
2) Completion of WS 119H or approved alternative.
3) At least 21 credits of coursework in relevant, advisor-approved courses numbered above 299. At least 12 of these credits must be designated as "focus" courses, and 9 more may be either focus or content courses. Each semester a list of these courses is published at pre-registration by the Women's Studies office, LA 138A, (406) 243-2584. Typical choices are listed below, but may vary from year to year.

Group I: Focus Courses

ANTH 265N Human Sexuality
ANTH 327 Anthropology of Gender
ART 480H Women Artists and Art History
COMM 380 Gender and Communication
COMM 480 The Rhetorical Construction of "Woman"
COMM 481 The Rhetoric of US Women's Activism, 1960-Present
ENLT 321-324* Women's Literature
ENLT 336 American Women Writers
ENLT 337 African-American Literature: Women Writers
ENLT 336 American Women Writers
ENLT 421 Feminist Theory
HIST/LS 370H Women in America: to the Civil War
HIST/LS 371H Women in America: Civil War to the Present
HIST 470 Women and Slavery
HIST 471 Southern Women in Black and White
HIST 420L* History through Women’s Literature
LS/MCLG 320 Women in Antiquity
LS 381* Women and Film
NAS 342H Gender Studies in Native American Studies
PHIL 429E Feminist Ethics
PSYC 355 Psychology of Sex Roles
RELS 370* Mysticism: Women Mystics
SW 323 Women and Social Action in the Americas
SW 324 Gender and the Politics of Welfare
SOC 300 Sociology of the Family
SOC 421 Issues in Sociology of Family

Group II: Content Courses

ANTH 329 Social Change in Non-Western Societies
ANTH 330H Peoples and Cultures of the World
ANTH 340H Contemporary Issues of Southeast Asia
ANTH 430 Social Anthropology
ANTH 480E Ethics and Anthropology
ENLT 301* Applied Literary Criticism
ENLT 372 Gay and Lesbian Studies
ENLT/NAS 329 Native American Literature
FREN 311L French Literature: Medieval, Renaissance, and 17th Century
GERM 441 19th Century German Literature
HIST 300* The Historian's Craft
HIST 350* Human Rights
HIST 351* Colonial America
HIST 384 Work, Workers, and the Working Classes in America
HIST 387 Iran Between Two Revolutions
HIST 485 Piety and Power in Latin America and Imperial Spain
HHP 371 Introduction to Peer Health Education
MCLG 302H/HIST 302H Classical Greece II: Individual, Family and Civic Life in Ancient Greece
PSC 343 Politics of Social Movements
PSC 431 Politics of Global Migration
PSC 450 Utopia and Critics
PSC 463S Development Administration
PSC 472 Constitutional Law II: Civil Rights and Liberties
PSYC 385 Psychology of Family Violence
RELS 336* Medieval Christian Thought
SW 410E Ethics and the Helping Professions
SW 420S Child Abuse and Child Welfare
SOC 322 Sociology of Poverty
SOC 355 Population and Human Ecology
SOC 370S Social Change and Global Development
SOC/FOR 424 Social Forestry

*These are generic courses. The specific course focus must be on women, as listed here. Check with the Women's Studies director before enrolling.

Other courses not listed here may be applied toward the option or the minor if approved by the Women's Studies director.
Requirements for a Minor

The Women's and Gender Studies minor is available to all students. It consists of 18 credits. Minors are required to successfully complete WS 119H or approved alternative and either WS 275S or ANTH 265N. Students may then choose additional women's studies coursework at the 300 or 400-level bearing the WS designation or included in a list of qualifying courses provided each year by the Women's Studies office. Student must include a 400-level seminar designated as WS 494.

Courses

U=for undergraduate credit only, UG=for undergraduate or graduate credit, G=for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Women's Studies (WS)

U 119H Philosophical Perspectives on Women in the Western Hemisphere 3 cr. Offered spring. Same as LS and PHIL 119H. Introduction to the discipline and scope of Western philosophy focusing on women as the subject rather than men. A chronological study following the ideological development in the West of social attitudes and scientific theses.

U 275S Gender and Society 3 cr. Offered autumn. Same as SOC 275S. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S. How gender ideologies affect the social definition and position of men and women, in work, family, sexual relationship, sexual divisions of labor, and social movements.

U 294 Seminar 1-6 cr. (R-6) Offered intermittently.

U 295 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 320 Women in Antiquity 3 cr. Offered autumn odd-numbered years. Same as MCLG and LS 320. Examination of varied sources from Ancient Greece, the Hellenistic World, and republican and imperial Rome to clarify the place of women in communities. Women’s contribution to community and the mechanisms by which communities attempted to socialize female populations.

U 322 Women and Social Action in the Americas 3 cr. Offered autumn odd-numbered years. Prereq., one of SW 100S, SOC 110S, or ANTH 101H or consent of instr. Same as SW 322. Focus on women’s experiences of and contributions to social change in North, South and Central America in the mid-to late-20th century. Through case studies, testimonials, discussions with activists and Internet connections examine social constructions of gender, compare forms of social action in diverse cultural, political and historical contexts, link practice to theories of social participation, and reflect on lessons learned from women’s experiences.

U 324 Gender and the Politics of Welfare 3 cr. Offered spring even-numbered years. Prereq., SW 100S or consent of instr. Same as SW 324. Exploration of the relationship between gender ideologies and the development of welfare policies. Examination of historic and contemporary social welfare policies, practices and debates in the United States through a gender lens.

UG 327 Anthropology of Gender 3 cr. Offered spring odd-numbered years. Same as ANTH 327. Comparative study of the history and significance of gender in social life.

U 336 American Women Writers 3 cr. Offered spring odd-numbered years. Prereq., ENLT 301 or consent of instr. Same as ENLT 336. Consideration of political and aesthetic purposes in women’s fiction through a progression of 19th century literary forms: a cautionary seduction novel, sentimental and domestic novels, realism, naturalism, and utopianism.

U 342H Gender Studies in Native American Studies 3 cr. Offered intermittently. Same as NAS 342H. Focus on American Indian gender relations and their cultural continuity and historical evolution. National in scope with concentration on certain tribes. Group analysis of contemporary gender issues relevant to Native American peoples.

U 370H Women in America: to the Civil War 3 cr. Offered autumn. Same as HIST and LS 370H. Interpretive overview of women’s experiences in America before the Civil War. Exploration of new definitions of womanhood and “women’s sphere” emerging from women’s varied experiences in the American colonies and the American Revolution; how immigrant, poor, slave, and western women transgressed the boundaries of their sphere; and how women—from both inside and outside their assigned sphere—reshaped their roles in American society.

U 371H Women in America: from the Civil War 3 cr. Offered spring. Same as HIST and LS 371H. Interpretive overview of women’s experiences in America after the Civil War. Exploration of such topics as women’s associations, the battle for suffrage, organized feminism and its opponents, the industrialization of housework, women in the workforce, reproductive rights, and welfare. Particular attention to women’s experiences shaped by class and race as well as by gender.

U 372 Gay and Lesbian Studies 3 cr. Offered autumn or spring. Prereq., ENLT 301 or consent of instr. Same as ENLT 372. Review of the history of the gay and lesbian movement in the twentieth century as a basis for understanding the political, social, and sexual issues that influenced homoerotic cultural representation in plays, films, and novels.

U 380 Gender and Communication 3 cr. Offered autumn. Same as COMM 380. The meaning of gender in our culture and how gender is displayed and perpetuated through our private and public verbal and nonverbal interactions.

U 396 Independent Study Variable cr. (R-12) Offered intermittently.

U 397 Research Variable cr. (R-6) Offered intermittently.

U 398 Cooperative Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of director. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 403 Animal Studies 3 cr. Offered autumn. Same as ANTH and LS 403. Animal studies in the context of gender, race, and class, with attention to historical and contemporary issues of and about the relationship between humans and nonhuman animals.

U 403 Independent Study Variable cr. (R-6) Offered intermittently.

U 403 Research Variable cr. (R-6) Offered intermittently.

U 497 Research Variable cr. (R-9) Offered intermittently.
Women's Studies Steering Committee/Faculty

Professors
- Linda Rutland Gillison, Ph.D., University of Minnesota, 1975 (Classics and Liberal Studies)
- Kay Unger, Ph.D., Johns Hopkins University, 1974 (Economics)
- Ruth Vanita, Ph.D., Delhi University, 1992 (Liberal Studies)

Associate Professors
- Ione Crummy, Ph.D., Stanford University, 1992 (French)
- Janet L. Finn, Ph.D., University of Michigan, 1995 (Social Work and Anthropology)
- Christine Fiore, Ph.D., University of Rhode Island, 1990 (Psychology)
- Ramona Grey, Ph.D., University of California, Riverside, 1991 (Political Science)
- Sara Hayden, Ph.D., University of Minnesota, 1993 (Communication Studies)
- Anya Jabour, Ph.D., Rice University, 1995 (History)
- Rita Sommers-Flanagan, Ph.D., The University of Montana, 1989 (Counselor Education)
- Pamela Voekel, Ph.D., University of Texas, 1997 (History)

Assistant Professors
- Jennifer Waltz, University of Washington, 1993 (Psychology)
- G.G. Weix, Ph.D., Cornell University, 1990 (Anthropology)
- Celia Winkler, Ph.D., University of Oregon, 1996 (Sociology)

Adjunct Assistant Professor
- Joanne Charboneau, Ph.D., Michigan State University, 1981 (Liberal Studies, Visiting)
College of Forestry and Conservation
College of Forestry and Conservation

Perry J. Brown, Dean
James A. Burchfield, Associate Dean

Natural resources education began at The University of Montana in 1913 with the founding of the School of Forestry. In the intervening 91 years, the School's educational programs expanded and evolved into the most interdisciplinary, action-oriented conservation training in the world. In 2003 the name of the School of Forestry changed to the College of Forestry and Conservation to demonstrate this evolution and to identify the faculty's commitment to the integration of multiple natural resources disciplines into an extraordinary undergraduate experience.

The College provides four undergraduate degrees in the following majors: Forestry, Recreation Management, Resource Conservation, and Wildlife Biology. These programs are housed in three new departments: Ecosystem Sciences and Conservation, Society and Conservation, and Forest Management. These departments share responsibilities for the fulfillment of educational requirements of the aforementioned undergraduate degree programs, with the exception of the Wildlife Biology program, which is designed as a joint program with the Division of Biological Sciences.

Present day land management challenges range from intensive resource utilization to organism and ecosystem preservation. Resource professionals need a broad range of talents and perspectives to solve present day problems and quickly adapt to address an even more complex future. Our instructional programs produce both specialists and broadly trained generalists, all of whom understand the complex interrelationships between resource use and quality of human environment.

All instructional programs emphasize interaction with practicing professionals and opportunities to observe and participate in current field resource management situations. Field trips are offered in many courses. In addition, students in several options may obtain intensive field experience through on-site course offerings in a camp setting at the Lubrecht Experimental Forest.

High School Preparation: Students planning to enter the College of Forestry and Conservation should attain a sound high school background in English, social studies, mathematics, biology, and other sciences.

Entering freshmen and non-resident transfer students will be admitted to the College of Forestry and Conservation in accordance with general university admissions requirements listed previously in the catalog. See index.

Resident transfer students must have a grade point average of 2.0 or above to be admitted to the College of Forestry and Conservation.

University students wanting to change their major to the College of Forestry and Conservation must have a grade point average of 2.0 or above.

Students are required to consult with their advisors before each registration period. New students needing an advisor and current students who wish to change advisors should contact the Dean's Office. Students may change their advisor at any time, and often do as their specific interests develop or change. Students are responsible for fulfilling the published requirements. Students are urged to solicit the advisor's help at all times.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Degree candidates must complete successfully a curriculum that includes:

1. A minimum of three courses primarily designed to develop communication skills with at least one each in the areas of oral communications and written communications including an upper-division writing course.

2. A minimum of three quantitative courses CS 172, BADM 201, FOR 201, PSYC 220, SOC 202, WBO 240, ANTH 381, and MATH 117 or higher, but not to include MAT 005, MATH 100, 107, 109, 130 or 132.

3. Except for the B.S. in Wildlife Biology, a course of study containing not less than 36 traditional letter-graded semester credits in the College of Forestry and Conservation, of which a minimum of 20 credits must be taken while an approved major within the College of Forestry and Conservation.

4. Except for the B.S. in Wildlife Biology, a minimum of 400 hours of work experience appropriate to the degree being sought and to the student's career objectives, as determined by the forestry faculty.

5. An overall course of study approved by the forestry faculty selected from one of the following academic program areas:
   - Forest Resources Management Option in Forestry (BSF)
   - Range Resources Management Option in Forestry (BSF)
   - Conservation Option in Resource Conservation (BSRC)
   - Land and People Option in Resource Conservation (BSRC)
   - Terrestrial Sciences Option in Resource Conservation (BSRC)
   - Recreation Management (BSRM)
   - Terrestrial Option in Wildlife Biology (BSWB)
   - Aquatic Option in Wildlife Biology (BSWB)
   - Honors Emphasis in Wildlife Biology (BSWB)

Each student will select an academic option, preferably during the first or early in the second year. A coursework program will be worked out for each student with an advisor, according to the guidelines and any additional requirements set forth in the current University Catalog.

6. All students in any of the academic program areas in the College of Forestry and Conservation will complete, and pass with a D or better, a core curriculum that includes:
   a) Natural Resources Measurements Summer Camp (except Wildlife Biology students--see Wildlife Biology section of this catalog) (if a student enters the University with 60 or more transfer credits, he/she will be exempt)
   b) A course in ecology (FOR 330, FOR 462, BIOL 340/341 or transferred equivalent)
   c) A course in natural resources policy (FOR 422, RECM 370, WBO 410, WBO 475, or transferred equivalent)
   d) A course in multidisciplinary natural resources management planning (FOR 480 or transferred equivalent)

7. The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.
To continue coursework in the College of Forestry and Conservation beyond the freshman year, the student must maintain a cumulative grade average of 2.00 (C) or above. To graduate, the student must have a cumulative grade point average of 2.00 (C) for all forestry courses taken as well as a cumulative 2.00 overall average (2.5 for wildlife biology), and pass all required classes.

**Bachelor of Science in Forestry**

This degree emphasizes the training and preparation of students in the art and science of multiple-use land management. Two options are offered in this degree: forest resources management and range resources management. Both are described below.

**Forest Resources Management Option:** This curriculum, accredited by the Society of American Foresters, is designed to provide students with education and training in the art and science of resource analysis and in making and implementing land management decisions to provide for the best use of all resources of the forest environment. Current philosophy and methods of producing forest-based goods and services such as recreation, timber, water, range and wildlife are stressed, with a heavy emphasis on field methods and applications. Completion of the requirements for this degree allows for qualification as a Forester for the U.S. Civil Service Commission, a requirement of all who wish to practice as a forester for federal agencies such as the U.S. Forest Service, and many state government and private forestry employers.

**Range Resources Management Option:** This curriculum is designed to prepare students for a variety of career opportunities in rangeland vegetation management. The program emphasizes rangeland ecology, use, management and conservation. The interrelationships of soil, plants, and animals are studied in great breadth and depth, with extensive field and laboratory experience stressed. Opportunities for employment as a range management specialist include, but are not limited to, federal agencies such as the U.S. Forest Service and Bureau of Land Management; state agencies and private corporations and ranches that require the expertise of a professional range manager.

**Bachelor of Science in Resource Conservation**

This degree provides a broad academic foundation in natural resources with emphasis on their social importance. The degree is designed for individuals with unique or specific career objectives not served by the College's other degree programs. This program provides career opportunities by combining the science and management base gained from natural resource-oriented courses with courses from departments in the social sciences and liberal arts. Graduates from this program can be prepared for specialization in environmental law or business. Graduates might also seek employment with advocacy and professional organizations dealing with natural resources. This degree is not intended to prepare students for professional careers in forest management, recreation management or wildlife biology. Students wishing to pursue careers in these areas should enroll in the appropriate degree program.

**Bachelor of Science in Recreation Management**

A detailed description of this degree, including curriculum requirements, is found under the Recreation Management section in this catalog.

**Bachelor of Science in Wildlife Biology**

The College of Forestry and Conservation cooperates with the Division of Biological Sciences in offering a degree program in wildlife biology.

Wildlife biology is the study of wild vertebrate animals, their habitats and their environment. The undergraduate curriculum constitutes pre-professional training for employment in fish and game conservation, and provides an excellent background in general ecology.

Since few employment opportunities exist in wildlife management or research for students with the bachelor's degree, wildlife biology students should plan to continue their education, at least through the master's degree, to qualify for most state and federal wildlife management or research positions.

Three curricula are offered in the wildlife biology program: Terrestrial, Aquatic, and Honors. Curriculum requirements are found under the Wildlife Biology section in this catalog.

**Minor in Nature and Democracy**

Descriptions of this minor and of the Bolle Center for People and Forests are found under the Nature and Democracy section of this catalog.

**Minor in Wilderness Studies**

Descriptions of this minor and of the Wilderness and Civilization program are found under the Wilderness Studies section of this catalog.

**Graduate Programs**

The College of Forestry and Conservation offers these graduate degrees: Master of Science in Resource Conservation, Master of Science in Forestry, Master of Ecosystem Management, Master of Science in Wildlife Biology, Master of Science in Recreation Management, and Doctor of Philosophy.

For further information on these programs contact the Graduate School.

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**Forestry and Resource Conservation**

**Bachelor of Science in Forestry**

**Forest Resources Management Option**

In addition to special degree requirements listed previously, the students selecting the Forest Resources Management option must complete the following required courses or their equivalents, if transferred from another college or university. Transference and equivalency will be determined by the University and College of Forestry and Conservation. Electives may be taken at any time, keeping in mind these requirements: the University's General Education requirements for graduation.

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 120N General Botany</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 151N General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>2</td>
</tr>
<tr>
<td>ECON 111S Introduction to Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td></td>
</tr>
<tr>
<td>MATH 121 Pre-Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 150 Applied Calculus</td>
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<td>Electives and General Education</td>
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### Summer

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 200</td>
<td>Natural Resources Measurements Camp</td>
<td>2</td>
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### Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 201</td>
<td>Forest Biometrics</td>
<td>3</td>
</tr>
<tr>
<td>FOR 202</td>
<td>Forest Mensuration</td>
<td>4</td>
</tr>
<tr>
<td>FOR 220</td>
<td>Technical Writing</td>
<td>2</td>
</tr>
<tr>
<td>FOR 210N</td>
<td>Introductory Soils</td>
<td>3</td>
</tr>
<tr>
<td>FOR 230</td>
<td>Forest Fire Management</td>
<td>2</td>
</tr>
<tr>
<td>FOR 232</td>
<td>Forest Insects and Diseases</td>
<td>2</td>
</tr>
<tr>
<td>FOR 240</td>
<td>Tree Biology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 241N</td>
<td>Dendrology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 275</td>
<td>Wildlife Conservation</td>
<td>2</td>
</tr>
<tr>
<td>RECM 217</td>
<td>Wildland Recreation Management</td>
<td>3</td>
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<tr>
<td>Electives and General Education</td>
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### Third and Fourth Years

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>FOR 320</td>
<td>Forest Economics</td>
<td>3</td>
</tr>
<tr>
<td>FOR 330</td>
<td>Forest Ecology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 340</td>
<td>Harvesting and Products</td>
<td>4</td>
</tr>
<tr>
<td>FOR 347</td>
<td>Multiple Resource Silviculture</td>
<td>3</td>
</tr>
<tr>
<td>FOR 351</td>
<td>Photogrammetry and Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>FOR 360</td>
<td>Range Management</td>
<td>3</td>
</tr>
<tr>
<td>FOR 385</td>
<td>Watershed Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 422</td>
<td>Natural Resource Policy</td>
<td>3</td>
</tr>
<tr>
<td>FOR 441</td>
<td>Timber Management</td>
<td>3</td>
</tr>
<tr>
<td>FOR 480</td>
<td>Project Design and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FOR 481</td>
<td>Forest Planning</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
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</tr>
</tbody>
</table>

### Range Resources Management Option

In addition to special degree requirements listed previously, students electing the range resources management option must complete the following required courses, or their equivalent if transferred from another college or university. Transference and equivalency will be determined by the University and College of Forestry and Conservation. Electives may be taken at appropriate times, keeping in mind these requirements as well as the University's General Education requirements for graduation.

#### First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 120N</td>
<td>General Botany</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 151N</td>
<td>General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A</td>
<td>Introduction to Public Speaking</td>
<td>2</td>
</tr>
<tr>
<td>ECON 111S</td>
<td>Introduction to Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101</td>
<td>Composition</td>
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<tr>
<td>GEOG 102N</td>
<td>Introduction to Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>MATH 121</td>
<td>Pre-Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 150</td>
<td>Applied Calculus</td>
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<tr>
<td>Electives and General Education</td>
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#### Summer

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 200</td>
<td>Natural Resources Measurements Camp</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 350</td>
<td>Rocky Mountain Flora</td>
<td>3</td>
</tr>
<tr>
<td>FOR 201</td>
<td>Forest Biometrics</td>
<td>3</td>
</tr>
<tr>
<td>FOR 210N</td>
<td>Introductory Soils</td>
<td>3</td>
</tr>
<tr>
<td>FOR 220</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>FOR 230</td>
<td>Forest Fire Management</td>
<td>2</td>
</tr>
<tr>
<td>FOR 275</td>
<td>Wildlife Conservation</td>
<td>2</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Third and Fourth Years: (minimum of 30 credits at the 300-level or above; and at least two 400-level or above to include For 422).

### Terrestrial Sciences Option

The terrestrial sciences option is designed to provide students with a solid scientific foundation in the biological and physical science aspects of terrestrial conservation. The curriculum consists of a required core of science classes and an individualized curriculum of upper-division science courses chosen by the student in consultation with a faculty advisor. The curriculum must include at least 12 credits in forestry or wildlife biology at the upper-division level in addition to those specified below. This is an ideal option for those students who want to specialize their undergraduate education in areas such as forest ecology, hydrology, forest soils, biometrics, fire, or remote sensing.

#### First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENEX 101</td>
<td>Composition</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A</td>
<td>Introduction to Public Speaking</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 151N</td>
<td>General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 152N-154N Organic Chemistry</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>BIOL 103N-104N Diversity of Life</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>GEOL 100N</td>
<td>General Geology or 109N</td>
<td></td>
</tr>
<tr>
<td>Environmental Geoscience</td>
<td></td>
<td></td>
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<tr>
<td>GEOL 101N Geology Laboratory</td>
<td></td>
<td></td>
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<tr>
<td>MATH 121</td>
<td>Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 152</td>
<td>Calculus I</td>
<td>4</td>
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<tr>
<td>Electives and General Education</td>
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#### Summer

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 200</td>
<td>Natural Resources Measurements Camp</td>
<td>2</td>
</tr>
</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>FOR 201</td>
<td>Forest Biometrics</td>
<td>3</td>
</tr>
<tr>
<td>FOR 210N</td>
<td>Forest Soils</td>
<td>3</td>
</tr>
<tr>
<td>FOR 220</td>
<td>Technical Writing</td>
<td>2</td>
</tr>
<tr>
<td>FOR 240</td>
<td>Tree Biology</td>
<td>2</td>
</tr>
<tr>
<td>FOR 241</td>
<td>Dendrology</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 221N</td>
<td>General Physics I</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 222N</td>
<td>General Physics II</td>
<td>5</td>
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**Courses**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>MATH 153</td>
<td>Calculus II or MATH 158 Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>FOR 330</td>
<td>Forest Ecology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 385</td>
<td>Watershed Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 480</td>
<td>Project Design and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FOR 422</td>
<td>Natural Resource Policy</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>and General Education</td>
<td>1-2</td>
</tr>
<tr>
<td>Third and Fourth Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOR 330</td>
<td>Forest Ecology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 385</td>
<td>Watershed Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 480</td>
<td>Project Design and Analysis</td>
<td>3</td>
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<tr>
<td>FOR 422</td>
<td>Natural Resource Policy</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>and General Education</td>
<td>48</td>
</tr>
</tbody>
</table>

**Land and People Option**

The purpose of this curriculum is to provide a broad program of study, which focuses on the evolving relationship between people and their natural environment. The curriculum is designed to prepare people with career interests in the management of natural resources with a particular human focus involving conservation, law, business or public affairs. The core program of required courses is designed to be supplemented by electives chosen by the student in consultation with a faculty advisor. These electives must include at least two other upper-division courses in forestry, recreation, or wildlife biology.

**First Year**

- ENEX 101 Composition: 3 credits
- COMM 111A Introduction to Public Speaking: 2 credits
- MATH 121 Precalculus: 3 credits
- CHEM 151N General Chemistry: 3 credits
- CS 101 Introduction to Programming or CS 172: 3 credits
- Introduction to Computer Modeling: 3 credits
- GEOl 109N Environmental Geoscience: 2 credits
- BIOL 121N-122N Introductory Ecology: 4 credits
- ECON 111S-112S: 3 credits
- General Education: 13 credits

**Second Year**

- FOR 200 Natural Resources Measurements Camp: 2 credits
- FOR 201 or MATH 241 or SOC 202: 3 credits
- or PSYC 220 Statistics: 2 credits
- FOR 210N Introductory Soils: 3 credits
- FOR 220 Technical Writing: 2 credits
- FOR 230 Forest Fire Management: 2 credits
- WBlO 275 Wildlife Conservation: 2 credits
- RECM 217 Wildland Recreation Management: 3 credits
- Electives and General Education: 13 credits

**Third and Fourth Years**

- FOR 320 Forest Economics: 3 credits
- FOR 330 Forest Ecology: 3 credits
- FOR 347 Multiple Resource Silviculture: 3 credits
- FOR 360 Range Management: 3 credits
- FOR 385 Watershed Hydrology: 3 credits
- or FOR 455 Riparian Ecology and Management: 3 credits
- FOR 422 Natural Resource Policy: 3 credits
- FOR 424 Social Forestry: 3 credits
- FOR 480 Project Design and Analysis: 3 credits
- FOR 489 Ethics and Management of Public Lands: 3 credits
- Electives and General Education: 33 credits

**Courses**

- U 140 Introduction to Urban Forestry: Offered spring. An introduction to urban forestry principles and practices. Benefits of the urban forest. Topics covered include plant species selection, site design, site assessment, planting, watering, fertilization, insects and diseases, pruning and tree care, inventory of property values, and community forestry development.
- U 170N International Environmental Change: Offered spring. An introduction to natural and anthropogenic environmental change from ancient to contemporary times. Exploration of the historical role and importance of ecological disturbance on the development and maintenance of terrestrial ecosystems around the world. Introduction to fields of study available in the College of Forestry and Conservation.
- U 180 Careers in Natural Resources: Offered autumn and spring. Same as WBlO 180 and RECM 180. Subject matter and fields of study within natural resources management. Topics include forestry, wildlife biology, range, water, recreation management, forest products production, and other opportunities for careers in natural resources.
- U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- U 196 Independent Study Variable cr. (R-3) Offered every term. Prereq., consent of instr. Problems course designed to allow individual research at the undergraduate level.
- U 200 Natural Resources Measurements: Offered summer. Intensive two-week resident camp at the Lubrecht Experimental Forest. Introduction to the common measurements and skills used in identifying, quantifying, and understanding natural resources.
- U 201 Forest Biometrics: Offered autumn. Prereq., MATH 117 or MATH 121 or equivalent. Applying statistics, hypothesis-testing and modeling to biological problems.
- U 202 Forest Mensuration: Offered spring. Prereq., FOR 201. The theory and practice of timber inventory and growth projection, including sampling procedures, statistical methods, field procedures, and use of microcomputers to compile inventories and simulate stand growth under specified management prescriptions.
- U 210N Introductory Soils: Offered autumn and spring. Prereq., CHEM 151N. An introduction to the chemical, physical, biological and morphological properties of soils.
- U 220 Technical Writing: Offered every term. Emphasis on strategy, style and tone in effective technical prose. Traditions of technical writing and how to adopt a wide range of tones and styles in writing various technical documents to diverse audiences. Focus on more effective technical sentences, paragraphs and larger writing components. Assignments include analyses, summaries, employment documents, research reports, case studies and editing/revision exercises.
- U 230 Forest Fire Management: Offered spring. Presuppression and suppression of fire and the uses of fire in management practices. Fire weather, the measurement of fire weather, the factors that influence fire behavior, and fire management decisions.
- U 232 Forest Insects and Diseases: Offered spring. Identification, significance of and remedies for insect infestations and infectious and non-infectious diseases of forests and forest products.
U 241N Dendrology 3 cr. Offered autumn and spring. Prereq., BIOL 120N; suggested coreq., FOR 240N. Methods and techniques for identifying the major families of North American trees, based on gross morphological and anatomical features. Building and use of identification keys.

U 271N Issues in Wilderness Ecology 3 cr. Offered spring. A study of forestry and wildlife issues which affect the maintenance of wilderness integrity. Topics include: global climate changes; management of wildfires, cattle grazing and noxious weeds; game management; threatened and endangered species, including grizzly bears, wolves, bird and fish species.

U 272 Wilderness and Civilization 3 cr. (R-6) Offered autumn and spring. Social and cultural perspectives on the wilderness idea and wildland practices. Course topics include history of wilderness and the wilderness movement, various philosophical viewpoints on wilderness, protected area management issues, and how wilderness fits into larger landscapes and societies.

UG 273N Wildlife and Civilization Field Studies 2 cr. (R-4) Offered every term. Field instruction in wilderness issues. Includes natural history, ecology, protected area management, field research, sustainability, and land ethics. One-day trips as well as extended backcountry trips. Part of the Wilderness and Civilization program.

U 274 Yellowstone Studies 1 cr. Offered spring. Ecological and sociopolitical perspectives on the greater Yellowstone ecosystem. Topics include winter ecology, biodiversity conservation, national park planning and management, winter recreation, fire, and wildlife. Field course in the Yellowstone area.

U 275 Wildlife Conservation 2 cr. Offered spring. Prereq., sophomore standing or consent of instr. Principles of animal ecology and framework of wildlife administration as a basis for the conservation of wild birds and animals, and biodiversity. For non-wildlife biology majors.

U 280S International Wilderness Issues 3 cr. Offered intermittently. Concepts and practices of international wildland conservation. Effects of culture, globalization, and subsistence on protected area design and management.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors; new courses or one-time offerings of current topics.

UG 296 Independent Study Variable cr. (R-3) Offered every term. Prereq., consent of instr. Individual research at the undergraduate level.

U 303 Introduction to Geographic Information Systems 3 cr. Offered autumn. Introduction to the basic concepts and techniques of computerized spatial data management and analysis systems and application to natural resource assessment.

UG 307 Forest Vegetation Management Models 3 cr. (R-5) Offered autumn. Prereq., FOR 202 or consent of instr. Hands-on experience in applying the common simulation models used by forest managers in forecasting the development of forest vegetation. Includes elements of model building and evaluation.

UG 320 Forest Economics 3 cr. Offered autumn and spring. Prereq., MATH 150; ECON 111S. Economic analysis involved in the use and distribution of forest resources.

UG 330 Forest Ecology 3 cr. Offered autumn and spring. Prereq., BIOL 120N or BIOL 103N, 104N; prereq. or coreq., FOR 210N. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.

UG 331 Wildland Fuel Management 3 cr. Offered autumn. Prereq., FOR 230 or equiv. Fire ecology, western vegetation types; planning for prescribed use of fire; fuel management objectives and techniques: mechanical, chemical, prescribed fire; smoke management considerations.

UG 332 Forest Entomology 3 cr. Offered intermittently. Prereq., FOR 232. Classification, identification, life cycles, and control of insects which injure forests and forest products.

UG 340 Timber Harvesting and Forest Products Manufacturing 4 cr. Offered autumn. Prereq., junior standing or consent of instr. Survey of ground, cable and aerial timber harvesting techniques and the subsequent manufacture of wood-based products from this harvest. Laboratory field trips to timber harvesting operations and several local manufacturing facilities.

UG 342 Wood Anatomy, Properties and Identification 3 cr. Offered spring. Prereq., BIOL 120N or FOR 240N, 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.

UG 347 Multiple Resource Silviculture 3 cr. Offered autumn and spring. Prereq., FOR 330 or BIOL 340 or equiv. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.

UG 351 Photogrammetry and Remote Sensing 3 cr. Offered spring. Prereq., MATH 121. The theory and application of photo- and electro-optical remote sensing for mapping resources and developing information systems.

UG 360 Range Management 3 cr. Offered autumn and spring. Prereq., junior standing or consent of instr. An introduction to rangelands and their management, grazing influences, class of animal, grazing capacity, control of livestock distribution, improvements, competition and interrelationships with wildlife. Laboratory exercises to gain on-site experience on topics and concepts presented in lectures.

UG 361 Range Forage Plants 3 cr. Offered autumn. Prereq., FOR 360 and BIOL 165N. Description, identification, forage value and ecology of forage plants of the western United States; important weed species, management of grazing lands, and the relationship of ecophysiology and morphology to grazing response.

UG 362 Range Livestock Production 3 cr. Offered spring. Prereq., FOR 360 or consent of instr. An introduction to livestock production in natural systems and the role of livestock production in the world food situation; emphasizes selection, production and management principles of beef cattle systems.

UG 380S Environmental Conservation 3 cr. Offered autumn. Prereq., junior standing. The interrelationships of resource conservation problems and programs; management and conservation in the context of an expanding economy.

U 381 International Social and Environmental Change 3 cr. Offered intermittently. Prereq., SOC 370, FOR 210, FOR 330 recommended. Case study approach to developing interdisciplinary and critical perspectives on social and environmental change. Cultural, political and economic processes which affect and are affected by ecological change are examined and related to sustainable development and natural resource management.

U 382 Field Studies in International Social and Environmental Change 3 cr. Offered intermittently. Prereq., FOR 381. Examination of social and environmental
change, its management implications through an experiential learning, interdisciplinary field research experience.

U 385 Watershed Hydrology 3 cr. Offered autumn and spring. An introduction to physical and biological controls over water movement and storage in the environment, and how those controls are affected by land management practices.

U 386 Watershed Hydrology Laboratory 1 cr. Offered autumn and spring. Coreq., FOR 385 or consent of instr. An introduction to basic watershed measurement and analysis techniques. Lab exercises designed around the use of spreadsheets and computer graphics.

U 395 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current courses.

U 396 Independent Study 1-3 cr. (R-10) Offered every term. Prereq., consent of instr. Individual study or research problems.

U 398 Cooperative Education Internship Variable cr. (R-12) Offered every term. Prereq., consent of department. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 410 Soil Morphology, Genesis and Classification 3 cr. Offered spring odd-numbered years. Prereq., FOR 210N. The morphological characteristics of soils, how the horizons formed and an introduction to the Soil Taxonomy classification system used in this country. Field trips will be included.

UG 415 Environmental Soil Science 3 cr. Offered intermittently. Prereq., FOR 210N. A detailed analysis of how natural and anthropogenic disturbances influence soil processes and how those processes in turn influence our environment. Specific topic areas include nutrient cycling, water quality, xenobiotic compounds, metal contamination, and the remediation of contaminated soils.

UG 422 Natural Resources Policy and Administration 3 cr. Offered autumn and spring. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.

UG 423 Montana Wilderness Policy and Politics 2 cr. Examination of congressional legislative processes and congressional efforts concerning wilderness and roadless public lands management, particularly in Montana. Consideration of economic, social and political factors affecting how congress and the executive branch determine the fate of roadless lands.

UG 424 Social Forestry 3 cr. Offered spring even-numbered years. Same as SOC 424. A review of agroforestry, community forestry, and opportunities and constraints to the use of trees in rural development and protected areas management.

UG 441 Timber Management 3 cr. Offered autumn. Prereq., FOR 320, 347. Management of forest stands for timber production, including review of factors influencing physical and value growth; use of growth and yield projections; economic evaluation of alternative stand management strategies; classical forest regulation; fundamentals of timber harvest scheduling; stumpage appraisal and timber sales.

UG 442 Technical Processing of Wood Products 5 cr. Offered spring. Prereq., FOR 340 and 342. Lecture, discussion, laboratory manufacture, and evaluation of solid and composite wood products. Exercises include lumber manufacture and drying at College's sawmills; plywood, laminated beam manufacture and strength testing; particle board and flakeboard manufacture and testing.

UG 447 Advanced Silviculture 3 cr. Offered autumn. Prereq., FOR 347. Examination of silvicultural topics such as regeneration practices, thinning/stand density concepts, and silvicultural systems at an advanced level.

UG 455 Riparian Ecology and Management 3 cr. Offered autumn. Coreq, or prereq., FOR 385 and one introductory ecology course or consent of instr. Importance of riparian/wetland areas and the complexities associated with their management for short and long term benefits.

UG 460 Range Inventory and Analysis 3 cr. Offered autumn. Prereq., FOR 360 and one course in statistics. Methods of measuring range and shrub-land vegetation at individual and community level for determining plant composition, changes following treatments, and carrying capacity of range livestock and native ungulates.

UG 461 Animal Nutrition 3 cr. Offered spring. Prereq., FOR 360 or consent of instr. Elements of animal nutrition, physiology of ruminant nutrition, nutritional characteristics of forage plants related to nutrition requirements of livestock and wildlife, and nutritional strategies of free-roaming animals.

UG 462 Range Ecology 3 cr. Offered spring. Prereq., FOR 360 and one course in plant ecology. Applied ecology of rangeland uses by various biota, synecological response to grazing, fire, herbicides, fertilizers and mechanical treatments, structural and functional responses of grassland systems to disturbance.

UG 463 Range Improvement 3 cr. Offered autumn. Prereq., FOR 360. Methods of improving rangelands, including grazing systems, control of weeds, controlled burning, seeding, fertilization and mechanical soil treatments.

UG 465 Restoration Ecology 3 cr. Offered spring. Prereq., senior standing and a course in forest ecology or plant ecology. Same as EVST 465. Philosophy and practice of restoring damaged ecosystems. Restoration planning including improvement of degraded soils, site preparation for revegetation, and case studies.

UG 471 Natural Resource Management Core Behaviors 3 cr. Offered intermittently. Development of basic skills in communication, decision-making, evaluation, and conflict resolution using examples from the natural resources arena.

UG 472 Building Knowledge on an Integrative Theme 3 cr. Offered intermittently. Interdisciplinary learning combining the arts, humanities, and sciences around a given theme. Possible themes include living with fire, water in the American west, growth property and land use, hunting and subsistence, forest communities.

UG 473 Collaboration in Natural Resources Decisions 3 cr. Offered intermittently. Same as EVST 473. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.


UG 479 Nature and Democracy Synthesis 2 cr. Offered intermittently. In-depth evaluation of community/forest relationships as a follow-up to student internships.

UG 480 Forest and Rangeland Area Planning and Design 3 cr. Offered autumn and spring. Prereq., senior standing, WBI1 370, RECM 310, FOR 347 or FOR 360; senior or graduate standing; or consent of instr. A multidisciplinary planning team approach to developing detailed, site-specific
resource management planning for units of forest and rangeland at the area or watershed level. Includes use of geographic information systems, computer modelling, and linear programming.

UG 481 Forest Planning 3 cr. Offered spring. Prereq., FOR 422 or consent of instr. Integrated multiple use planning at the forest-wide level; defining multi-resource management goals, generating management alternatives, projecting outcomes, assessing environmental impacts, and implementing preferred option.

UG 485 Watershed Management 3 cr. Offered autumn. Prereq., FOR 385 or consent of instr. Effects of land management practices on water and sediment yields from wildland watersheds. Introduction to statistical methods in hydrology. Introduction to water yield and sediment modeling techniques.

UG 489E Ethics and the Management of Public Lands 3 cr. Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr.; senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.

UG 495 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-3 cr. (R-10) Offered every term. Prereq., consent of instr. Individual study or research problems.

U 497 Senior Thesis 3 cr. Offered autumn and spring. Prereq., senior standing and consent of instr. Preparation of a major paper based on study or research in a field selected according to the needs and objectives of the student.

UG 498 Cooperative Education Internship Variable cr. (R-15) Offered every term. Prereq., consent of instr. The nature of the internship is determined by the student, employer or advisor, and Internship Services office.

G 500 Forest Growth and Yield 3 cr. Offered spring. Prereq., FOR 202 or consent of instr. Offered alternate years. Theory and methods for projecting quantitative measures of tree and stand growth over time; includes analysis of computer growth and yield models used in the region.

G 501 Research Methods 3 cr. Offered autumn. Prereq., a course in statistics or consent of instr. The nature of scientific research, planning research projects, organization and presentation of research results. Emphasis on the development of study plans for specific research projects.

G 503 GIS: Methods and Applications I 3 cr. Offered autumn. Prereq., consent of instr. General principles of geographic information systems. Instruction and lab use of specific software packages used for management decision-making in natural resources management. Students have hands-on experience in digitizing, mapping, spatial analysis and data-base creation.

G 504 GIS: Methods and Applications II 3 cr. Offered spring. Prereq., FOR 503. Continuation of 503.

UG 505 Sampling Methods 3 cr. Offered spring. Prereq., FOR 201 or equiv.; consent of instr. Definitions, sampling with and without replacement, equal and unequal probability sampling, sample size and allocation, estimates and their variances, simple random sampling, stratification, double sampling, two-stage sampling, PPS and 3P sampling uses and precision.

G 508 Modeling Forest Dynamics 3 cr. Offered autumn odd-numbered years. Prereq., FOR 500 and some experience with statistical methods and a programming language. Introduction to the construction of simulation models for forecasting change in forest vegetation. Survey of alternative modeling approaches followed by construction of a simulator. Includes specification of conceptual model, statistical analysis of data, and programming a working simulator.

G 511 Soil Chemistry 3 cr. Offered spring odd-numbered years. Prereq., FOR 210N, 330. A series of lectures on soil chemistry in the beginning of the semester, emphasizing water and nutrient movement, followed by a series of laboratory and lecture classes on soil chemistry, emphasizing data interpretation and problem solving.

G 520 Forest Resource Economics 3 cr. Offered autumn. Prereq., FOR 320 or equiv., an upper-division or graduate level course in microeconomics, and consent of instr. The development of analysis of commodity products from the forest, including characteristics of demand for stumpage, logs and processed products, forest management and harvesting decisions, and the supply of stumpage, intermediate and processed products.

G 524 Resource Policy and Administration Seminar 3 cr. Offered every spring odd-numbered years. Prereq., graduate standing or consent of instr. Theory and practice of environmental dispute resolution.

G 530 Forest Meteorology 3 cr. Offered autumn odd-numbered years. Prereq., graduate standing or consent of instr. A brief introduction to synoptic and mesoscale meteorology, followed by more intense study of physics in the forest environment: transfers of heat, light and momentum and their influences on plant structure, function, productivity and survival.

G 532 Forest Ecosystem Analysis 3 cr. Offered autumn. Prereq., FOR 330 or equiv. Current research on important processes in forest ecosystems, including carbon, water and nutrient cycles, with emphasis on recent computer simulation models.

G 533 Use of Fire in Wildland Management 3 cr. Offered autumn even-numbered years. Prereq., consent of instr. Western fire ecology and the planned use of fire. Wildlife, range and forestry applications of prescribed fire. Seminars and discussions; research applications.

G 545 Silviculture Research 1 cr. (R-6) Offered intermittently. Prereq., graduate standing and consent of instr.; prereq. or coreq., FOR 347 or equiv. Reading and discussion of scientific literature related to silvicultural practice and science. Different topic each semester. Students become familiar with silviculture literature, develop skills for scrutinizing scientific literature, and examine silvicultural topics in detail.

G 547 Forest Vegetation Dynamics 3 cr. Offered autumn. Prereq., consent of instr. Role of disturbances, plant interactions, tree architecture, and structure on forest stand development. Laboratory provides experience with vegetation development reconstruction. Discusses even-aged, uneven-aged, single- and mixed-species stand development as well as landscape linkages.

G 548 Forest Stand Dynamics and Culture 1 cr. Offered intermittently. Prereq., FOR 347 or equiv. One-week continuing education course designed to present emerging concepts in stand dynamics and stand culture to practicing silviculturists. Topics include even- and uneven-aged stand dynamics and density control, fire management, fertilization, and stand health.
G 551 Digital Image Processing 4 cr. Offered autumn even-numbered years. Prereq., FOR 351 or equiv. and consent of instr. Fundamentals of electro-optical digital remote sensors, data compilation, preprocessing, and pattern recognition.

G 571 International Resource Management 3 cr. Offered spring. Prereq., enrollment in Peace Corps Masters Program or intention of working in international resource management. Critical review of selected natural resource development, conservation and management approaches and experiences in developing societies.

G 582 Tropical Ecosystems and Management 3 cr. Offered spring. Prereq., graduate standing or consent of instr. Introduction to tropical forests and agroecosystems, and a critical examination of their management and conservation within the context of ecological, socioeconomic and political change.

G 586 Snow Hydrology 3 cr. Offered spring. Prereq., graduate standing or consent of instr. The physics of snow formation, distribution and ablation. Snow and forest management in the subalpine zone.

G 594 Graduate Seminar in Forestry 1 cr. (R-3) Offered autumn and spring. Prereq., graduate standing. Presentation by students, staff and visitors of issues and topics in their fields.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of occasional topics.

G 596 Independent Study 1-3 cr. (R-10) Offered every term. Prereq., consent of instr. Individual study or research problems.

G 598 Cooperative Education Experience Variable cr. (R-15) Offered every term. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Professional Paper Variable cr. (R-15) Offered autumn and spring. Preparation of Master of Ecosystem Management professional paper.

G 697 Graduate Research Variable cr. (R-15) Offered every term. Independent graduate research in resource management, wood science, soils, wildlife management, silviculture, recreation and other topic areas.


Nature and Democracy

James Burchfield (Associate Professor), Director, Bolle Center for People and Forests

The Bolle Center for People and Forests was established on the campus of The University of Montana in Missoula in 1994. Its mission is to provide “interdisciplinary education, research, and community service to advance knowledge of the relationships between forests and people with the goal of ensuring the continued diversity, productivity, and beauty of forests through the healthful coexistence with human communities.” The strategic plan of the Bolle Center identifies the development of a new, interdisciplinary curriculum as a major programmatic response to fulfill the mission of the Center. The curriculum for the minor, Nature and Democracy, combines understanding of cultural, political, and ecological contexts surrounding natural-resource issues with basic skills to participate in conflict-laden decision-making processes. This curriculum enriches research and learning opportunities for students, faculty, and residents of the region. Its goal is to develop effective professional participants in the public affairs surrounding natural resource decisions. The Nature and Democracy curriculum examines the effects of people, places and processes on natural resources management, advancing toward the objective of interdisciplinary education.

The Nature and Democracy minor provides a semester-based course format with specialized training modules and community-level problem-solving experiences. Although presented as a package which provides an academic minor to upper-level undergraduate students, it is also an open-ended, regional resource for learning among all interested parties. Course offerings allow academic credit for graduate students, and outreach mechanisms incorporated into the design promote distance learning. The curriculum offers opportunities for interaction between students and residents of rural communities, providing valuable contacts for post-academic endeavors.

Admission to the minor: Students are required to apply for admission to the Nature and Democracy minor. Applications and information are available from the Bolle Center for People and Forests, Science Complex 465. Upper-level undergraduates and graduate students from all departments are eligible with 18-24 students accepted annually.

Prerequisites: An academic foundation in natural science, humanities, and social sciences is necessary for students entering the minor. Undergraduate students are required to have at least two courses relevant to understanding biophysical functions and processes (available within the natural science perspective of General Education Requirements), at least one course in introductory economics, and at least two preparatory courses in the social sciences and humanities. Transfer students may apply relevant courses at other institutions to fulfill these requirements. The adequacy of the specific courses will be determined by the Bolle Center Director, who serves as advisor for only the academic minor for each student enrolled in the Nature and Democracy minor.

Requirements for a Minor

To earn a minor in Nature and Democracy the student must complete successfully 24 credits including:

FOR/HFSD 471 Natural Resource Management Core Behaviors__________________________3
FOR 472 Building Knowledge on an Integrative Theme__________________________3
FOR/EVST 473 Collaboration in Natural Resources Decisions__________________________3
FOR 478 Montana Community Analysis__________________________3
FOR 479 Nature and Democracy Synthesis__________________________2
One 3-credit ecology course__________________________3
From BIOL 121N; FOR 330, 462; other 300-level course in BIOL or WBIO
One 3-credit natural resources management course__________________________3
From FOR 271, 275, 296, 360, 441, 455; RECM 217; WBIO 370
Recreation Management

The B.S. in Recreation Management degree is designed to prepare students for professional positions developing and managing recreation and park resources located primarily beyond the urban fringe. Students pursuing this degree must choose between an option in Recreation Resources Management or Nature-Based Tourism. The Recreation Resources Management option provides educational background necessary for evaluating and managing lands for their aesthetic and recreational values. The Nature-Based Tourism option is designed to combine an understanding of social, cultural, political, environmental, and economic contexts surrounding tourism in a natural resource setting. All students learn the processes and conceptual skills needed to determine alternative management strategies, make management decisions and carry out management programs. Included are courses leading to an understanding of the basic ecological characteristics of recreational lands. Students also take courses dealing with human behavior and management. Emphasis is placed on presenting problems that would be encountered while managing national parks and forests, state and regional parks, wilderness areas, and other recreation resources of international and national significance. The degree and Recreation Resources Management option are accredited by the National Recreation and Parks Association and the American Association for Leisure and Recreation.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog including College of Forestry and Conservation curriculum requirements. See Index.

Students pursuing the B.S. in Recreation Management degree complete the following courses or their equivalent if transferred from another college or university. Transfers and equivalency will be determined by the University and the College of Forestry and Conservation. In addition, students are required to take a practicum in recreation management, RECM 460. This work-learning experience involves at least 10 weeks full-time equivalent of learning in a professional work environment. RECM 460 has a prerequisite of 400 previous hours of relevant work experience. Electives may be taken at any time, keeping in mind these courses as well as the University's General Education requirements for graduation.

First Year

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CHEM 151N General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111S Intro to Economics</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>FOR 200 Natural Resources Measurements Camp</td>
<td>2</td>
</tr>
<tr>
<td>MATH 117 Probability and Linear Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>RECM 110S Introduction to Recreation Management</td>
<td>3</td>
</tr>
<tr>
<td>RECM 180 Introduction to Natural Resource Issues</td>
<td>2</td>
</tr>
<tr>
<td>SOC 110S Principles of Sociology</td>
<td>3</td>
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<tr>
<td>Electives and General Education</td>
<td>4-8</td>
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Summer

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>FOR 200 Natural Resources Measurements Camp</td>
<td>2</td>
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Second Year

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIOL 103N Diversity of Life</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 104N Diversity of Life Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>COMM 111A Public Speaking</td>
<td>3</td>
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<tr>
<td>FOR 210N Introduction to Soils</td>
<td>3</td>
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<th>Course</th>
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<tr>
<td>MATH 241 Statistics, FOR 201 Forest Biometrics or SOC 202 Social Statistics</td>
<td>3-4</td>
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<tr>
<td>RECM 217 Wildland Recreation Management</td>
<td>3</td>
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<tr>
<td>RECM 230 Programming in Recreation</td>
<td>3</td>
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<tr>
<td>One additional communication course (e.g. FOR 220 Technical Writing)</td>
<td>2-3</td>
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<tr>
<td>Electives and General Education</td>
<td>2-6</td>
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Third and Fourth Years

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<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FOR 330 Forest Ecology or 462 Range Ecology</td>
<td>3</td>
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<tr>
<td>FOR 480 Project Design and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>RECM 370 Conservation of Wilderness, Wild Rivers and Parks</td>
<td>3</td>
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<tr>
<td>RECM 380 Recreation Administration and Leadership</td>
<td>3</td>
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<tr>
<td>RECM 430 Preparation for Professional Practice</td>
<td>1</td>
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<tr>
<td>RECM 460 Practicum in Recreation</td>
<td>9</td>
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<tr>
<td>RECM 480 Recreation Research and Program Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>17-19</td>
</tr>
</tbody>
</table>

Recreation Resources Management Option

In addition to special degree requirements listed previously, students electing the recreation resources management option must successfully complete the following required courses, or their equivalent if transferred from another college or university. Transference and equivalency will be determined by the University and the College of Forestry and Conservation.

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CS 172 Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>RECM 481 Managing Recreation Resources and Visitors</td>
<td>4</td>
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<tr>
<td>RECM 482 Wilderness and Protected Area Management</td>
<td>3</td>
</tr>
<tr>
<td>RECM 483 Commercial Recreation, Marketing and Tourism</td>
<td>3</td>
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<tr>
<td>RECM 484 Recreation Management Field Techniques</td>
<td>3</td>
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<tr>
<td>RECM 485 Recreation Planning</td>
<td>4</td>
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Nature-Based Tourism Option

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BADM 201 Financial Accounting</td>
<td>3</td>
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<tr>
<td>FOR 473 Collaboration in Natural Resource Decisions</td>
<td>3</td>
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<tr>
<td>MKTG 360 Marketing Principles</td>
<td>3</td>
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<tr>
<td>MKTG 362 Consumer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>RECM 210 Nature-Based Tourism</td>
<td>3</td>
</tr>
<tr>
<td>RECM 483 Commercial Recreation, Marketing &amp; Tourism</td>
<td>3</td>
</tr>
<tr>
<td>RECM 451 Tourism and Sustainability</td>
<td>3</td>
</tr>
</tbody>
</table>

Courses

U=for undergraduate credit only, UG=for undergraduate or graduate credit, G=for graduate credit. R after the credit indicates the course may be repeated for credit to maximum indicated after the R.

Recreation Management (RECM)

U 110S Introduction to Recreation Management 3 cr. Offered autumn. The basic motivations and socio-economic determinants of recreation needs and preferences. History of the development of the resources base, trends in user participation, classification of recreation lands, recreation opportunities and needs, management objectives, economics of outdoor recreation, and definitions of leisure and recreation.
UG 180 Careers in Natural Resources 2 cr. Offered autumn and spring. Same as FOR 180, WBBIO 180. Subject matter and fields of study within natural resources management. Topics include forestry, wildlife biology, range, water, recreation management, forest products production and other areas of opportunity for students seeking careers in natural resources.

UG 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 210 Nature-Based Tourism 3 cr. Offered spring. Introduction to the tourism and commercial recreation industries. Provides initial link between the natural environment and business operations. Combination of introductory business philosophies, economics, and natural resource management into a framework for future reference and course work.

UG 217 Wildland Recreation Management 3 cr. Offered autumn and spring. Prereq., RECM 110 or option in forest resources management. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.

UG 230 Programming in Recreation 3 cr. Offered spring. Prereq., RECM 110S. Principles of program planning for organized offerings in recreation. Selection, adaptation and evaluation of activities.

UG 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 370S Conservation of Wilderness, Wild Rivers, and National Parks 3 cr. Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure.

UG 371 Wilderness Issues Lecture Series 1 cr. (R-3) Offered spring. Same as EVST 371. Explores current issues in wilderness preservation, management and research.

UG 380 Recreation Administration and Leadership 4 cr. Offered spring. Prereq., RECM 110S, 217 and 230 or consent of instr. Personnel, leadership, finance, facilities, programs and public relations. Coordination with youth serving institutions, government agencies, and private or commercial organizations.

UG 395 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics.

UG 396 Independent Study 1-6 cr. (R-6) Offered every term. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 420 Principles and Techniques of Interpretation in Recreation Area 3 cr. Offered autumn. Prereq., one biology course; one public speaking course. Principles, concepts, techniques essential to providing high quality interpretive programs in natural or cultural history.

UG 450 Pre-Practicum Professional Preparation 1 cr. Offered autumn. A pre-practicum class to provide orientation for the practicum, RECM 460, in recreation management.

UG 451 Tourism and Sustainability 3 cr. Offered spring. Prereq., RECM 210 and 217. Theories and conceptual models are applied to analyzing relationships between the integration of planning theories to sustainability concepts.

UG 460 Practicum in Recreation 1-15 cr. (R-15) Offered every term. Prereq., RECM 380, senior standing, and consent of instr. Supervised pre-professional practice in approved recreation management agencies.


UG 472 Management of the Wilderness Resource 4 cr. An ecology-based treatment of wilderness management. Brief overview of fundamental ecological principles followed by an examination of their specific and often unique application to wilderness ecosystems. Presentation of basic wilderness management principles and guidelines. Discussion of non-conforming wilderness uses.

UG 474 Wilderness Management Planning 3 cr. Exploration of basic planning theory, concepts, effective planning and implementation. In-depth treatment of the Limits of Acceptable Change planning framework. Comparison and evaluation of the different planning approaches used by the four wilderness managing agencies.

UG 481 Managing Wildland Resources and Visitors 4 cr. Offered autumn. Prereq., RECM 217. Balancing the needs of people for recreation with the impact of recreational use.

UG 482 Wilderness and Protected Area Management 3 cr. Offered autumn. Prereq., RECM 217, 370. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for park management.

UG 483 Commercial Recreation, Marketing and Tourism 3 cr. Offered autumn. Prereq., RECM 217. Interactions between wildland recreation areas and the private sector are reviewed. Linkages between natural resources and the tourism industry are discussed. Principles of marketing for the private sector within this context are presented.

UG 484 Recreation Management Field Techniques 3 cr. Offered autumn. Prereq., RECM 217. Field measurement and management techniques critical in recreation management. Includes measurement of recreation impacts on biophysical and social attributes of recreational settings.


UG 486 Recreation Research and Program Evaluation 3 cr. Offered spring. Prereq., RECM 217. Research and program evaluation methodologies appropriate to understanding effectiveness of recreation management programs. Includes philosophy of science, experimental design, and measurement methods.

UG 493 Omnibus Variable cr. (R-10) Offered intermittently. Independent work under the University omnibus option. See index.

UG 495 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, new courses or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of instr. Individual study of research problems.

UG 497 Senior Thesis 1-3 cr. (R-3) Offered autumn and spring.

UG 498 Cooperative Education Experience Variable cr. (R-15) Offered autumn and spring. Prereq., consent of instr. Extended classroom learning during placements off campus. Approval from advisor and Internship Services office.
G 500 Recreation Research Methods 3 cr. Offered spring odd-numbered years. Prereq., one course in statistics. Methods used in recreation research.

G 594 Graduate Seminar in Recreation 1 cr. (R-3) Offered autumn and spring. Prereq., graduate standing. Presentations by students, staff and guest speakers of issues and topics in their fields.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-10) Offered every term. Prereq., consent of instr. Individual study or research problems.

G 597 Research Variable cr. (R-12) Offered every term. Prereq., graduate standing. Independent graduate research in recreation management.

G 598 Cooperative Education Experience Variable cr. (R-12) Offered every term. Prereq., consent of instr. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from faculty advisor and Internship Services office.

G 599 Professional Paper Variable cr. (R-15) Offered every term. Preparation of professional paper.

G 697 Research 1-15 cr. (R-15) Offered every term.


Wilderness Studies

Wayne A. Freimund (Associate Professor of Recreation Management) Director

The Wilderness Institute in the College of Forestry and Conservation offers educational opportunities and special presentations, and coordinates research related to wilderness and wildlands management. In addition to the Wilderness Issues Lecture Series and a summer educational program, the Wilderness Institute offers the interdisciplinary undergraduate program Wilderness and Civilization.

The Wilderness and Civilization program is designed to provide students, at or beyond the sophomore level, with a broad interdisciplinary introduction to the subject of wilderness, focusing on the multi-faceted values that wild lands hold for civilized society. The intent is to produce informed citizens, better able to participate in processes for public involvement concerning wilderness issues; the program is not intended as a professional land management qualification, although many students supplement their professional education through this program. A special feature is that students develop a sense of community by participating as a group in the intensive package of courses and field experiences required. Students who complete the Wilderness and Civilization program become eligible for the wilderness studies minor.

Admission to Wilderness and Civilization is based on academic ability and promise, commitment to wilderness studies, and over quality of application. Applicants must have a cumulative GPA of 3.0 or higher for all college and university work. Applications are due by April 1st and are available at the Wilderness Institute, University Hall 303.

Requirements for a Minor

To earn a minor in wilderness studies the student must participate in the Wilderness and Civilization two-semester program and fulfill the course requirements shown below (a minimum of 18 credits). The program's course offerings may vary from year to year, but will include sufficient courses from the A and B lists:

Two semesters of:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FOR 272</td>
<td>Wilderness and Civilization</td>
<td>3</td>
</tr>
<tr>
<td>FOR 273</td>
<td>Wilderness and Civilization Field Studies</td>
<td>2</td>
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<tr>
<td>and at least two courses from</td>
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Section A: Arts and Humanities

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>DRAM 214A</td>
<td>Wilderness and Expression</td>
<td>3</td>
</tr>
<tr>
<td>ENLT 324</td>
<td>Montana Writers</td>
<td>3</td>
</tr>
<tr>
<td>EVST 301E</td>
<td>Ethics, Beauty and the Environment</td>
<td>3</td>
</tr>
<tr>
<td>HIST 364E</td>
<td>Environmental History</td>
<td>3</td>
</tr>
<tr>
<td>LS 302L</td>
<td>American Indian Literature</td>
<td>3</td>
</tr>
<tr>
<td>NAS 303E</td>
<td>Ecological Perspectives in Native American Traditions</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 327E</td>
<td>Environmental Ethics</td>
<td>3</td>
</tr>
<tr>
<td>and at least two courses from</td>
<td></td>
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</table>

Section B: Biophysical and Social Sciences

<table>
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<tr>
<th>Course Code</th>
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<tr>
<td>BIOL 200N</td>
<td>Trailside Botany</td>
<td>3</td>
</tr>
<tr>
<td>ECON 345S</td>
<td>Economics of Wildland Preservation</td>
<td>3</td>
</tr>
<tr>
<td>EVST 101N</td>
<td>Environmental Science</td>
<td>4</td>
</tr>
<tr>
<td>FOR 130N</td>
<td>Introduction to Ecology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 271N</td>
<td>Wilderness Ecology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 304</td>
<td>Conservation of Natural and Human Resources in Montana</td>
<td>3</td>
</tr>
<tr>
<td>RECM 370S</td>
<td>Conservation of Wilderness, Wild Rivers and National Parks</td>
<td>3</td>
</tr>
</tbody>
</table>
Wildlife Biology

Daniel H. Pletscher, Professor, Wildlife Biology Director

Wildlife Biology is the study of wild animals, their habitats, and their conservation. The Bachelor of Science in Wildlife Biology degree constitutes the preprofessional training for future employment in wildlife biology and management, and provides an excellent background in general ecology. The educational requirements for certification by The Wildlife Society can be met within the framework of the undergraduate program.

While employment opportunities do exist in wildlife conservation for students with the baccalaureate degree, many students plan to continue their education through the master's degree to qualify for wildlife management or research positions.

Three optional curricula are offered in the Wildlife Biology Program: terrestrial, aquatic, and honors. All three options follow the same schedule of courses for the freshman and most of the sophomore year, then pursue different curricula for the last two years. Each leads to a B.S. in Wildlife Biology.

The University is well-suited for instruction in wildlife biology because of the excellent opportunities for field instruction and research, and the presence of such facilities as the Lubrecht Experimental Forest, Yellow Bay Biological Station at Flathead Lake, the Montana Forest and Conservation Experiment Station, the Montana Cooperative Wildlife Research Unit, and the Theodore Roosevelt Memorial and Bandy ranches.

High School Preparation: In addition to general University admission requirements, the student should elect four years of mathematics and three years of science, including biology, chemistry and physics.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

The Upper-division Writing Expectation must be met by successfully completing BIOL 341 and two courses selected from BIOL 304, 306, 316, 366, WBIO 470, 497 (senior thesis).

The student must complete the requirements for one of the options indicated below. A reading knowledge of a modern foreign language is suggested for students electing preparation for graduate work leading to a doctorate.

To obtain the B.S. in Wildlife Biology, the student must have a 2.5 grade point average or higher in all courses taken at The University of Montana.

Suggested sequence subject to frequent change. Some courses are offered more than one semester/year.

Terrestrial and Aquatic Options

First Year
BIOL 103N Diversity of Life 3
BIOL 104N Diversity of Life Laboratory 2
CHEM 151N General Chemistry 3
CHEM 152N General Chemistry 3
CHEM 154N General Chemistry Laboratory 2
ENEX 101 Composition 3
WBIO 180 Careers in Natural Resources 2
MATH 150 Applied Calculus 4
Electives and General Education 8-14
Summer
Experiential Learning 2
(Most students will attend either Natural Resources Measurements Camp or the Yellow Bay Biological Station.

For exceptions, see the Wildlife Biology Office.)

Second Year
BIOL 221 Cell and Molecular Biology 4
BIOL 223 Genetics and Evolution 4
BIOL 350* Rocky Mountain Flora 3
COMM 111A Introduction to Public Speaking 2
MATH 241 Statistics or WBIO 240 Introduction to Biostatistics 3-4
FOR 220 Technical Writing or WBIO 245 Science Writing 2-3
Electives and General Education 11-15
*BIOL 350 is not required for the Aquatic option

Terrestrial Option

Third Year
Two of the following:
BIOL 304 Ornithology 4
BIOL 306 Mammalogy 4
BIOL 308 Biology and Management of Fishes 4
And one of the following:
WBIO 410 Wildlife Policy and Biopolitics 3
WBIO 475 Case Histories in Conservation Policy 3
FOR 422 Natural Resources Policy and Administration 3
And one of the following:
FOR 347 Multiple Resource Silviculture 3
FOR 360 Range Management 3
And
BIOL 340 Ecology 3
WBIO 341 Ecology Lab 2
WBIO 370 Wildlife Habitat Conservation 3
Electives and General Education 8-14

Fourth Year
WBIO 446 Wildlife Physiological Ecology 3
WBIO 470 Conservation of Wildlife Populations 3
WBIO 494 Senior Seminar 1
FOR 480 Forest/Range Plan and Design 3
Electives and General Education 16-22

Aquatic Option

Third Year
BIOL 308 Biology and Management of Fishes 4
BIOL 309 Invertebrate Biology 5
BIOL 340 Ecology 3
WBIO 341 Ecology Lab 2
BIOL 366 Freshwater Ecology 5
WBIO 410 Wildlife Policy and Biopolitics or
FOR 422 Natural Resource Policy and Administration or
WBIO 446 Wildlife Physiological Ecology 3
Electives and General Education 5-11

Fourth Year
WBIO 494 Senior Seminar 1
BIOL 316 Plant Form and Function 5
BIOL 408 Advanced Fisheries Science 2
FOR 385 Watershed Hydrology 3
FOR 480 Forest/Range Planning and Design 3
Electives and General Education 12-18

Wildlife Biology Honors Emphasis

The honors curriculum is designed particularly for students with strong academic records who intend to do graduate work. Entrance into this emphasis is open only to students who, at the beginning of the junior year of the wildlife biology program, have a grade-point average of 3.5 or above and who petition the faculty for entrance.
Honors students must complete either WBIO 370, 470 and 494 (terrestrial option) or BIOL 308, 366 and WBIO 494 (aquatic option). Honors students are encouraged to enroll also in WBIO 497 Senior Thesis. The balance of the coursework for the junior and senior years will be developed in consultation with the honors student's faculty advisor and committee appointed by the director of the wildlife biology program. All students in the honors emphasis are required to meet with their faculty advisors prior to autumn semester registration of their junior and senior years to work out their course schedules.

**Requirements for a Minor**
To earn a minor in wildlife biology, the student must successfully complete the following coursework: BIOL 103N, 104N, 201N, 350; FOR 275; FOR 330 or 360; WBIO 180, 270.

**Courses**

- **U =** for undergraduate credit only, **UG =** for undergraduate or graduate credit, **G =** for graduate credit. **R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

### Wildlife Biology (WBIO)


- **U 180 Careers in Natural Resources** 2 cr. Offered autumn and spring. Same as FOR 180, RECM 180. Subject matter and fields of study within natural resources management. Topics include forestry, wildlife biology, range, water, recreation management, forest products production and other areas of opportunity for students seeking careers in natural resources.

- **U 195 Special Topics Variable cr.** (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- **U 240 Introduction to Biostatistics** 3 cr. Offered autumn even-numbered years. Prereq., calculus and consent of instr. Introduction to statistical ecology: distributions, hypothesis testing, and fitting models to data with emphasis on problems in ecological sampling.

- **U 245 Science Writing** 3 cr. Offered spring. Prereq., ENEX 101 or equiv. Discussion of different types of science writing and focus on methods to achieve more fluent prose. Includes material on logic, inference, and developing arguments that rely on data.


- **U 295 Special Topics Variable cr.** (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- **U 370 Wildlife Habitat Conservation and Management** 3 cr. Offered autumn and spring. Prereq., junior standing in wildlife biology, an ecology class, or consent of instr. Application of principles of wildlife biology to conservation and management of wild bird and mammal habitats including field applications.

- **U 373 Wildlife Techniques** 2 cr. Offered spring. Prereq., any statistics course; one 300-level ecology or wildlife biology course. Lab and field oriented class in commonly-used wildlife research and management techniques.

- **U 374 Hunter Check Stations** 1 cr. (R-2) Offered autumn. Students learn techniques for determining species, age and sex of game animals, then work 3-5 days as volunteers at hunter check stations operated by management agencies.

- **U 394 Wildlife Techniques** 2 cr. (R-2) Offered autumn. Laboratory techniques for counting, measuring, weighing, tagging, marking, and handling wild animals. Field work in a specific area of wildlife management.

- **U 395 Special Topics Variable cr.** (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

- **U 396 Independent Study** 1-6 cr. (R-6) Offered every term.

- **U 398 Cooperative Education Experience Variable cr.** (R-15) Offered every term. Prereq., consent of department. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

- **UG 410 Wildlife Policy and Biopolitics** 3 cr. Offered autumn. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.

- **UG 441 Field Methods in Fishery Biology and Management** 1-4 cr. Offered autumn and spring. Prereq., BIOL 308 or 357; consent of instr. Same as BIOL 415. Field instruction by practicing biologists in techniques for evaluating and managing aquatic habitats and fish populations.


- **UG 460 International Wildlife Conservation Issues** 2 cr. Offered spring. Prereq., a course in wildlife biology and/or conservation biology. Review of major international wildlife conservation issues with emphasis on social context of the issues and applied solutions.

- **UG 470 Conservation of Wildlife Populations** 3 cr. Offered autumn and spring. Prereq., 300-level animal ecology class, WBIO 370, and senior standing. Application of population ecology principles and theory to the conservation and management of wildlife populations.

- **UG 472 Wildlife Handling and Veterinary Perspectives** 2 cr. Offered spring. Field techniques associated with wildlife capture and handling. Ethical and legal issues, field organization, animal care and handling, chemical immobilization, veterinary emergencies and human safety.

- **UG 475 Case Histories in Conservation Policy** 3 cr. Offered spring. Prereq., senior or graduate standing in conservation major or consent of instr. Understanding development and primary aspects of conservation policy. Exercises in policy analysis as individuals and in team efforts.

- **UG 494 Senior Wildlife Seminar** 1 cr. Offered autumn and spring. Prereq., senior standing in wildlife biology or consent of instr. Analysis and discussion led by students of current topics in wildlife biology.

- **UG 495 Special Topics Variable cr.** (R-12) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics.

- **UG 496 Independent Study Variable cr.** (R-10) Offered every term. Prereq., consent of instr. Original investigations or problems not related to student's thesis.

- **UG 497 Senior Thesis** 1-3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr.; senior standing. Preparation of major paper based on study or research of a topic selected with an advisor according to needs and objectives of student.

- **UG 498 Cooperative Education Experience** 1-6 cr. (R-6) Offered every term. Prereq., consent of department. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.
G 540 Experimental Design 3 cr. Offered autumn even-numbered years. Prereq., introductory statistics course or consent of instr. Examination of study designs for experiments, quasi-experiments, observational studies, and sampling surveys with an emphasis on application.

G 542 Current Issues in Biometrics 1 cr. (R-3) Offered every term. Prereq., introductory statistics course or consent of instr. Exploration of current topics in biometrics through discussions, student presentations, and analysis.

G 560 Wildlife Landscape Ecology 3 cr. Offered spring. Examination of how various spatial and temporal scales influence wildlife and their habitats.

G 562 Wildlife Habitat, Structure and Function 3 cr. Offered spring. Prereq., For 330, 360; WBio 370; or consent of instr. Study of selected topics in habitat classification and analysis, and animal-habitat interactions.

G 570 Applied Population Ecology 3 cr. Offered spring even-numbered years. Prereq., courses in ecology, statistics, and calculus. Application of advanced population ecology tools and concepts to the evaluation of human perturbations on wildlife populations. Topics include methods to detect declining trends, the interacting components of population viability analysis, and identification of strategies to reverse declines.

G 572 Model Selection and Inference 3 cr. Offered autumn odd-numbered years. Prereq., one semester of 400-level statistics/biometry or consent of instr. Comparison and overview of statistical approaches commonly used in applied ecology, including frequentist/ANOVA models, information theoretic and Bayesian methods.

G 575 Frontiers in Conservation Research 2 cr. (R-6) Offered autumn. Prereq., upper-level course in conservation genetics or populations genetics. Same as BIOL 575. Exploration of current topics in conservation biology with emphasis on genetic issues in conservation.

G 576 Ecological Modeling and Analysis 2-3 cr. Offered every term. Prereq., consent of instr. Investigation of mathematical and statistical problems in ecology and wildlife biology. Specific material each semester is determined by student interest.

G 580 Readings in Population Dynamics 1 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Discussion of recent papers on interface of population dynamics, ecological interactions, and wildlife management.

G 594 Graduate Seminar in Wildlife Biology 1 cr. (R-3) Offered autumn and spring. Prereq., graduate standing in wildlife biology or consent of instr. Analysis of selected problems in wildlife biology and conservation.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-10) Offered every term. Prereq., graduate standing and consent of instr. Original investigations or problems not related to student's thesis.

G 597 Research Variable cr. Offered every term. Prereq., graduate standing in wildlife biology or consent of instr. Graded pass/not pass only.

G 599 Professional Paper Variable cr. (R-6) Offered every term. Prereq., graduate standing in wildlife biology and consent of instr. Professional paper written in the area of the student's major interest based on either primary or secondary research. Subject matter must be approved by graduate committee. Graded pass/not pass only.

G 697 Research 1-15 cr. (R-15) Offered every term.


**Faculty**

**Professors**

Donald J. Bedunah, Ph.D., Texas Tech University, 1982
Jill M. Belisky, Ph.D., Cornell University, 1991
Perry J. Brown, Ph.D., Utah State University, 1971 (Dean)
Edwin J. Burke, Ph.D., Colorado State University, 1978
Carl Fiedler, Ph.D., University of Minnesota, 1990 (Research)
Wayne A. Freimund, Ph.D., University of Minnesota, 1993
C. Les Marcum, Ph.D., The University of Montana, 1975
Stephen F. McCool, Ph.D., University of Minnesota, 1970
L. Scott Mills, Ph.D., University of California, Santa Cruz, 1993
Kelsey Milner, Ph.D., The University of Montana, 1987
Norma Nickerson, Ph.D., University of Utah, 1989 (Research)
Daniel H. Pletscher, Ph.D., Yale University, 1982 (Director, Wildlife Biology Program)
Donald F. Potts, Ph.D., State University of New York, 1979
LLoyd Queen, Ph.D., University of Nebraska, Lincoln, 1988
Steven W. Running, Ph.D., Colorado State University, 1979
Stephen F. Siebert, Ph.D., Cornell University, 1990
Jack Ward Thomas, Ph.D., University of Massachusetts, 1972
Ronald H. Wakimoto, Ph.D., University of California, 1978
E. Earl Willard, Ph.D., Utah State University, 1971
Hans R. Zuur, Ph.D., Iowa State University, 1975

**Associate Professors**

Paul B. Alaback, Ph.D., Oregon State University, 1980
William T. Borrie, Ph.D., Virginia Polytechnic Institute and State University, 1995
James A. Burchfield, Ph.D., University of Michigan, 1991 (Associate Dean)
Thomas H. DeLuca, Ph.D., Iowa State University, 1993
L. Scott Mills, Ph.D., University of California, Santa Cruz, 1993
David Naugle, Ph.D., South Dakota State University, 1998
Martin Nie, Ph.D., Northern Arizona, 1998
Mike Patterson, Ph.D., Virginia Polytechnic Institute and State University, 1993
Diana Six, Ph.D., University of California, Riverside, 1997

**Assistant Professors**

Woodam Chung, Ph.D., Oregon State University, 2002
Elizabeth Crone, Ph.D., Duke University, 1995
Lisa A. Eby, Ph.D., Duke University, 2001
John M. Goodburn, Ph.D., University of Wisconsin-Madison, 1999
R. Neil Moisey, Ph.D., The University of Montana, 1997
Scott Woods, Ph.D., Colorado State University, 2001

**Emeritus Professors**

David H. Jackson, Ph.D., University of Washington, 1975
Alan McQuillan, Ph.D., University of Montana, 1981
Thomas J. Nimlos, Ph.D., University of Wisconsin, 1959
Robert D. Pfister, Ph.D., Washington State University, 1972
Robert R. Ream, Ph.D., University of Wisconsin, 1963
Robert W. Steele, Ph.D., Colorado State University, 1975
College of Technology
R. Paul Williamson, Dean

Lynn Stocking, Associate Dean

The College of Technology provides academic, developmental and occupational-related education. The College also maintains relationships with local, regional, state and national business and industry communities resulting in responsiveness to workforce needs by developing and delivering relevant programs.

College of Technology facilities are divided between two separate campuses. The East campus at 909 South Avenue West houses the academic and registrar offices, Admissions & New Student Services, Career Services, counseling office, Financial Aid, and the Academic Support Center, as well as the business, computer technology, culinary arts, general education, and health professions programs. A branch of the Mansfield Library, a bookstore, dining room, and academic computing also are located at the East campus. The West campus at 3639 South Avenue West houses the electronics and industrial programs. Students may attend courses at all three campus sites and may attend courses scheduled at a variety of times between 7:00 a.m. and 10:00 p.m.

Associate of Applied Science and Certificate Programs

The Associate of Applied Science degree and certificate programs offered in the College are designed to lead an individual directly to employment in a specific career or career cluster. In some instances, particularly in allied health, the degree or certificate is a prerequisite for taking a licensing examination. The Associate of Applied Science degree is not typically considered a transfer degree, although opportunities do exist in some baccalaureate degree-granting institutions such as the University’s Bachelor of Applied Science degree program.

The College’s Surgical Technology and Respiratory Care programs are reviewed by their respective Joint Review Committees and accredited by the Commission on Accreditation of Allied Health Education Programs. The Food Service Management program is accredited by the American Culinary Federation Educational Institute Accrediting Commission, the Paralegal Studies program is approved by the American Bar Association, and the Practical Nursing program is approved by the Montana Board of Nursing.

Associate of Arts Degree Program

The Associate of Arts degree program provides an opportunity for students to complete either a general education curriculum without a particular field of study or a medically orientated curriculum. The program is administered by the College of Technology Department of Applied Arts and Sciences. See also the Academic Policies and Procedures section of this catalog for specific requirements.

Bachelor of Applied Science Degree Program

A Bachelor of Applied Science degree is offered by The University of Montana-Missoula. This degree program provides continued educational preparation to enhance the career opportunities of students who have completed approved Associate of Applied Science degrees. See the College of Arts and Sciences/Applied Science section of this catalog.

Credit Applicable Toward an Associate of Arts and Baccalaureate Degrees

The following College of Technology courses have been approved to count as elective credit, or in some cases General Education credit, for the Associate of Arts and baccalaureate degrees. With departmental approval, some may count toward major or cognate requirements. With departmental approval, up to 10 additional credits from courses not on this list may be counted. Refer to the sections on Technical Courses and Credit Maximums in this catalog. See index.

AASC 100, 101
BUS 103S
COM 101, 115, 160A, 210E, 242
CRT 101, 108, 121, 122E, 203, 260, 270, 280, 281
EET 225, 232, 260
FSM 270, 271
MAT 100, 120, 117, 145
NUR all courses (except 295T)
POL 146S
PSY 100S, 110S, 185
SCN 115N, 119N, 150N

Academic Support Center

The Academic Support Center (ASC) offers a wide range of services including study skills training, tutoring, academic and career advising, reading skills training, and resource information designed to increase the success rate of students enrolled in the College of Technology.

Department of Applied Arts and Sciences

Karen Hill, Chair

The Department of Applied Arts and Sciences provides instruction in communication, mathematics, social science, and science. A core of these related subjects must be completed prior to graduation and is included with each program’s scope and sequence. The department also provides developmental course work in writing and mathematics to aid students in obtaining the prerequisite skills necessary for success in required course work.

The department oversees the Associate of Arts (A.A.) Degree. For additional information regarding admission and complete degree requirements, see the Admissions and Academic Policies and Procedures sections of this catalog.

Associate of Arts-A.A. Degree

A total of 60 credits is required for graduation with an Associate of Arts (A.A.) degree. The minimum grade average for graduation is 2.00 in all courses taken on the traditional letter grade (A-F) basis. To receive an Associate of Arts degree all students must successfully complete all the general education requirements for a baccalaureate degree, except for the Upper-Division Writing Proficiency Assessment and the Upper-Division Writing Expectations of a major.

Students may enter in the autumn or spring semester. Following is a suggested first year course of study. Courses numbered below 100 and courses with a T suffix on the course number do not count toward the 60-credit requirement or general education course requirements.
**Suggested Course of Study**

**First Year**
- AASC 100 Introduction to the University Experience 2
- AASC 101 Study and Learning Strategies 2
- COM 150S Interpersonal Communications 3
- COM 160A Oral Communications 3
- COM 210E Critical Thinking 3
- COM 090T Critical Writing Skills or COM 101 English Composition (with appropriate placement score) 3-3
- CRT 101 Introduction to Computers 2
- MAT 002T Algebra or other math course based on placement test score 3-3
- Math course next in sequence from first semester 3-4
- SCN 115N Anatomy 3
- Total credits toward degree requirements: 17-30

**Second Year**
- Additional semester’s course loads are based on mathematical literacy and English writing skills sequencing from the second semester plus course requirements for majors in the biological sciences. Consequently, students in the paramedical arts may be applicable toward the baccalaureate degree programs.
- COM 090T Critical Writing Skills or COM 101 English Composition (with appropriate placement score) 3-3
- CRT 101 Introduction to Computers 2
- MAT 002T Algebra or other math course based on placement test score 3-3
- Math course next in sequence from first semester 3-4
- SCN 115N Anatomy 3
- Total credits toward degree requirements: 17-30

**Courses**

U = for undergraduate credit only. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

**Applied Arts and Sciences (AASC)**
- U 100 Introduction to the University Experience 2 cr. Offered autumn and spring. Introduction to academic life: exposure to campus resources (e.g., library, computer labs, career and student services); exploration of personal goals and motivation; introduction to various academic disciplines; introduction to ASUM and other student groups; exploration of diversity issues, ethical issues, and student accountability; and extensive advising.
- U 101 Study and Learning Strategies 2 cr. Development of study skills needed by the student to be competitive in higher education. Topics include management of classroom behavior, time, money; personal health and safety; listening, memory; critical thinking; note-taking; ethics; and testing.
- U 195T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- U 196T Independent Study 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**Communications (COM)**
- U 090T Critical Writing Skills 3 cr. Offered every term. For students with major difficulties in expository prose. Emphasis on forming, structuring, and development of ideas. Sentence level faults discussed. Traditional letter grade only. Credit does not count toward a certificate or degree.
- U 093T Grammar and Punctuation 2 cr. Offered intermittently. Traditional principles of grammar and punctuation with practical applications of these principles. Designed for the student who needs to review basic grammar and punctuation.
- U 101 English Composition 3 cr. Offered autumn and spring. Prereq., COM 090T or passing score on placement test. Instruction and practice in both the expository writing and research process. Emphasis on the use of specific techniques of writing to develop style, unity, clarity, and force of ideas, and structure. Students are expected to write without major errors in sentence structure or mechanics. Credit not allowed for both COM 101 and ENEX 101. Grading A, B, C, D, F, or NCR.
- U 115 Technical Writing 3 cr. Offered autumn and spring. Prereq. or coreq., CRT 101 or CRT 103T; passing score on placement test or consent of instr. An introduction to technical writing with emphasis on clarity and conciseness. Sentence,
paragraph, and document organization are stressed; grammar and mechanics are reviewed. Short writing assignments and technical documents are critiqued for application of technical style, organization, and correct grammar and mechanics.

**U 150S Interpersonal Communication 3 cr.** Offered autumn and spring. Focus on communicating and listening more clearly to improve personal and professional relationships. Topics include forms of communication, communication and identity, emotion, conflict, climates, gender, and cultural diversity. Credit not allowed for both COM 150S and COMM 110S.

**U 160A Oral Communications 3 cr.** Offered autumn and spring. Introduction to oral communication skills, including public speaking, and small group communications. Focus is on the organization, delivery, and retention of oral messages, listening skill development, and nonverbal communication. Credit not allowed for both COM 160A and COMM 111A.

**U 195T Special Topics Variable cr. (R-9)** Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 196T Independent Study 1-6 cr. (R-6)** Offered intermittently.

**U 210E Critical Thinking, Analysis, and Problem Solving 3 cr.** Offered autumn. Prereq., COM 101 or consent of instr. Introduction to critical thinking, conflict analysis, and problem solving with examination of fundamentals of each process and evaluation of ethical considerations for each project result. Provides a framework for determining decision making scope as well as basic formula for conscious resolution strategies.

**U 220T Training Techniques 3 cr.** Offered spring. Prereq., COM 115, COM 160A or consent of instr. The practical application of adult learning theory to documenting procedures, creating user guides, writing instructions, developing courses, using tutorials, evaluating and using training materials, and giving effective oral presentations. Students prepare and deliver mini-courses to develop these skills.

**U COM 242 Argumentation 3 cr.** Offered autumn and spring. Prereq., COM 160A, COMM 111A, or consent of instr. Focus on developing, presenting, evaluating, and responding to written and spoken arguments with an emphasis on critical decision-making. Credit not allowed for both COM 242 and COMM 242.

**U 295T Special Topics 1-6 cr. (R-6)** Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 296T Independent Study 1-6 cr. (R-6)** Offered intermittently.

**Mathematics (MAT)**

**U 002T Prealgebra 4 cr.** Offered every term. Arithmetic and basic algebra skills needed for Introductory Algebra. Topics include integers and rational numbers, decimals and percentages with applications, ratios and proportions with applications, single variable linear equations with applications, exponents, factoring, and an introduction to polynomials. Credit does not count toward a certificate or degree.

**U 005 Introductory Algebra 4 cr.** Offered every term. Review of arithmetic principles of integers and rational numbers, linear equations in one or two unknowns, and operations with polynomials and rational expressions. Credit does not count toward an associate of arts or baccalaureate degree.

**U 100 Intermediate Algebra 3 cr.** Offered autumn and spring. Prereq., MAT 005 or appropriate placement score. Topics include linear equations and systems of linear equations, inequalities, applications and graphing; polynomials; rational expressions and equations; radicals, rational exponents and complex numbers; quadratic equations; introduction to exponential and logarithmic functions. Credit not allowed for both MAT 100 and MATH 100.

**U 110T Industrial Math 3 cr.** Offered autumn. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing.

**U 113T Merchandising Math 3 cr.** Offered spring. Use of mathematical concepts in retailing. Specific application of these concepts to markups, markdowns, inventory turnover, and other basic formulas.

**U 114T Food Production Math 3 cr.** Offered autumn and spring. Basic mathematical processes including fractions, decimals, percents, ratios, proportions, and measures relative to menus, portions, and production costs.

**U 117 Probability and Linear Math 3 cr.** Offered every term. Prereq., MAT 100 or appropriate placement score. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields. Credit not allowed for both MAT 117 and MATH 117.

**U 120 Elementary Functions 4 cr.** Offered autumn and spring. Prereq., MAT 100 or appropriate score on the ASSET placement test. Algebraic, trigonometric, exponential/logarithmic functions of one real variable and their graphs. Inverse functions, complex numbers and polar coordinates. Conic sections. Credit not allowed for both MAT 120 and MATH 121.

**U 145 Calculus with Applications 4 cr.** Offered spring. Prereq., MAT 120 or appropriate score on placement exam. Introduction to differentiation and integration of elementary function. Introduction to ordinary differential equations. Emphasis is on applications in technical fields including electronics technology. Graphing calculators used. Credit not allowed for both MAT 145 and MATH 150.

**U 196T Independent Study Variable cr. (R-6)** Offered intermittently.

**Political Science (POL)**

**U 146S American Government and Politics 3 cr.** Offered autumn. A survey of the processes and institutions of American government. Emphasis is on constitutional development and the constitutional bases of governmental powers and limitations. Topics include the three branches of government, separation of powers, judicial review, commerce, express and implied powers, civil rights, interest groups, movements, political parties, and state government. Credit not allowed for both POL 146S and PSC 100S.

**Psychology (PSY)**

**U 100S Introduction to Psychology 4 cr.** Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSYC 100S and PSY 100S.

**U 105T Work Attitudes 1 cr.** Offered spring. Introduction to the working environment and the individual's responsibility to working relationships.

**U 110S Organizational Psychology 3 cr.** Offered autumn and spring. Foundation in the psychological processes that influence behavior of people in work settings.

**U 185 Human Development 3 cr.** Offered autumn and spring. Prereq., PSYC 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers the influence of genetics, and the environment from a chronological aspect.

**U 195T Special Topics Variable cr. (R-9)** Offered intermittently. Experimental offerings of visiting professors,
experimental offerings of new courses, or one-time offerings of current topics.

Science (SCN)

- U 095T Special Topics 1-6 cr. Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- U 115N Anatomy 3 cr. Offered spring. Structures of the human body and their basic functions.
- U 117T Physical Science 4 cr. Offered spring. Prereq., MAT 110T. Principles of matter and its properties including units, velocity, acceleration, forces, momentum, vectors and trigonometry.
- U 118T General Physics 3 cr. Offered autumn. Principles of simple machines, rotation, nonconcurrent forces, fluids, temperature, and heat.
- U 119N Anatomy and Physiology 7 cr. Offered autumn and spring. Basic knowledge necessary for students in health-related programs. Emphasis is on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. A cadaver lab is included.

U 120T Technical Physics I 4 cr. Offered autumn. Introduction to models, measurements, vectors, motion in a straight line, motion in a plane, Newton's laws of motion, application of Newton's laws, and circular motion and gravitation.
- U 121T Technical Physics II 4 cr. Offered spring. Prereq., SCN 120T. Introduction to work and energy, impulse and momentum, rotational motion, equilibrium of a rigid body, elasticity, heat, and thermodynamics.
- U 125T Medical Physics 3 cr. Offered autumn. A presentation of physical principles that apply to respiratory care equipment and cardiopulmonary physiology.
- U 150N Nutrition 3 cr. Offered autumn and spring. Nutritional needs throughout the life cycle and measures to assist in the meeting of those needs in health or stress/disease.
- U 195T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- U 196T Independent Study Variable cr. (R-6) Offered intermittently.

Department of Business Technology

Vicki Micheletto, Chair

The Business Technology Department offers seven Associate of Applied Science degree programs and four certificate programs. Degree programs include Accounting Technology with options in Human Resources and Computer Support; Administrative Assisting with options in Human Resources and Office Administration; Computer Technology with options in Network Management and Information Systems Management; Food Service Management; Medical Office Technology with options in Medical Secretarial Technology and Medical Transcription; Legal Support Services; Paralegal Studies; and Management with options in Entrepreneurship, and Sales and Marketing. Certificate programs include Culinary Arts, Customer Relations, Medical Reception, and Sales and Marketing.

Special Degree and Certificate Requirements

The related studies requirements are included in the following programs. Refer to the Academic Policies and Procedures section of this catalog for the specific requirements.

Accounting Technology-A.A.S. Degree

Students in the Accounting Technology program are trained to be accounting technicians and to occupy positions such as staff accountants and paraprofessionals. These technicians maintain the financial records of entities in the areas of manufacturing, service, merchandising, government, and nonprofit. Program graduates use technology to gather, compile, and analyze data; decide which software applications to accomplish various business tasks; apply accounting principles to aid in making business decisions; and communicate budgetary and accounting information to nonfinancial colleagues and managers.

Students who enter in the autumn semester complete the program in four semesters for the Associate of Applied Science degree. Students who enter in the spring semester complete the program in five semesters.

Autumn Entry:

| First Year | A | S |
| ACC 132T-133T Accounting I, II | 4 | 4 |
| ACC 134T Payroll Topics | - | 3 |
| ACC 230T Computerized Accounting Systems | 3 | - |
| BUS 103S Principles of Business | 3 | - |
| BUS 106T Records and Information Management | 2 | - |
| BUS 135T Business Law | 3 | - |
| COM 115 Technical Writing | 3 | - |
| CRT 101 Introduction to Computers | 2 | - |
| CRT 180T Spreadsheet Software | 3 | - |
| MAT 100 Intermediate Algebra | 3 | - |
| Total | 17 | 15 |

| Second Year | A | S |
| ACC 223T Nonprofit Accounting | 3 | - |
| ACC 234T Managerial Accounting | 3 | - |
| ACC 236T Income Tax | 3 | - |
| ACC 237T Strategies for Business Entities | 3 | - |
| ACC 250T Accounting Capstone | 4 | - |
| ACC 290T Accounting Internship | 2 | - |
| COM 160A Oral Communications | 3 | - |
| CRT 281 Business Computer Applications | 3 | - |
| ECON 111S Microeconomics | 3 | - |
| HMR 232T Wage and Benefits Administration | 4 | - |
| Total | 15 | 16 |
### Spring Entry:

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BUS 106T Records and Information Management</td>
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</tr>
<tr>
<td>COM 115 Technical Writing</td>
<td>4</td>
</tr>
<tr>
<td>CRT 101 Introduction to Computers</td>
<td>2</td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>ACC 132T-133T Accounting I, II</td>
<td>4</td>
</tr>
<tr>
<td>ACC 134T Payroll Topics</td>
<td>3</td>
</tr>
<tr>
<td>ACC 230T Computerized Accounting Systems</td>
<td>2</td>
</tr>
<tr>
<td>BUS 103S Principles of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 135T Business Law</td>
<td>3</td>
</tr>
<tr>
<td>CRT 180T Spreadsheet Software</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111S Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>12</td>
</tr>
</tbody>
</table>

### Human Resources Option

In addition to accounting technician training, students selecting this option will be prepared to aid management in complying with federal and state employment laws, maintaining personnel records, and assisting with pension and other benefit plan administration.

### Autumn Entry:

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACC 132T-133T Accounting I, II</td>
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</tr>
<tr>
<td>ACC 134T Payroll Topics</td>
<td>3</td>
</tr>
<tr>
<td>ACC 230T Computerized Accounting Systems</td>
<td>2</td>
</tr>
<tr>
<td>COM 115 Technical Writing</td>
<td>2</td>
</tr>
<tr>
<td>CRT 101 Introduction to Computers</td>
<td>3</td>
</tr>
<tr>
<td>CRT 180T Spreadsheet Software</td>
<td>3</td>
</tr>
<tr>
<td>HMR 130T Policies and Administration</td>
<td>3</td>
</tr>
<tr>
<td>HMR 133T Personnel Records Management</td>
<td>3</td>
</tr>
<tr>
<td>PSY 110S Organizational Psychology</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
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</tbody>
</table>

#### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 250T Accounting Capstone</td>
<td>4</td>
</tr>
<tr>
<td>ACC 232T Nonprofit Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACC 234T Managerial Accounting</td>
<td>2</td>
</tr>
<tr>
<td>ACC 236T Income Tax</td>
<td>3</td>
</tr>
<tr>
<td>ACC 290T Accounting Internship</td>
<td>2</td>
</tr>
<tr>
<td>CRT 281 Business Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>CRT 121E Computing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>HMR 175 Workplace Issues</td>
<td>3</td>
</tr>
<tr>
<td>HMR 236T Wage and Benefits Administration</td>
<td>4</td>
</tr>
<tr>
<td>HMR 236T Personnel Staffing</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
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</tbody>
</table>

### Computer Support Option

This option provides students with a technical background in computer hardware, operating systems, Internet technologies, networking/telecommunications, and application software. In addition to accounting technician training, students selecting this option will be prepared to manage and maintain a local area network and install, maintain and troubleshoot software. They will be trained to configure PC hardware as well as utilize and secure various operating systems.

### Autumn Entry:

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 132T-133T Accounting I, II</td>
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</tr>
<tr>
<td>ACC 134T Payroll Topics</td>
<td>3</td>
</tr>
<tr>
<td>COM 115 Technical Writing</td>
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</tr>
<tr>
<td>CRT 103T Computing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>CRT 112T Operating System Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>CRT 126T Networking Basics</td>
<td>3</td>
</tr>
<tr>
<td>CRT 180T Spreadsheet Software</td>
<td>3</td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PSY 110S Organizational Psychology</td>
<td>3</td>
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<td><strong>Total</strong></td>
<td>16</td>
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#### Second Year

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BUS 243T Psychology of Management and Supervision</td>
<td>4</td>
</tr>
<tr>
<td>COM 160A Oral Communications</td>
<td>3</td>
</tr>
<tr>
<td>CRT 180T Spreadsheet Software</td>
<td>3</td>
</tr>
<tr>
<td>CRT 181T Introduction to Database Software</td>
<td>2</td>
</tr>
</tbody>
</table>

### Administrative Assisting-A.A.S. Degree

Students in Administrative Assisting may select options in Human Resources or Office Administration as well as having all skills acquired in the Customer Relations program. Students are awarded the Associate of Applied Science degree after successfully completing the program. Students may enter in the autumn or spring semester.

### Human Resources Option

Students selecting the Human Resources option will gain knowledge of employee recruiting, screening, interviewing, and orientation responsibilities. In addition, students become knowledgeable regarding personnel files, employee benefits, and other statutory and regulatory requirements placed on employers relating to personnel.

### Autumn Entry:

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131T Essentials of Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACC 134T Payroll Topics</td>
<td>3</td>
</tr>
<tr>
<td>BUS 106T Records and Information Management</td>
<td>2</td>
</tr>
<tr>
<td>COM 115 Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>CRT 101 Introduction to Computers</td>
<td>2</td>
</tr>
<tr>
<td>HMR 130T Policies and Administration</td>
<td>3</td>
</tr>
<tr>
<td>HMR 133T Personnel Records Management</td>
<td>3</td>
</tr>
<tr>
<td>HMR 135T Employee and Labor Relations</td>
<td>3</td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PSY 110S Organizational Psychology</td>
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<td><strong>Total</strong></td>
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#### Second Year

<table>
<thead>
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<th>Course</th>
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<tbody>
<tr>
<td>BUS 243T Psychology of Management and Supervision</td>
<td>4</td>
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<tr>
<td>COM 160A Oral Communications</td>
<td>3</td>
</tr>
<tr>
<td>CRT 180T Spreadsheet Software</td>
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</tr>
<tr>
<td>CRT 181T Introduction to Database Software</td>
<td>2</td>
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</table>
### College of Technology - Department of Business Technology - 191

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CRT 260 Digital Publishing and Design</td>
<td>3</td>
</tr>
<tr>
<td>CRT 281 Business Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>HMR 175T Workplace Issues</td>
<td>3</td>
</tr>
<tr>
<td>HMR 232T Wage and Benefits Administration</td>
<td>4</td>
</tr>
<tr>
<td>HMR 236T Personnel Staffing, Training and Development</td>
<td>2</td>
</tr>
<tr>
<td>HMR 290T Administrative Assisting Internship</td>
<td>15</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

**Spring Entry:**

- COM 115 Technical Writing: 3 credits
- CRT 101 Introduction to Computers: 3 credits
- HMR 130T Policies and Administration: 3 credits
- HMR 133T Personnel Records Management: 3 credits
- HMR 135T Employee and Labor Relations: 3 credits
- **Total: 15 credits**

- ACC 131T Essentials of Accounting: 4 credits
- ACC 134T Payroll Topics: 3 credits
- BUS 106T Records and Information Management: 2 credits
- CRT 180T Spreadsheet Software: 3 credits
- CRT 260 Digital Publishing and Design: 3 credits
- HMR 175T Workplace Issues: 3 credits
- HMR 232T Wage and Benefits Administration: 4 credits
- HMR 236T Personnel Staffing, Training and Development: 2 credits
- MAT 100 Intermediate Algebra: 3 credits
- PSY 110S Organizational Psychology: 3 credits
- **Total: 16 credits**

- BUS 243T Psychology of Management and Supervision: 4 credits
- COM 160A Oral Communications: 3 credits
- CRT 181T Introduction to Database Software: 2 credits
- CRT 281 Business Computer Applications: 3 credits
- HMR 290T Administrative Assisting Internship: 3 credits
- **Total: 15 credits**

### Office Administration Option

Students in Office Administration are trained to plan, organize, and oversee office tasks in addition to having all skills acquired in the office reception program. Employee supervision, training, and evaluation are included in the course of study.

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131T Essentials of Accounting: 4 credits</td>
<td></td>
</tr>
<tr>
<td>BUS 106T Records and Information Management: 2 credits</td>
<td></td>
</tr>
<tr>
<td>BUS 120T Transcription and Text Editing: 2 credits</td>
<td></td>
</tr>
<tr>
<td>COM 115 Technical Writing: 3 credits</td>
<td></td>
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<tr>
<td>COM 160A Oral Communications: 3 credits</td>
<td></td>
</tr>
<tr>
<td>CRT 101 Introduction to Computers: 2 credits</td>
<td></td>
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<tr>
<td>CRT 108 Word Processing: 2 credits</td>
<td></td>
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<tr>
<td>CRT 115T Advanced Document Production: 3 credits</td>
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<tr>
<td>CRT 180T Spreadsheet Software: 3 credits</td>
<td></td>
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<tr>
<td>MAT 100 Intermediate Algebra: 3 credits</td>
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<td>PSY 110S Organizational Psychology: 3 credits</td>
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<td><strong>Total: 15 credits</strong></td>
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</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 103S Principles of Business: 3 credits</td>
<td></td>
</tr>
<tr>
<td>BUS 135T Business Law: 3 credits</td>
<td></td>
</tr>
<tr>
<td>BUS 240T Administrative Support for the Automated Office: 2 credits</td>
<td></td>
</tr>
<tr>
<td>BUS 243T Psychology of Management and Supervision: 4 credits</td>
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</tr>
<tr>
<td>COM 150S Interpersonal Communication: 3 credits</td>
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<td><strong>Total: 15 credits</strong></td>
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</table>

### Customer Relations-Certificate

The Customer Relations program provides students with the skills to promote excellent customer relations in business settings. Courses related to the service industry, service-level decisions, formulation of service policies, customer service management, and staff development are included. Students gain knowledge of customer care, effective communication, and the importance of public relations to promote a positive company image. Students develop an understanding of challenges and conflicts while servicing both internal and external customers. Emphasis in business, computers, and psychology provide a solid background for customer relations positions in the current business environment.

A Certificate of Completion is awarded for successful completion of the program. Students may enter autumn semester

<table>
<thead>
<tr>
<th>Autumn Entry:</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 103S Principles of Business: 3 credits</td>
<td></td>
</tr>
<tr>
<td>BUS 106T Records and Information Management: 2 credits</td>
<td></td>
</tr>
<tr>
<td>BUS 113T Psychology of Selling: 3 credits</td>
<td></td>
</tr>
<tr>
<td>BUS 135T Business Law: 3 credits</td>
<td></td>
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<tr>
<td>BUS 140T Customer Service: 4 credits</td>
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<tr>
<td>COM 115 Technical Writing: 3 credits</td>
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<td>COM 150S Interpersonal Communications: 3 credits</td>
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<tr>
<td>CRT 101 Introduction to Computers: 2 credits</td>
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<tr>
<td>CRT 181T Introduction to Database Software: 2 credits</td>
<td></td>
</tr>
<tr>
<td>CRT 260 Digital Publishing and Design: 3 credits</td>
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<tr>
<td>CRT 281 Business Computer Applications: 3 credits</td>
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<tr>
<td>HMR 175T Workplace Issues: 3 credits</td>
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<tr>
<td>HMR 236T Personnel Staffing, Training and Development: 2 credits</td>
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<tr>
<td>HMR 290T Administrative Assisting Internship: 3 credits</td>
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<td><strong>Total: 17 credits</strong></td>
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</table>
Computer Technology-A.A.S. Degree

Students in the Computer Technology program prepare for careers in the field of information technology. Students select an option in Network Management or Information Systems Management earning the Associate of Applied Science degree upon successful completion. Students receive a well-rounded technical background in computer hardware, operating systems, software development, Internet technologies, networking/telecommunications, and application software. Students benefit from coursework which reinforces skills in business principles, professionalism, technical writing and oral presentation.

Faculty with credentials from Cisco, Microsoft, Novell, and CompTIA conduct advanced technical courses using official industry curriculum. Opportunities exist for students to pursue numerous professional certifications. All students acquire work-related skills through an internship experience. The combination of a post-secondary degree, industry-based professional certification and work-related experience make graduates marketable. The University of Montana-Missoula College of Technology is a Cisco Regional Training Center and a member of the Computer Technology Industry Association.

Students may enter autumn term. Prior to entering the program, students shall demonstrate proficiency in keyboarding and basic computing skills including word processing, spreadsheets, Internet software and file management. Students with appropriate mathematics background or equivalent test scores may request to waive MAT 100, Intermediate Algebra, as a requirement.

Network Management Option

The Network Management option prepares students for careers as network technicians, network administrators, PC field technicians, and help-desk engineers. Students receive a foundation in networking technologies found in the business environment. The program prepares students to support LAN/WAN devices and services. Students install, configure, maintain, and troubleshoot cabling, NICs, hubs, switches, bridges, and routers in multi-protocol networks. Students perform network administrative tasks on client PCs and servers. Students install, implement, and manage enterprise directory and infrastructure services. Opportunities exist for students to earn professional certification from Cisco (CCNA), Microsoft (MCP, MCSA), Novell (CNA), and CompTIA (A+, Network+, and Security+).

Autumn Entry:

First Year

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<th>Course Code</th>
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<td>CRT 103T</td>
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<tr>
<td>CRT 121</td>
<td>Introduction to Programming</td>
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<tr>
<td>CRT 122E</td>
<td>Ethics, Logic, and Critical Thinking</td>
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<td>Networking Basics</td>
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<tr>
<td>CRT 280</td>
<td>Computer Applications for IS Professionals</td>
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<td>CRT 276T</td>
<td>WAN Technologies</td>
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Information Systems Management Option

The Information Systems Management option prepares students to implement information technology in the business environment. Students analyze business requirements and design technology-based solutions to business problems. The program provides students with a foundation in business principles, accounting, management, and training techniques. Students install, upgrade, maintain, optimize, and troubleshoot PC hardware and software. Students develop, create, and maintain databases, print-based media, and web-based media. Graduates from the program enter careers in business PC support, developing software and hardware solutions, training and supporting users, and presenting business solutions. Opportunities exist for students to earn professional certification from CompTIA (A+) and Microsoft (MCP).

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<td>CRT 263T</td>
<td>Web Design and Development</td>
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Culinary Arts-Certificate

The Bureau of Labor Statistics indicates the hospitality field is America's number one retail employer and predicts its growth will increase 30 percent over the next two years. Students entering the Culinary Arts Certificate program or Food Service Management degree program prepare for careers in the hospitality industry. Students develop skills to seek employment in hotels, restaurants, resorts, casinos, clubs, catering, and corporate dining. Culinary careers encompass
hospitality management, sales, product development, or entrepreneurship. To meet the growing demand of the hospitality industry, two program options are available. Students may earn a Culinary Arts Certificate of Completion or a Service Management Associate of Applied Science degree.

The Culinary Arts program is two semesters and provides an introduction to the field of culinary arts. Students prepare for an entry-level position in the expanding and challenging food service industry. This program incorporates comprehensive hands-on learning experiences complemented by supportive courses designed to prepare students for a wide range of career opportunities. This program allows a seamless transition into the Food Service Management degree.

Students are awarded a Certificate of Completion after successfully completing the program.

Students may enter the Culinary Arts certificate program autumn semester and early application is encouraged.

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<td>Nutritional Cooking</td>
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| Food Station Experience from following courses:
  | CUL 156T Dining Room Procedures           | 3       |
  | CUL 157T Pantry and Garde-Manger          | 2       |
  | CUL 158T Short Order Cookery              | 3       |
  | CUL 160T Soups, Stocks, and Sauces        | 2       |
  | CUL 161T Meats and Vegetables             | 1       |
  | CUL 165T Baking and Pastry                | 3       |
| Total       |                                           | 16      |

**Food Service Management-A.A.S. Degree**

The Food Service Management program culminates in an Associate of Applied Science Degree. This program combines theory, practical training, and industry experience to prepare students for entry-level and management positions in the diverse and dynamic hospitality industry. The degree program is designed to continue principles taught in the culinary arts certificate program. The spectrum of learning is expanded to include more in-depth professional studies thereby enhancing employment options. Accreditation by the American Culinary Federation ensures graduates' eligibility for certification as an ACF "CertiCulinarin".

Technical subject areas include introduction to the industry, basic baking, patisserie, cost control, dining room service, garde manger, nutritional cooking, fundamental cooking principles, short order cookery, à la carte stations, menu planning, supervised internship, and the recognized sanitation certificate awarded by the National Restaurant Association Educational Foundation.

The Associate of Applied Science degree is awarded upon successful completion of the program.

Students may enter the Food Service Management program autumn semester and early application is encouraged.

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<td>CRT 205T</td>
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<td>Food Service Management Accounting</td>
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<td>FSM 270</td>
<td>Purchasing Procedures and Cost Controls</td>
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<td>FSM 271</td>
<td>Menu Layout, Design, and Analysis</td>
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<tr>
<td>FSM 275T</td>
<td>Patisserie</td>
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</tr>
<tr>
<td>FSM 290T</td>
<td>Internship</td>
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</table>
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  | CUL 156T Dining Room Procedures           | 3       |
  | CUL 157T Pantry and Garde-Manger          | 2       |
  | CUL 158T Short Order Cookery              | 3       |
  | CUL 160T Soups, Stocks, and Sauces        | 2       |
  | CUL 161T Meats and Vegetables             | 1       |
  | CUL 165T Baking and Pastry                | 3       |
| Total       |                                           | 17      |

**Legal Support Services-A.A.S. Degree**

Students selecting this program gain the specialized skills and knowledge to work as administrative assistants in law firms, governmental agencies, and law-related businesses. Courses in oral and written communications, legal process and transcription, computer applications, and office technology help students develop a professional approach to the office environment. Students become knowledgeable of employers' practices and the need for teamwork, appropriate attitudes, and ethical standards which lead to career success.

Questions concerning this program may be directed to Vicki Micheletto, Chair, Department of Business Technology.

**Management-A.A.S. Degree**

The Management program provides graduates with the skills required to own and operate their own businesses or become sales representatives and managers of retail organizations.

**Entrepreneurship Option**

Students selecting the Entrepreneurship option will focus on venture initiation, constructing business plans, generating financing, and beginning operations. Areas of study focus on the critical factors involved in accounting, sales strategy, advertising and marketing issues complemented with supervisory skills. Students gain knowledge of basic disciplines of business through both classroom and hands-on training. Computer technology and web development are added components to assist students to compete in today's changing business climate. Applications of the elements learned are included where practical. Successful graduates will depart with a comprehensive business plan and presentation skills required to approach financiers.

The Associate of Applied Science degree is awarded upon successfully completing the program.
Autumn Entry:

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<tr>
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<th>Credits</th>
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Sales and Marketing Option

Students selecting the Sales and Marketing option combine the technical sales and promotional related courses as a foundation for seeking middle to advanced positions in the sales and marketing field. Students will be required to complete sales presentations using appropriate techniques applying consultative and negotiation selling skills. Students will study and demonstrate effective sales techniques, plan and implement effective visual displays and presentations, and develop strong record keeping skills and management of accounts. Additional emphasis in computer skills, accounting, and technical writing provide students the needed edge for this competitive career.

An Associate of Applied Science degree is awarded to students successfully completing the program. Students may enter in the autumn or spring semester.

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Spring Entry:

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<tr>
<td>BUS 135T</td>
<td>Business Law</td>
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<tr>
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<td>Introduction to Computers</td>
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<td>BUS 224T</td>
<td>Advertising and Promotion</td>
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<td>BUS 246T</td>
<td>Merchandise Planning and Control</td>
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<td>Digital Publishing and Design</td>
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Medical Office Technology-A.A.S. Degree

The Medical Office Technology program provides two options for students with the flexibility of choosing a career as a medical secretary or medical transcriptionist. The course of study includes general as well as administrative duties of a medical facility. These duties involve scheduling appointments, interacting with patients, submitting patient insurance claims using current coding procedures, and maintaining medical and financial records. Students develop efficient skills in transcribing medical reports to include letters, history and physicals, operative reports, discharge summaries, and pathology reports.

Medical Secretarial Technology Option

Medical secretaries are trained to effectively greet patients, supervise office personnel, schedule appointments, post charges and payments, submit insurance claims using current coding procedures, maintain patient records, calculate payroll, create supervisory reports, maintain medical and financial records, and transcribe letters and procedures, maintain patient records, calculate payroll, create processes, maintain patient records, calculate payroll, and transcribe letters and patient chart notes.

Students successfully completing the program are awarded the Associate of Applied Science degree. Students may enter either autumn or spring semester.

### Autumn Entry:

#### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
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<tr>
<td>CRT 115T Advanced Document Production</td>
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<td>HMR 175T Workplace Issues</td>
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<td>MED 153T Insurance Processing</td>
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<td>MED 154T-164T Beginning Medical Terminology</td>
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<td>MED 155T Medical Software Applications</td>
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<td>ACC 134T Payroll Topics</td>
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<td>BUS 243T Psychology of Management and Supervision</td>
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<td>CRT 180T Spreadsheet Software</td>
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<td>HMR 236T Personnel Staffing, Training and Development</td>
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<td>MAT 100 Intermediate Algebra</td>
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<td>MED 154T Beginning Medical Terminology</td>
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<td>SCN 195N Anatomy</td>
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### Medical Transcription Option

Medical transcriptionists are trained to work in a variety of settings utilizing both office administration and transcription skills. Preparation includes transcribing medical histories, discharge summaries, operative reports, and chart notes.

Course work provides a knowledge of anatomy and terminology of medical and surgical procedures, drugs, instruments and laboratory data as well as instruction in using standard reference materials.

Student successfully completing the program are awarded the Associate of Applied Science degree. Students may enter either autumn or spring semester.

### Autumn Entry

#### First Year

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<tr>
<th>Course</th>
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<tr>
<td>ACC 131T Essentials of Accounting</td>
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<td>CRT 108 Word Processing</td>
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<td>MED 153T Insurance Processing</td>
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<td>MED 154T-164T Beginning Medical Terminology</td>
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#### Second Year

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<td>MED 256T-257T Medical Transcription I</td>
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#### Directed Elective Options

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<tr>
<td>MED 155T Medical Software Applications</td>
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### Notes

- Credits are indicated as A for Autumn, S for Spring.
- Directed electives are flexible and can vary by semester.
- Course descriptions and credits are subject to change.
- Additional information can be found in the College of Technology - Department of Business Technology - 195.
### Spring Entry:

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### Directed Elective Options

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### Medical Reception-Certificate

The Medical Reception curriculum provides students with the skills needed to provide exceptional service to patients in a medical setting. In this role the essential duties performed include scheduling appointments, screening telephone calls, obtaining and entering patient registration information, releasing appropriate medical information, maintaining medical records and managing patient flow. Medical Reception students are instructed in the financial transactions of a medical setting. In this role the essential duties performed include scheduling appointments, screening telephone calls, obtaining and entering patient registration information, releasing appropriate medical information, maintaining medical records and managing patient flow. Medical Reception students are instructed in the financial transactions of a practice and will have a clear understanding of all the activities in the billing and collection cycle. Students are provided a broad overview of medical law and the principles of medical ethics as well as the guidelines established by HIPAA.

This training also prepares students for the position of a hospital ward secretary.

Students successfully completing the program are awarded a Certificate of Completion.

### Autumn Entry:

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### Paralegal Studies-A.A.S. Degree

The Paralegal Studies program prepares students for challenging and diverse careers in private law practices and in the law-related areas of business, industry, and government. The goals of the Paralegal Studies program are to enable students, through theoretical and practical legal education, to understand the function of law, to work as paralegals in the effective delivery of legal services, and to contribute to the legal profession. This program is designed to equip students with skills to analyze legal issues and to perform a variety of activities including drafting legal documents, interviewing clients, conducting legal research, and preparing cases for trial. Students utilize current technology through Internet research and legal and general office software applications. Paralegal studies students receive the necessary legal training to take advantage of new career opportunities in all sectors of the economy. Students are exposed to the principles of legal ethics and are cautioned regarding restrictions against the unauthorized practice of law by laypersons.

The Associate of Applied Science degree is awarded upon successful completion of the program. Students may enter the Paralegal Studies program autumn semester and early application is encouraged. Students will attend classes on both the Mountain and East campuses.

COM 101 students must take The University of Montana-Missoula Writing Proficiency and Placement Examination. Test administration times are available from the College of Technology Admissions Office at 406-243-7882.

### First Year

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<td>LEG 184T</td>
<td>Legal Ethics</td>
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<td>LEG 186T</td>
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<td>LEG 187T</td>
<td>Legal Research/Writer I</td>
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<td>LEG 188T</td>
<td>Principles of Real Estate</td>
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<td>Criminal Procedures</td>
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</table>
Sales and Marketing-Certificate

Students in the Sales and Marketing program are trained in sales and supportive tasks relating to retail or wholesale organizations. They study the application of the latest counselor selling techniques to assist clients in meeting needs. The curriculum also involves marketing activities, bookkeeping functions, and merchandising skills.

Students are awarded a Certificate of Completion after successfully completing the program. The Sales and Marketing program satisfies the requirements for the first year of the Management degree, Sales and Marketing option. Students may enter in the autumn or spring semester.

**Autumn Entry:**

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**Spring Entry:**

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**Courses**

U = for undergraduate credit only. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

**Accounting Technology (ACC)**

U 131T Essentials of Accounting 4 cr. Offered autumn and spring. Introduction to basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, cash control and completing the accounting cycle.

U 132T Accounting I 4 cr. Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.

U 133T Accounting II 4 cr. Offered autumn and spring. Prereq., ACC 132T with competency test score of 75% or better. Expansion of ACC 132T including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in debt and equity securities, and the statement of cash flow.

U 134T Payroll Topics 3 cr. Offered autumn and spring. Prereq., ACC 132T with competency test score of 75% or greater. Comprehensive payroll course including computation/preparation of paychecks, completing deposits and payroll tax returns, informational returns and issues relating to identification and compensation of independent contractors. Includes state and federal payroll law. Introduction to Montana’s Department of Labor and Industry, Unemployment Insurance Division, an State Compensation Insurance Fund.

U 195T Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 230T Computerized Accounting Systems 2 cr. Offered autumn and spring. Prereq., CRT 101 or CRT 103T, ACC 131T or ACC 132T with competency test score of 75% or better. With previous knowledge and skill related to double-entry accounting, payroll taxes and manual preparation of financial reports, students use a common accounting software package to accomplish similar tasks electronically.

U 232T Nonprofit Accounting 3 cr. Offered spring. Prereq., ACC 133T. Principles of accounting for governmental units, health care organizations, colleges and universities, and other nonprofit organizations.

U 234T Managerial Accounting 3 cr. Offered autumn. Prereq., ACC 132T, 133T. Continuation of 132T, 133T with a focus on managerial accounting topics. Includes cost categorization, variable costing, job order costing and standard costing. JIT, total quality management, quality costs and activity-based costing also will be addressed.

U 236T Income Tax 3 cr. Offered autumn. Prereq., ACC 134T with a "C" grade or better. An introduction to taxation concepts, principles and theory. Extensive tax return preparation emphasizing sole proprietorships and individuals.

U 237T Strategies for Business Entities 3 cr. Offered autumn. Prereq., ACC 132T or consent of instr. Legal, accounting, and tax strategies relating to corporations, partnerships, sole proprietorships, LLCs and LLPs. Includes tax preparation projects.

U 290T Accounting Internship 2 cr. Offered autumn and spring. Prereq., last semester in program, minimum grade of "C" in all ACC courses, and approval of program director. On-the-job training in positions related to the accounting field. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend scheduled one-hour seminars.

U 295T Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Business (BUS)

U 103S Principles of Business 3 cr. Offered autumn and spring. Introduction to the world of business. Examines capitalism, the economic environment, the types of business organizations, management, marketing, production, labor, financing, and business/governmental relations. Credit not allowed for both BUS 103S and BADM 100S.

U 106T Records and Information Management 2 cr. Offered autumn and spring. Introduction to alphabetic filing techniques and electronic database records management. Current technical developments utilizing automated records systems, biometric access control devices, electronic file organization, ergonomics, the Internet, image technology, and integrated security systems.

U 109T Visual Merchandising and Display 3 cr. Offered spring. Introduction to various techniques used by retailers in the merchandising and displaying of goods. Analysis of different approaches and methods for effectiveness in actual retail settings. Includes display principles of balance, color, and focal point statements.

U 112T Professional Sales 2 cr. Offered autumn. Includes the steps in opening, presenting, demonstrating, handling objections, and closing the sale. Students gain expertise through role-playing activities and written presentations.

U 113T Psychology of Selling 3 cr. Offered spring. Development of selling techniques which are used by many of the world’s best companies and explanation of why they work. Includes the psychological reasons that prevent a prospect from purchasing a product or service and the techniques to motivate a prospect to buy.

U 120T Transcription and Text Editing 2 cr. Offered autumn and spring. Prereq., COM 115, CRT 108. Techniques of accurate and rapid transcription from taped material. Computers are used as input devices. Includes making formatting and printing decisions with various types of business correspondence. Increases competency in spelling, grammar, and punctuation.

U 125T Principles of Marketing 3 cr. Offered autumn. An overview of marketing activities including the consumer buying decision process, distribution channels, the planning process, and new marketing trends. Students learn how to introduce a new product into the marketplace, target markets, and promote products through advertising and package design.

U 135T Business Law 3 cr. Offered spring. An overview of law as it applies to business transactions. Topics include the nature and source of law; courts and procedure; contracts, sales, and employment; commercial paper; bailments; property; business organizations; insurance; wills and estate planning; consumer and creditor protection; torts; criminal law; and agency law.

U 140T Customer Service 4 cr. Offered spring. Designed to prepare employees and managers to meet customers' expectations. Review of customer service philosophy and techniques. Services marketing, quality issues, service design and delivery, customer interaction systems, complaint handling and service recovery, customer relationships, loyalty management, and operations are addressed.

U 195T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196T Independent Study Variable cr. (R-9) Offered intermittently.

U 224T Advertising and Promotion 3 cr. Offered spring. Exposure to the history and fundamentals of advertising; in-depth exploration of advertising media, budget plans, ad campaign designs, and in-house promotion designs; and the production of actual radio, television, and print advertising.

U 240T Administrative Support for the Automated Office 2 cr. Offered autumn. Prereq., CRT 108. Overview of the procedures and scope of the administrative assistant's role in today's automated office, including traditional and electronic communications, operation of multimedia equipment, and managing office technology.

U 242T Supervision 3 cr. Offered spring. The supervisor's role in management, organizing, staffing, and training of personnel as well as managing problem performance. Includes motivating employees, improving departmental productivity as well as the legal concerns of supervision.

U 243T Psychology of Management and Supervision 4 cr. Offered autumn. Management theory, research, and the practice of management. Topics covered include leadership styles and techniques, effective communication approaches, time management, decision making, delegation, and the basic functions of supervisory skills.

U 246T Merchandise Planning and Control 3 cr. Offered spring. Emphasis is on a structured inventory control system that will allow for more accurate sales forecasting, improved loss prevention, and more effective store merchandising. Includes effective systems for the buying process and purchasing negotiations and procedures.

U 250T Entrepreneurship 3 cr. Offered spring. Prereq., CRT 101. An overview of the skill areas and business principles needed to start and operate a small business. Includes developing a business plan, identifying sources of capital formation, managing growth, and marketing issues related to new ventures.

U 290T Management Internship 2 cr. Offered autumn and spring. Prereq., consent of instr. On-the-job training in positions related to each student's career goal in management. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness. Students work a minimum of six hours each week at an approved site and attend a weekly one-hour seminar.

U 296T Independent Study Variable cr. (R-9) Offered intermittently.

Computer Technology (CRT)

U 007T Keyboarding 1 cr. Offered autumn and spring. Basic keyboarding including development of keystroking speed and accuracy. Proofreading is emphasized.

U 101 Introduction to Computers 2 cr. Offered autumn and spring. Introduction to computer terminology, hardware,
and software. Includes basic microcomputing applications (word processing, spreadsheets, database, presentation) commonly used in business and industry. Keyboarding is included. Internet and e-mail are introduced. Credit not allowed for both CRT 101 and CS 111.

U 103T Computing Fundamentals 3 cr. Offered autumn and spring. Prereq., CRT 101 or demonstrated computing experience. A survey of computing concepts for students entering the information technology field. Topics include computer hardware, telecommunications, Internet technologies, productivity software, file management, disaster recovery, and system security.

U 108 Word Processing 2 cr. Offered autumn and spring. Prereq., CRT 101. Preparation of business forms, correspondence, mail merges, columnar projects, and reports using up-to-date software. Business related application projects, graphics, and printer operation are included.

U 112T Operating System Fundamentals 3 cr. Offered spring. Prereq., CRT 101 or demonstrated computing experience. Introduction to common operating systems used in modern computing. Emphasis on thorough understanding and use of command line and graphical user interfaces. Hands-on experience with single-user and multi-user/multi-access software. Focus on using, comparing, and analyzing the capabilities of existing and emerging operating systems.

U 115T Advanced Document Production 3 cr. Offered autumn and spring. Prereq., CRT 108. Analysis of the concepts of advanced work processing document production underlying mastery of the software. Business-related application projects utilizing critical thinking included. Speed and timing component to increase skills essential for employment.

U 121 Introduction to Programming 3 cr. Offered autumn and spring. Prereq., CRT 103T, MAT 100. An introduction to programming and problem-solving methodologies using Visual BASIC. Techniques include problem identification, logic planning, program coding, and program debugging. Structured programming and documentation techniques are stressed.

U 122E Ethics, Logic, and Critical Thinking 3 cr. Offered autumn and spring. Exploration of ethical issues in the field of computing. Skills needed to identify and analyze various ethical concerns. Standard ethical concepts and theories, methods of ethical analysis. Strong emphasis on practical application to the ethical process.

U 126T Networking Basics 3 cr. Offered spring. Prereq., CRT 101 or demonstrated computer experience. Introduction to networking field including terminology; protocols; local-area and wide-area networks; the OSI model; topologies; IP addressing; cabling and cabling tools; routers and router programming; Ethernet and network standards; and wireless technologies.

U 176T Routers and Routing Basics 3 cr. Offered autumn. Prereq., CRT 126T and CRT 112T or consent of instr. Covers router theory and technologies including configurations, IOS software management, routine protocol configuration, TCP/IP, access-lists and introduction to LAN switching.

U 180T Spreadsheet Software 3 cr. Offered autumn and spring. Prereq., CRT 101 or 103T; and MAT 003 or 100. Emphasis on the use of workbooks and sheets to solve business problems. Includes projects relating to data and lists and graphs/charts.


U 188T Computers and Law 3 cr. Offered autumn. Prereq., CRT 101 and LEG 185T. Intermediate concepts of computer systems, operating systems, graphical environments, electronic mail, Internet, and file management. A variety of applications including word processing, spreadsheet, database, presentation, and law-related software are included.

U 195T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196T Independent Study Variable cr. (R-6)

U 203 Systems Analysis 3 cr. Offered spring. Prereq., CRT 280 or 281. Analysis of the system development life cycle. Emphasis on planning, analyzing, designing, implementing and supporting information systems to meet business requirements. Covers feasibility studies, time and cost estimates, modeling tools, design tools, implementation and support strategies. A simulated business design project will be developed.

U 205T Food Service Management Computer Applications 2 cr. Offered spring. Prereq., CRT 101. Introduction to computerized applications relevant to the food service industry. Includes spreadsheet, recipe management and word processing software; appropriate industry reports, create menus and fliers; import, export and scale recipes; analyze nutrition; and calculate food cost.

U 209T Project Management 3 cr. Offered intermittently. Prereq., CRT 280. Investigation of topics in project management including scope, definition, risk, procurement and the RFP. Management of time, cost, quality, and human resources. Concepts are reinforced with PM software.

U 210T Advanced Operating Systems 3 cr. Offered autumn and spring. Prereq., CRT 112T, 126T. In-depth study of a secure, multi-user, client-based network operating system. Topics include installation, administration of resources, performance, network services, and security.

U 215T Server Technologics 3 cr. Offered intermittently. Prereq., CRT 112T, CRT 126T. Server technologies commonly used in local area networking. Topics include installation, administration, storage, application services, network services, security, reliability, and availability.

U 216T Network Infrastructure 3 cr. Offered spring. Prereq., CRT 210T. Principles and implementation of enterprise networking services. Topics include Protocol Binding, DNS, DHCP, WINS, Remote Access, IP Routing, IP Security, Network Address Translation, and Certificate Services.

U 222T Enterprise Security 3 cr. Offered intermittently. Prereq., CRT 210T. Examination of general information technology security concepts. Topics include access control, authentication, attack methods, remote access, web security, wireless networks, cryptography, internal infrastructure security, and external attacks. Security procedures, organizational policies, risk management and disaster recovery addressed.

U 226T Switching Basics and Intermediate Routing 3 cr. Offered spring. Prereq., CRT 176T. Covers router configurations including advanced IP addressing techniques, variable length subnet masking, intermediate routing protocols, Ethernet switching, virtual LANs, spanning-tree protocol, and VLAN trunking protocol.

U 248T Network Administration 4 cr. Offered autumn. Prereq., CRT 112T, 126T. An overview of managing shared resources on a local area network. Topics include client services, user accounts, file systems, directory services, print services, and security.
U 260 Digital Publishing and Design 3 cr. Offered autumn and spring. Prereq., CRT 101 or 103T or consent of instr. A comprehensive foundation of layout and design principles to integrate digital media essential for effective print-based and web-based business publications.

U 263T Web Design and Development 3 cr. Offered autumn and spring. Prereq., CRT 101 or consent of instr. Provides a background and foundation skills required for designing and implementing Web sites for public and private organizations. Marketing and design techniques are applied using state-of-the-art software.

U 270 C++ Programming 3 cr. Offered autumn and spring. Prereq., CRT 121. Object oriented programming using C++. Implementation of structured programming concepts along with construction of classes to create data types for defining objects. Credit not allowed for both CRT 270 and CS 205.

U 276T WAN Technologies 3 cr. Offered spring. Prereq., CRT 226T. Project-based course in wide-area networking including advanced IP addressing techniques, network address translation, port address translation, DHCP, WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management, and introduction to optical networking.

U 280 Computer Applications for IS Professionals 3 cr. Offered autumn and spring. Prereq., CRT 103T. Spreadsheet, database, word processing and graphics software to create advanced business presentations. Emphasis on efficient use of commands and utilities available with integrated packages, as well as importing, exporting, and converting files. Use of web authoring tools to design web pages, and presentation software to design a multimedia presentation. Credit not allowed for both CRT 280 and CS 172 or CRT 281.

U 281 Business Computer Applications 3 cr. Offered autumn. Prereq., basic skills in word processing, spreadsheet, and database software packages. Spreadsheet, database, word processing, and graphics used to solve advanced business applications. Procedures emphasize efficient use of commands and utilities available with integrated packages, and the importation of data from database, word processing, graphics, and spreadsheet software. Web authoring tools are utilized in web page design; a presentation package is used to design a multimedia presentation. Credit not allowed for both CRT 281 and CS 172 or CRT 280.

U 285T PC Hardware Support 3 cr. Offered autumn and spring. Prereq., CRT 103T, CRT 112T. In-depth study of personal computer hardware. Focus on field replaceable components. Topics include: storage devices, processors, system boards, memory, ports, cabling, power supplies, multimedia devices, printers, and troubleshooting.

U 286T Advanced PC Support 3 cr. Offered spring. Prereq., CRT 285T. Advanced techniques for servicing, troubleshooting and maintaining computing hardware and operating systems software. Activities are directed toward the vendor-neutral A+ Certification.

U 290T Computer Technology Internship 2 cr. Offered autumn and spring. Prereq., last semester in program, minimum of 4 "C" in all CRT courses, and approval of program director. Not open to non-majors. On-the-job training in positions requiring advanced microcomputing competencies. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend a weekly one-hour seminar.

U 295T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296T Independent Study 1-6 cr. (R-6) Offered intermittently.

Culinary Arts (CUL)

U 151T Introduction to Food Service Industry 5 cr. Offered autumn. Introduction to fundamentals in food handling practice, history, cooking methods, tool and equipment skills, safety and sanitation, recipe and menu development.

U 156T Dining Room Procedures 3 cr. Offered autumn and spring. Prereq., CUL 151T with a "C" or better. Introduction to foundations of dining room service and protocol. Includes techniques in dining room service. Personal hygiene, applied math, basic culinary terminology, beverage management, and table side cooking methods are practiced.

U 157T Pantry and Garde-Manger 3 cr. Offered autumn and spring. Prereq., CUL 151T with a "C" or better. Identification of fresh greens, vegetables, and fruits, general and specific uses, standards of quality, preparation, and presentation. Covers entree salads, cold sauces, appetizers, finger sandwiches, pâtés, gelatins, mousses, ice carvings, as well as banquet and buffet presentation.

U 158T Short Order Cookery 3 cr. Offered autumn and spring. Prereq., CUL 151T with a "C" or better. Hands-on experience in all facets of short order cookery. Emphasis on coordination, speed, presentation, and basic food preparation as well as cooking methods.

U 160T Soups, Stocks, and Sauces 3 cr. Offered autumn and spring. Prereq., CUL 151T with a "C" or better. Hands-on preparation of basic soups, stocks, sauces, glazes, thickening agents, and garnishes.

U 161T Meats and Vegetables 3 cr. Offered autumn and spring. Prereq., CUL 151T with a "C" or better. Hands-on experience with the fundamental cooking methods for meats, vegetables, grains, legumes, and pastas.

U 165T Baking and Pastry 3 cr. Offered autumn and spring. Prereq., CUL 151T, MAT 114T with a "C" or better or consent of instr. Introduction to various ingredients and how they affect the finished product. Covers six basic functions of ingredients and the techniques of scaling, pan preparation, sifting, chocolate, and pastry bag work.

U 195T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196T Independent Study 1-6 cr. (R-6) Offered intermittently.

Food Service Management (FSM)

U 180T Nutritional Cooking 3 cr. Offered spring. Prereq., CUL 151T, MAT 114T or consent of instr. Principles of healthy and nutritious culinary procedures. Adjustment of classic methods to suit preparations designed to extend variety on "lighter" menus.

U 195T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196T Independent Study 1-6 cr. (R-6) Offered intermittently.

U 266T Food Service Management Accounting 4 cr. Offered autumn. Prereq., CUL 151T, MAT 114T. Covers costs of doing business, including food, labor, space, and
utilities. Includes the preparation of budgets and profit and loss statements.

U 270 Purchasing Procedures and Cost Controls 4 cr.
Offered autumn. Prereq., CUL 151T, MAT 114T; or consent of instr. Principles and practices of purchasing foods, supplies, and materials based on the methods of buying, specifications, needs, and availability.

U 271 Menu Layout, Design, and Analysis 4 cr. Offered spring. Prereq., CUL 151T, coreq., CRT 205T or consent of instr. Techniques to develop menus compatible with various food establishments. Layout includes physical characteristics, merchandising, appearance, promotional value and foundation for facility design. Analysis includes pricing methods and profit potential.


U 290 Internship 4 cr. Offered spring. Prereq., enrolled in final semester of program, minimum of "C" in all CUL and FSM courses, or recommendation of Culinary Program Director. On-the-job training in positions related to each student’s career goal. This experience increases students’ skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of twelve hours each week at an approved site and attend scheduled one-hour seminars.

U 295T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Human Resources (HMR)

U 110T Introduction to Public Relations 3 cr. Offered autumn. Introduction to the origin, scope, and nature of public relations activities. Investigation of policies, strategies, and procedures available to an organization in establishing and controlling its communications. Exploration of the impact of public relations and media through case studies and writing exercises.

U 130T Policies and Administration 3 cr. Offered spring. Basic information and understanding of the need for human resource policies in an organization, types of policies, the process of policy formulation, and how policies are used in the decision-making process. Study areas include professional ethics, cultural diversity, and legal responsibilities for the human resource management professional.

U 133T Personnel Records Management 3 cr. Offered spring. Basic information and understanding of the different types of personnel records, employers’ informational needs, and government recordkeeping and reporting requirements.

U 135T Employee and Labor Relations 3 cr. Offered spring. History of labor unions, current labor laws, the current role of labor unions, workers’ compensation laws, and the rights of employees. Includes how to assist in negotiating union contracts and how to develop and administer effective grievance programs for any organization.

U 175T Workplace Issues 3 cr. Offered autumn and spring. A comprehensive look at today’s office environment and enhances skills and competencies relevant to students’ success in the business setting. Contemporary workplace issues and office procedures are researched and communicated via written and oral presentations.

U 232T Wage and Benefits Administration 4 cr. Offered spring. Emphasis on human resource law. Topics include compensation and benefits terminology, benefits management and administration of employee benefits and compensation programs. Comprehensive project includes job analysis, job descriptions and evaluations, wage surveys, pay structures and creation of compensation system. Also includes performance evaluations and strategic use of benefits/wages.

U 236T Personnel Staffing, Training and Development 4 cr. Offered autumn. In-depth exploration and techniques for assisting in personnel planning and the selection process. Survey of the scope of training and development within business organizations.

U 290T Administrative Assisting Internship 2 cr. Offered autumn and spring. Prereq., last semester in program, minimum of "C" in program courses, and approval of program director. On the job training in positions related to each student’s career goal in the administrative assisting field. This experience increases students’ skills, prepares them for initial employment and advancement on the job, and increases occupational awareness and professionalism. Students work 90 hours each week at an approved site and attend a weekly one-hour seminar.

U 295T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Legal Studies (LEG)

U 183T Contracts 2 cr. Offered spring. Sources of law affecting the formation, enforceability, and interpretation of contracts. Includes the necessary elements of a contract, the basic doctrines of contract law, and practical approaches to drafting a contract.

U 184T Legal Ethics 2 cr. Offered autumn. Introduction to ethics for the paralegal, including confidentiality, paralegal-attorney relationship, fee arrangements, Code of Professional Conduct, attorney-client privilege, fiduciary responsibilities, and public service.

U 185T Introduction to Paralegal Studies 3 cr. Offered autumn. Introduction to the paralegal career including ethical and professional standards. Overview of the American legal system, substantive areas of practice, legal analysis and investigation, law office administration and related terminology.

U 186T Introduction to Legal Research 2 cr. Offered autumn. Prereq., acceptance into program or consent of instr. Introduction to legal research focusing on how to find, use, understand, and correctly cite law library resources.

U 187T Legal Research and Writing I 2 cr. Offered spring. Prereq., LEG 186T. Advanced legal research focusing on how to find, use, understand, and correctly cite legal resources. Electronic research methods are presented. Application of legal research to writing is introduced.

U 188T Principles of Real Estate 2 cr. Offered spring. Prereq., LEG 185T or consent of instr. The study of property law focusing on the nature and ownership of real property, title insurance, legal descriptions, and the transactional aspects of financing methods involving trust indentures, mortgages, and contracts for deed, with closing and recording procedures.

U 189T Criminal Procedures 3 cr. Offered spring. Criminal prosecution and defense representation with an overview of criminal law principles. Training in criminal procedure involving felonies and misdemeanors in federal, Montana, and municipal courts.

U 195T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 270T Civil Litigation 3 cr. Offered autumn. Prereq., LEG 185T. Introduction to rules governing civil litigation involving the general nature of how lawsuits arise including client interviews and data gathering, pleading and practice from the filing of suit to file preparation for trial, and core considerations of ethics and professionalism.

U 283T Trial Preparation 3 cr. Offered spring. Prereq., LEG 270T. Case and claim analysis, collecting and preserving evidence, locating witnesses, jury selection, trial notebook development, posttrial assistance, and investigative techniques with emphasis on concluding litigation and post-judgment procedures.

U 284T Business Organizations 1 cr. Offered spring. Prereq., LEG 185T or consent of instr. Legal procedures relating to Montana corporations, partnerships, and business entities.

U 285T Family Law 3 cr. Offered spring. Prereq., LEG 185T or consent of instr. Study of Montana law relating to marriage, husband and wife, parent and child, termination of marriage, adoption, joint and sole custody arrangements and modifications, child support guidelines, and juvenile issues. Includes preparation of standard family law documents.

U 286T Legal Research and Writing II 2 cr. Offered autumn. Prereq., LEG 187T. Advanced legal research and writing with emphasis on drafting and composing legal memoranda; legal research skills and development of legal writing ability.

U 287T Legal Research and Writing III 2 cr. Offered spring. Prereq., LEG 286T. Continued development of legal research and writing skills including advanced case briefing, legal theory/case law synthesis, and memoranda drafting.

U 288T Estate Administration 2 cr. Offered spring. Prereq., LEG 185T or consent of instr. Study of law relating to wills, trusts, and estates. Topics include estate planning, intestate succession, family protection, probate, and estate taxes.

U 289T Law Office Management 1 cr. Offered spring. Prereq., LEG 185T. Administrative fundamentals including financial considerations, human resources, supervision, marketing, facilities, and ethical responsibilities.

U 290T Paralegal Studies Internship 2 cr. Offered spring. Prereq., last semester in program, minimum of “C” in LEG courses, and approval of program director. On-the-job experience as a legal assistant trainee under the supervision of an employer, attorney, or court official. This experience increases students' skills, prepares them for initial employment and advancement on the job, and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend a weekly one-hour seminar.

U 295T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Medical Assisting (MED)

U 153T Insurance Processing 3 cr. Offered autumn and spring. Prereq., or coreq., MED 161T or consent of instr. An introduction to insurance claim processing for the major medical insurance programs. Basic knowledge of CPT and ICD-9 procedural and diagnostic coding. Emphasis on completing universal insurance forms to maximize reimbursement as well as trouble shoot denied or underpaid claims.

U 154T Beginning Medical Terminology 2 cr. Offered autumn and spring. Introduction to a medical word building system using Greek and Latin word roots, combining forms, suffixes, and prefixes.

U 155T Medical Software Applications 1 cr. Offered spring. Prereq., MED 153T; prereq. or coreq. MED 161T; or consent of instr. A medical software package is used to enter and update patient data, enter charges, payments and adjustments, and generate management reports, insurance forms, and patient statements.

U 161T Medical Administrative Procedures 4 cr. Offered autumn. An introduction to the necessary skills and qualities required to function successfully in the medical arena. Emphasis on medicolegal and ethical responsibilities, records management and financial management of the medical practice, and interpersonal communications to include patient reception, telephone techniques and appointment scheduling.

U 165T Healthcare Data and Content 2 cr. Offered spring. In-depth study of origin, use, content and structure of health records; storage and retrieval systems; numbering and filing systems; document preparation requirements; use and structure of health care data sets; and how these components relate to primary and secondary record systems. Additional topics include gathering, compilation and computing of healthcare related statistics, use of research and statistical methods for developing healthcare data into information for various requesters.

U 201T Medical Assisting Clinical Procedures I 4 cr. Offered autumn. Prereq., MAT 005, SCN 119N. Skill development necessary to assist health care practitioners in all aspects of patient care in the medical office clinical setting. Includes achieving competency in preparing patients for a physical examination, charting, medication administration, basic medical laboratory skills.

U 202T Medical Assisting Internship I 1 cr. Offered autumn. Prereq., consent of instructor. Placement in a medical office for a guided experience providing the student with a practical application of learned medical office administrative skills. Direct supervision will be the responsibility of a designated person at the site. The students will spend six hours per week to total 90 hours in assigned clinical rotations.

U 203T Medical Assisting Clinical Procedures II 3 cr. Offered spring. Prereq., MED 201T. Continuation of MED 201T. Advanced skill development in assisting health care practitioners in all aspects of patient care in the medical office clinical setting. Includes achieving competency in aseptic technique, diagnostic procedure techniques, and patient education.

U 204T Medical Assisting Internship II 3 cr. Offered spring. Prereq., MED 201T; coreq., MED 203T. Placement in selected physicians' offices and clinics for a guided learning experience providing the student with a practical application of knowledge and skills acquired in the classroom and laboratory setting. The student will be provided the opportunity to perform various clinical procedures under supervision. The students will spend 12 hours per week to total 180 hours in assigned clinical rotations.

U 210T Basic ICD Coding 3 cr. Offered autumn. Prereq., MED 153T, MED 165T or consent of instr. Introductory foundation for utilizing the International Classification of Diseases coding for classification of morbidity and mortality information for statistical purposes and for indexing medical records by disease and operation.
U 216T Terminology for Health Professions I 2 cr. Offered autumn. Prereq., MED 154T; prereq. or coreq., SCN 115N or SCN 119N. A system approach to medical word building including pathology of body systems, abbreviations, and special procedures including radiographic, surgical, and laboratory.

U 220T Basic Ambulatory Coding 3 cr. Offered autumn. Prereq., MED 153T; MED 165T or consent of instr. Foundation for utilizing the CPT coding system to increase compatibility and comparability of medical data among users and providers.

U 240T Intermediate ICD Coding 3 cr. Offered spring. Prereq., MED 210T or consent of instr. Comprehensive foundation for utilizing the International Classification of Diseases coding for classification of morbidity and mortality information for statistical purposes and for indexing medical records by disease and operation.

U 250T Intermediate CPT Coding 3 cr. Offered spring. Prereq., MED 220T or consent of instr. Comprehensive application of the CPT coding system to assign codes for services, supplies and equipment for comparative analysis, research and reimbursement.

U 256T Medical Transcription I 3 cr. Offered autumn and spring. Prereq., CRT 108; prereq. or coreq., MED 216T. An introduction to the transcription of authentic physician-dictated medical reports in a variety of medical specialties. Emphasis on the development of accuracy and speed in interpreting, transcribing and editing medical dictation for content and clarity.

U 257T Medical Transcription II 3 cr. Offered autumn and spring. Prereq., MEDC 256T. Advanced medical transcription of realistic physician-dictated medical reports in a variety of medical specialties. Emphasis on production and increased speed in interpreting, transcribing and editing medical dictation for content and clarity.

U 270T Terminology for Health Professions II 2 cr. A systems approach to medical word building including pathology of body systems, pharmacology, abbreviations, and special procedures including cardiovascular, pulmonary and gastrointestinal.

U 290T Medical Office Internship 3 cr. Offered autumn and spring. Prereq., last semester in program, minimum of “C” in SEC courses, and approval of program director. On-the-job training in positions related to each student’s career goal in the medical office field. This experience increases students’ skills, prepares them for initial employment and advancement on the job, and increases occupational awareness and professionalism. Students work a minimum of 135 hours at an approved site and attend a weekly one-hour seminar.

Department of Electronics Technology

Steven Rice, Chair
Special Degree Requirements

The related studies requirements are included in the following course of study. Refer to the Academic Policies and Procedures section of this catalog for the specific requirements.

Electronics Technology-A.A.S. Degree

Students in the Electronics Technology program learn to troubleshoot, calibrate, test, and repair electronic components and circuit boards used in a wide range of electronic equipment including computers and communication equipment. Training includes working knowledge of direct and alternating current theory, semiconductor circuits, instrumentation, automatic controls, data communications, computerized communication links, and operational amplifiers. Students become familiar with robotics, electronic communications theory, and modes of RF communications.

Students are awarded the Associate of Applied Science degree upon successful completion of the program. Students may enter autumn semester only.

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 115 Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>EET 101T Direct and Alternating Current</td>
<td>7</td>
</tr>
<tr>
<td>EET 103T Semiconductor Circuits</td>
<td>7</td>
</tr>
<tr>
<td>EET 110T Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>MAT 120 Elementary Functions</td>
<td>4</td>
</tr>
<tr>
<td>MAT 145 Calculus with Applications</td>
<td>4</td>
</tr>
<tr>
<td>SCN 120T-121T Technical Physics I, II</td>
<td>4</td>
</tr>
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</tr>
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</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>EET 225T Microcomputer Programming</td>
<td>3</td>
</tr>
<tr>
<td>EET 227T Computer Fundamentals</td>
<td>4</td>
</tr>
<tr>
<td>EET 228T Instrumentation</td>
<td>7</td>
</tr>
<tr>
<td>EET 232 Microprocessors</td>
<td>4</td>
</tr>
<tr>
<td>EET 234T Automatic Controls</td>
<td>4</td>
</tr>
<tr>
<td>EET 240T Robotics</td>
<td>3</td>
</tr>
<tr>
<td>EET 260 Data Communications</td>
<td>4</td>
</tr>
<tr>
<td>EET 270T Electronic Communications</td>
<td>3</td>
</tr>
<tr>
<td>PSY 110S Organizational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>18</td>
</tr>
</tbody>
</table>

Courses

U = for undergraduate credit only. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Electronics Technology (EET)

U 101T Direct and Alternating Current Theory 7 cr. Offered autumn. Study of current flow, direct current circuits, alternating current circuits, magnetic circuits and concepts of power. Introduce time-varying currents and impedances. Standard circuit theorems are introduced with various methods of circuit analysis and problem solving.

U 103T Semiconductor Circuits 7 cr. Offered spring. Prereq., EET 101T. In-depth coverage of diode, bipolar transistors, and field effect transistor circuits which are used in electronics applications. The study and analysis of the
components and circuits used in semiconductor electronics. An introduction to op-amps application and theory.

U 110T Operating Systems 3 cr. Offered spring. Introduction to microcomputer operating systems. Includes coverage of common features of operating systems, features and usage of commands in MS-DOS, Microsoft Windows, and Unix. Topics include file creation, copying, deleting, directory creation, system configuration, batch files, security and networking issues.

U 195T Special Topics 1-6 cr. (R-6) Offered Intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 225 Microcomputer Programming 3 cr. Offered autumn. Introduction to microcomputer programming using a basic interpreter (Q-BASIC). Course includes planning, flowcharting, formatting, coding, and debugging basic computer programs using ANSI command set. Credit not allowed for both EET 225 and CS 101.

U 277T Computer Fundamentals 4 cr. Offered autumn. Prereq., EET 103T. TTL, and CMOS circuits, memories, and microprocessors, with combinational and sequential circuits, MOS, and linear circuits. A study of Boolean algebra, binary numbers, binary codes, and the analysis of the basic components and circuits used in semiconductor switching.

U 228T Instrumentation 7 cr. Offered spring. Prereq., EET 103T. Industrial measuring and process control instrumentation. Experience in basic electronic measurement using the equipment normally found in any electrical or electronic shop area. Breadboarding, building, and repairing circuits.

U 232 Microprocessors 4 cr. Offered spring. Prereq., EET 227T. Complexities and power of machine language programming, hardware input/output interfacing and microprocessor operations and design applications. The course is complemented with an individual student trainer utilizing a #8085 microprocessor.

U 234T Automatic Controls 4 cr. Offered autumn. Prereq., EET 227T. Terminology and components used in automatic control of industrial machines and industrial processes. The servomechanism is used as a representative control system including open-loop, closed-loop, proportional, integral, and differential systems. The usage of transducers and computers in representative automatic control systems in the industrial measuring and process control setting is emphasized.

U 240T Robotics 3 cr. Offered spring. Prereq. or coreq., EET 232, EET 243T or consent of instr. Physical and operating characteristics of a robot. Components of a hydraulic power supply, pneumatics power supply, and various types of servo control systems are identified and described. A typical robot is programmed using the on-line programming method through a teaching pendant, the off-line programming method through a computer, and a typical robot workstation.

U 260 Data Communications 4 cr. Offered autumn. Prereq., EET 103T. Principles, applications, and theory of data communication systems. Concepts and terminology; analog and digital channel characteristics; signaling techniques for AC and DC signaling; code uses, advantages, and disadvantages; error detection and correction; modulation techniques; multiplexing techniques; transmission media; the organization and operation of the telephone network; various data transmission networks; electrical connections and standards for common data communication standards; communications protocols in common use; security; and common network theory and applications.

U 270T Electronic Communications 3 cr. Offered spring. Prereq., EET 103T. Introduction to audio and radio circuits. Topics include audio amplifiers, RF amplifiers, modulation and demodulation of AM/FM/SSB signals, oscillators, mixers, vacuum-state devices, transmission lines and antennas. Signal analysis, equipment calibration, and the use of RF test equipment.

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Department of Health Professions

Karen Hill, Chair

Special Degree and Certificate Requirements

The health professions programs in Medical Assisting, Pharmacy Technology, Practical Nursing, Radiologic Technology, Respiratory Care, Surgical Technology, and the LPN to ASRN program are in high demand. Interested persons are encouraged to do placement testing at least one year prior to anticipated admittance into a health program. Students will enter as pre-health majors and select courses from the listed core courses after conferring with an advisor. Additional courses that support the Health Professions curriculum are listed with the core courses. Students may take these additional courses prior to entry and make their program course loads lighter. Assessment of writing for course placement follows UM guidelines and is done during orientations and at various times in the semester. Math placement will be determined by a placement test such as COMPASS. Placement testing assures that students are given the help they need to be successful in writing and math courses. Admission to the individual programs requires documented completion of the health core curriculum required by the desired program with a minimum GPA of 2.75, a letter of application describing interest in the program, two letters of recommendation, and possibly an interview with the Health Professions Admissions Committee. Application deadlines are April 1 and November 1. Admission may be granted in the semester prior to the completion of core courses with the understanding that it will be revoked if course grades are too low.

If the program is approved by the Montana Board of Regents, admission to the LPN to Associate of Science RN program requires: the health core general education courses, an unencumbered license as an LPN, two letters of recommendation, and a personal interview. The ten applicants who have met all the prerequisites and have the highest cumulative GPA (minimum 2.75) will be offered placement. If equally qualified applications exceed available seats, date of application will be utilized. Entry is spring semester only.

Students must show program directors proof of the following health requirements prior to entry in the clinical portion of health programs: tuberculosis testing using the
PPD (Purified Protein Derivative) or chest x-ray (positive results will require a physician’s letter before a student can continue in clinical settings); and Hepatitis B vaccine (HBV) prior to beginning clinical experience with potential exposure to blood-borne pathogens (a three injection series is required and may be obtained at Curry Health Center and other health care providers). We recommend beginning this series as soon as notified of acceptance; CPR training for health care professionals must be done before entering, clinical experiences; eye exams are required for surgical technology students because they will work with lasers in surgery; and respiratory care students must pass NRP (neonatal resuscitation) prior to their neonatal clinical experience.

Many licensing bodies/employing institutions in health care have increasingly stringent requirements and background checks as conditions for licensing or employment. If students have a concern about this, they should contact the licensing board for their specialty. Respiratory care students area required to have a physical exam, a ten panel drug screen, and a police background check prior to entering advanced clinical experiences.

Students in Health Professions programs must pass all program specific courses (those listed under NUR, PHA, MED, RES, SUR, or RAD) as well as SCN 119N or other foundational courses with a “B” in order to continue in the program. Students in the Pharmacy Technology and Medical Assisting may have a “C” in SCN 119N but will have to re-take the course if they desire to transfer into another health program. Students desiring to transfer an equivalent course from another institution must meet this same requirement. A failed course may be repeated as space is available. Because program admissions are highly sought and clinical spaces are limited, this may be impossible to accomplish in the next semester. Thus failing a program-specific course may make timely program completion impossible. Students who reenter will be expected to comply with the most current requirements.

**Course Fees and Supplies**

Most programs in the Health Professions Department include courses with course fees and special supplies requirements. To obtain a complete listing of these additional items and costs, call the College of Technology Admissions Office at 406-243-7865.

**Health Professions Core Curriculum**

These courses as well as specific program courses may be offered in different semesters among the different programs. Consult the program advisor regarding which courses to take and when to take them.

-MAT 100 Intermediate Algebra
-SCN 119N Anatomy and Physiology
-COM 160A Oral Communication or COM 150S, Interpersonal Communication
-CRT 101 Introduction to Computers
-Com 101 English Composition or COM 115 Technical Writing

Any general education courses within a program may be taken prior to acceptance into a program. There are other courses that are supportive of medical programs. Courses should be selected with the assistance of an approved Health Professions advisor as taking too many courses may adversely affect financial aid. The supportive courses include, but are not limited to, the following:

- SEC 154T Medical Terminology
- PSY 100S Introduction to Psychology or PSY 110S Organizational Psychology
- SCN 150N Nutrition

-BIOL 106N Elementary Medical Microbiology
-PSY 185 Human Development (prereq., PSYC 100S)
-CHM 151N General and Inorganic Chemistry
-CHM 152N Organic and Biological Chemistry
-CHM 154N Organic and Biological Chemistry Laboratory (RN students)
-SCN 195T Introduction to Physical Science
-SOC 110S Introduction to Sociology

**Medical Assisting-A.A.S. Degree**

Students in Medical Assisting are trained in front office administrative skills and back office clinical skills to assist healthcare practitioners in administering to the needs of patients. Students are trained to assist with medical examinations and treatment and to work as a team member in the medical office environment. Students learn to take medical histories and obtain vital signs, give medications and injections (under supervision), draw blood, perform diagnostic tests and office laboratory procedures, sterilize instruments and maintain equipment. Additionally, medical assisting students are exposed to the principles of medical ethics and medical legal issues facing health care providers.

Students successfully completing the program are awarded the Associate of Applied Science degree. Students may enter autumn semester.

A course may be attempted a maximum of two times. Students take the Registered Medical Assistant (RMA) national certification exam administered by the American Medical Technologists upon completion of the program. Students are responsible for filing required forms, associated fees, and grade transcripts.

**Autumn Entry:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 131T Essentials of Accounting</td>
<td>4</td>
</tr>
<tr>
<td>COM 115S Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>COM 160A Oral Communications</td>
<td>3</td>
</tr>
<tr>
<td>CRT 101 Introduction to Computers</td>
<td>2</td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MED 154T Beginning Medical Terminology</td>
<td>2</td>
</tr>
<tr>
<td>MED 161T Medical Administrative Procedures</td>
<td>4</td>
</tr>
<tr>
<td>MED 167T Terminology for Health Professions II</td>
<td>4</td>
</tr>
<tr>
<td>SCN 119N Anatomy and Physiology</td>
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**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>COM 150S Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>COM 210E Critical Thinking and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MED 216T Terminology for Health Professions</td>
<td>2</td>
</tr>
<tr>
<td>MED 153T Insurance Processing</td>
<td>3</td>
</tr>
<tr>
<td>MED 155T Medical Software Applications</td>
<td>1</td>
</tr>
<tr>
<td>MED 201T Medical Assisting Clinical Procedures I</td>
<td>4</td>
</tr>
<tr>
<td>MED 202T Medical Assisting Clinical Procedures II</td>
<td>3</td>
</tr>
<tr>
<td>MED 203T Medical Assisting Procedures</td>
<td>3</td>
</tr>
<tr>
<td>MED 204T Medical Assisting Clinical Procedures II</td>
<td>3</td>
</tr>
<tr>
<td>MED 216T Terminology for Health Professions I</td>
<td>2</td>
</tr>
<tr>
<td>MED 256T Medical Transcription</td>
<td>3</td>
</tr>
<tr>
<td>PHA 154T, 164T Basic Pharmacology I, II</td>
<td>2</td>
</tr>
<tr>
<td>PSY 185 Human Development</td>
<td>3</td>
</tr>
<tr>
<td>PSY 100S Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>20</td>
</tr>
</tbody>
</table>

**Pharmacy Technology-Certificate**

Pharmacy technicians assist in the various activities of the pharmacy department not requiring the professional judgment of the pharmacist. They perform such duties as maintaining patient records, filling prescriptions, pricing, drug...
calculations, IV compounding, filing, dispensing routine orders for stock supplies and patient care areas, and maintaining inventory of drug supplies.

Students are prepared to function in hospital-based pharmacies and retail pharmacies and may sit for the national technician certification examination offered through the Pharmacy Technician Certification Board. Graduates may be employed in hospitals, retail drug stores, drug manufacturers, and wholesale drug companies. Students are required to rotate to clinical sites and some may be outside the Missoula area.

Students are awarded a Certificate of Completion after successfully completing the program.

### Autumn Entry:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT 101 Introduction to Computers</td>
<td>A</td>
</tr>
<tr>
<td>MED 154T Beginning Medical Terminology</td>
<td>2</td>
</tr>
<tr>
<td>PHA 100T Introduction to Pharmacy Practice</td>
<td>3</td>
</tr>
<tr>
<td>PHA 101T Pharmacy Calculations</td>
<td>3</td>
</tr>
<tr>
<td>PHA 102T Pharmacology</td>
<td>6</td>
</tr>
<tr>
<td>PHA 103T Hospital and Community Practice</td>
<td>6</td>
</tr>
<tr>
<td>PSY 110S Organizational Psychology</td>
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<tr>
<td>SCN 119N Anatomy and Physiology</td>
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<tr>
<td><strong>Total</strong></td>
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</table>

### Summer Session

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PHA 105T Internship</td>
<td>5</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
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</tbody>
</table>

### Practical Nursing-A.A.S. Degree

Students in the Practical Nursing program are educated to be licensed practical nurses (LPNs). With the guidance of a registered nurse or other licensed personnel, the LPN assists individuals in meeting basic human needs, such as spiritual, physical, emotional, cultural, educational, and health promotional in order to achieve optimum wellness. The LPN uses the nursing process which includes critical thinking and decision-making skills. The LPN gathers, records, and communicates client data within the ethical and legal guidelines specified in the Nurse Practice Act. The LPN performs skilled technical procedures, administers medications, and provides basic care to culturally diverse clients throughout the life span.

Students who successfully complete the program earn an A.A.S. degree and are prepared to take the examination required for licensure as a Licensed Practical Nurse. The program is approved by the Montana Board of Nursing. For students interested in continuing their education with a registered nurse degree in mind, this program or individual courses may or may not transfer to other institutions. Students should contact program advisors in prospective institutions when planning for admittance to other programs. Students who successfully complete NUR 152 may obtain a Certified Nurse Aide certificate. Students may enter in autumn or spring semester.

### Autumn and Spring Entry:

**First Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>CRT 101 Introduction to Computers</td>
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<tr>
<td>COM 115 Technical Writing</td>
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</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
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</tr>
<tr>
<td>NUR 100 Introduction to Health Skills</td>
<td>3</td>
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<td>SCN 119N Anatomy and Physiology</td>
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<td><strong>Total</strong></td>
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**Second Semester**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>NUR 151 Drug Administration and Calculation</td>
<td>3</td>
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<tr>
<td>NUR 152 Fundamental Nursing Skills I</td>
<td>6</td>
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<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>SCN 150N Nutrition</td>
<td>3</td>
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**Third Semester**

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>NUR 154 Pharmacological Products I</td>
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<tr>
<td>NUR 155 Adult Physiological Needs I</td>
<td>5</td>
</tr>
<tr>
<td>NUR 167 Childbearing Family Needs</td>
<td>4</td>
</tr>
<tr>
<td>NUR 252 Fundamental Nursing Skills II</td>
<td>3</td>
</tr>
<tr>
<td>PSY 185 Human Development Across the Life-Span</td>
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**Before or after Fourth Semester:**

<table>
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<th>Course</th>
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<tbody>
<tr>
<td>NUR 266 Clinical Capstone Experience</td>
<td>2</td>
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<tr>
<td><strong>Fourth Semester</strong></td>
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</tr>
<tr>
<td>NUR 168 Nursing Care of Children</td>
<td>4</td>
</tr>
<tr>
<td>NUR 254 Pharmacological Products II</td>
<td>2</td>
</tr>
<tr>
<td>NUR 255 Adult Physiological Needs II</td>
<td>7</td>
</tr>
<tr>
<td>NUR 269 Nursing Trends and Issues</td>
<td>3</td>
</tr>
<tr>
<td>NUR 270 Nursing Review</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
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</tr>
</tbody>
</table>

### Radiologic Technology-A.A.S. Degree

Radiography is the art and science of using radiation to capture images of all parts of the human body for use in diagnosing medical problems. The radiologic technician prepares patients for various radiologic tests by correctly positioning patients so that specific parts of the body can be accurately radiographed. After taking the necessary precautions, the radiologic technologist is responsible for positioning radiation equipment at the correct distance, angle, and height and then setting controls as needed to produce clear images. Once images have been taken, the radiologic technologist processes the image and prepares it for the radiologist to read. Radiologic technicians also may assist physicians in conducting fluoroscopic examinations of internal organs. Recent advances in technology have resulted in a variety of radiologic and imaging specialties and techniques to include ultrasound, computed axial tomography, cardiovascular imaging, magnetic resonance scanners, positron emission scanners, and more.

Students who successfully complete the program earn an A.A.S. degree and are eligible for certification by the American Registry of Radiologic Technicians by passing the National Registry Exam in Radiologic Technology. Graduates are employed in hospitals, doctors offices, public health programs, and industrial medical clinics.

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 115 Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>CRT 101 Introduction to Computers</td>
<td>2</td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>RAD 110T Introduction to Radiology and Patient Care</td>
<td>4</td>
</tr>
<tr>
<td>RAD 111T Radiological Procedures I</td>
<td>4</td>
</tr>
<tr>
<td>RAD 121T Radiographic Imaging I</td>
<td>3</td>
</tr>
<tr>
<td>RAD 131T Radiographic Physics</td>
<td>3</td>
</tr>
<tr>
<td>RAD 151T Radiographic Clinical Education I</td>
<td>5</td>
</tr>
<tr>
<td>RAD 241T Radiographic Protection</td>
<td>2</td>
</tr>
<tr>
<td>SCN 119N Anatomy and Physiology</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
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### Summer Session

<table>
<thead>
<tr>
<th>Course</th>
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</thead>
<tbody>
<tr>
<td>RAD 161T Radiographic Clinical Education II</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12</strong></td>
</tr>
</tbody>
</table>
Respiratory Care-A.A.S. Degree

Respiratory Care is an allied health specialty. It is an important part of modern medicine and health care. Respiratory Care encompasses the care of patients with respiratory problems in the hospital, clinic, and home.

Graduates are prepared to provide patient care, including diagnostic and monitoring procedures, to persons with heart and lung problems. Respiratory care professionals are essential members of the modern health care team and work in collaboration with physicians and other health professionals to provide respiratory care. They learn to utilize medical gases, medications, aerosols, bronchopulmonary drainage, ventilatory support, cardiopulmonary resuscitation, airway management procedures, and respiratory disease management for the adult and pediatric patient as well as the neonate.

Starting salaries are excellent with premiums paid for evening, night, and weekend shifts. Respiratory care is one of the fastest growing health care professions and jobs are plentiful. Graduates are eligible to take the credentialing examinations administered by the National Board for Respiratory Care (NBRC) which lead to the Respiratory Therapist (RRT) credential. Licensure requirements in the state of Montana also are met by successful completion of the NBRC examinations.

The program is four semesters plus one summer session between the first spring and second autumn semesters.

The Respiratory Care program is accredited by the Commission on Accreditation of the Allied Health Education Programs (CAAHEP), 35 East Wacker Drive, Suite 1970, Chicago, IL 60601, (312) 553-9355. Graduates receive the degree of Associate of Applied Science in Respiratory Care.

Students entering the program are required to rotate to clinical sites outside the Missoula area on a periodic basis. These rotations take place during the autumn, spring and summer semesters of the second year. These sites may include Butte, Billings, Bozeman, Hamilton, and Spokane, Washington.

Students enter autumn semester but are encouraged to take the course placement exam and meet with the program director prior to official entry into the program.

# Autumn Entry:

<table>
<thead>
<tr>
<th>First Year</th>
<th>A</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 115 Technical Writing</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>CRT 101 Introduction to Computers</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>RES 118T Integrated Science</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>RES 120T Ethics and Health Care Communication</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>RES 129T Patient Care and Assessment</td>
<td>3</td>
<td>-</td>
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<tr>
<td>RES 131T Respiratory Care Fundamentals</td>
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<tr>
<td>RES 133T Respiratory Care Pharmacology</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>RES 135T Cardiopulmonary Anatomy and Physiology</td>
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<td>3</td>
</tr>
<tr>
<td>RES 150T Respiratory Care Laboratory I</td>
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<td>1</td>
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<td>SCN 119N Anatomy and Physiology</td>
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<table>
<thead>
<tr>
<th>Summer Session</th>
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# Surgical Technology-A.A.S. Degree

Students in this program are educated to be surgical technologists who work closely with surgeons, anesthesiologists, and registered nurses in delivering patient care preoperatively, intra-operatively, and postoperatively.

They function as a scrub technologist, the sterile member of the surgical team who passes instruments, suture, and sponges during surgery. They follow strict adherence to aseptic techniques, as well as the care, cleaning, and maintenance of surgical supplies. In addition, surgical technologists function in assisting the R.N. circulator by assisting the anesthesiologist and anticipating additional needs of the surgical team. Students are required to rotate clinical sites. Some internships are outside the Missoula area.

Transportation and housing are the student’s responsibility.

Students who successfully complete the program are awarded an A.A.S. degree in Surgical Technology and are encouraged to take the national examination to become certified. The program is accredited by the Committee on Accreditation of Allied Health Education Programs (CAAHEP). Students enter in the autumn semester.

Students who enter the program are required to rotate clinical sites.

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Courses

U = for undergraduate credit only. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Nursing (NUR)

U 100 Introduction to Health Skills 3 cr. Offered autumn and spring. Prereq., acceptance in Practical Nursing or Surgical Technology. Introduction to the health care system and the health care team. Basic principles and psychomotor skills such as vital sign assessment and Universal Precautions are introduced and practiced in the campus laboratory.

U 151 Drug Administration and Calculations 3 cr. Offered autumn and spring. Prereq., MAT 005 and NUR 100. Coreq., NUR 152. Apothecary, metric, and household conversion factors and their application in solving dosage problems.

U 152 Fundamental Nursing Skills 6 cr. Offered autumn and spring. Prereq., COM 115, NUR 100; coreq., NUR 151. Introduction to the fundamental concepts of nursing. On campus lab and off-campus clinical experiences are included.

U 154 Pharmaceutical Products I 2 cr. Offered autumn and spring. Prereq., NUR 151, NUR 152. Fundamentals of pharmaceutical and medication administration as a possible means to meet human needs. Identification of broad medication categories using the prototype approach. Pharmacologic actions, uses, nursing implications, and client teaching for medications are addressed within the context of the nursing process.

U 155 Adult Physiological Needs I 8 cr. Offered autumn and spring. Prereq., NUR 151, NUR 152, SCN 119N; prereq. or coreq., SCN 150N. Application of nursing theories and skills to meet the basic human needs of adult clients experiencing common, recurring actual or potential health deviations. All classroom and clinical lab components must be satisfactorily completed to pass this course. Supervised clinical laboratory includes the care of the adult client in the acute setting with emphasis placed on the use of nursing assessments, the nursing process, and communication skills to enable the student to assist in identifying needs, planning, providing, and collaboratively evaluating care.

U 167 Childbearing Family Needs 4 cr. Offered autumn and spring. Prereq., SCN 150N, NUR 152. Meeting basic human needs of the childbearing family unit by the continued application of growth and development and communication theories within the framework of the nursing process. A supervised clinical laboratory experience is provided to help the student identify and meet the needs of the childbearing family in acute care and outpatient settings. Classroom and clinical lab components must be satisfactorily completed in order to pass this course.

U 168 Nursing Care of Children 4 cr. Offered autumn and spring. Prereq., SCN 150N, NUR 152, NUR 167, and NUR 252; PSYC 185. Theories and principles for meeting the basic human needs of children from one month of age to adolescence. Using the nursing process and growth and development theories as a framework, the student provides supervised, individualized care to children in order to help them attain or maintain optimal wellness. The clinical lab and classroom portions must both be satisfactorily completed in order to pass this course.

U 196T Independent Study 1-6 cr. (R-6) Offered intermittently.

U 252 Fundamental Nursing Skills II 3 cr. Offered autumn and spring. Prereq., SCN 150N, NUR 151, NUR 152 and CRT 101. Continuation of fundamental concepts and skills necessary for more complex client care situations.

U 254 Pharmacological Products II 2 cr. Offered autumn and spring. Prereq., NUR 154. Continuation of NUR 154. Continues the study of medication prototype groups to meet human needs. The nursing process as a framework for understanding actions, use, nursing implications, and client teaching continues as a major conceptual theme.

U 255 Adult Physiological Needs II 7 cr. Offered autumn and spring. Prereq. or coreq., SCN 150N. Prereq., NUR 155, NUR 252. Continued application of nursing theories, principles, and skills to meet human needs of adult clients experiencing more complex, recurring actual or potential physiological, mental or emotional health deviations. The nursing process provides the framework to synthesize aspects of communication, ethical/legal issues, cultural diversity, and optimal wellness. Supervised clinical laboratory includes care of the adult client in the acute care setting. Assessment, problem solving and critical thinking skills enable the student to plan, provide, and evaluate care. The clinical lab and classroom portions must be satisfactorily completed to pass this course.

U 266 Clinical Capstone Experience 2 cr. Offered summer. Prereq., all third semester courses and consent of instr. Capstone course that allows the student to work collaboratively with an identified LPN preceptor, performing the role expectations for care in that workplace setting.

U 269 Nursing Trends and Issues 3 cr. Offered autumn and spring. Prereq., PSYC 100S and/or consent of instr. Transition from the student role to that of the graduate nurse. Communication skills in the workplace, ethical/legal issues and professional responsibilities are included. Leadership and management roles are examined. Skills necessary to obtain and retain employment are stressed. The State Nurse Practice Act is discussed as one regulator of practice issues.

U 270 Nursing Review 2 cr. Offered autumn and spring. Prereq., enrollment in all fourth semester courses and consent of instr. Preparation for the national licensing test for LPN licensure.

U 295T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Pharmacy Technology (PHA)

U 100T Introduction to Pharmacy Practice 3 cr. Offered autumn. Introduction to pharmacy practice as a career. Includes history and personnel relating to pharmaceutical services and ethical standards of the occupation. Introduction to federal and state laws regulating pharmacy practice with emphasis on Montana State Pharmacy Law regulating pharmacy technicians. Preparation, maintenance, and storage of pharmacy records. Basic concepts of computer operations with emphasis on software designed for use in pharmacy. Development of skills necessary for the pharmacy technician to communicate effectively in the following ways: 1) as a representative of the profession of pharmacy, 2) as an intermediary between the pharmacist and patient, and 3) as an intermediary between the pharmacist and other health care professionals.

U 101T Pharmacy Calculations 3 cr. Offered autumn. Calculations used in pharmacy practice; includes various systems of weights and measures, dosage determinations, percentage preparations, reducing and enlarging formulas, dilution, and concentration.
U 102T Pharmacology 6 cr. Offered spring. Prereq., PHA 100T, PHA 101T. Study of the properties, reactions, and therapeutic value of the primary agents in the major drug classes.

U 103T Hospital and Community Practice 6 cr. Offered spring. Prereq., PHA 100T, PHA 101T. Practices in hospital and community pharmacy settings. In addition to lectures, students receive hands-on experience in dispensing prescriptions, computer order entry, labeling, patient profiles, non-sterile compounding, and sterile IV admixture preparation. Guest speakers and video presentations supplement lectures and skills practice. Good communication skills are emphasized.

U 105T Pharmacy Technology Internship 5 cr. Offered summer. Prereq., PHA 102T, PHA 103T. Training and experience in a variety of hospital and community pharmacy settings under supervision of a pharmacist. Emphasizes practical experience in outpatient dispensing, inpatient dispensing, unit-dose systems, IV admixture systems, bulk and sterile compounding, purchasing and inventory control, and effective communications.

U 154T Basic Pharmacology I 2 cr. Offered autumn. Fundamental principles of pharmacology and the implications of medication use. Includes the law as it pertains to drug use, dosage forms, routes of administration, as well as the pharmacologic actions and uses of drugs.

U 164T Basic Pharmacology II 2 cr. Offered spring. Prereq., PHA 154T. Continuation of PHA 154T.

U 195T Special Topics 1-6 cr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196T Independent Study 1-6 cr. (R-6) Offered intermittently.

Radiologic Technology (RAD)

U 110T Introduction to Radiology and Patient Care 4 cr. Offered autumn. Introduction to the field of radiology and its mix of technical equipment, lab work, hospital environment, patient care and team work.

U 111T Radiographic Procedures I 4 cr. Offered spring. Preparation in the procedures associated with radiology in standard radiographic environments.

U 121T Radiographic Imaging I 3 cr. Offered spring. Factors of image quality and exposure methods: density, contrast, recorded detail, distortion, technique charts, manual and automatic exposure control, and tube rating charts.

U 122T Radiographic Imaging II 2 cr. Offered summer. Use of image receptor systems and processing principles used in radiology.

U 131T Radiographic Physics 3 cr. Offered autumn. Introduction to fundamental physics principles underlying radiology and diagnostic x-ray production. Topics include electromagnetic waves, electricity and magnetism, electrical energy, and power and circuits as they relate to radiography.

U 151T Radiographic Clinical Education I 5 cr. Offered spring. Introduction to patient management and basic radiographic procedures in the clinical setting. Emphasis on mastering positioning of the chest and extremities, manipulating equipment, and applying principles of ALARA.

U 161T Radiographic Clinical Education II 12 cr. Offered summer. Additional experience in patient management and more complex patient procedures. Emphasis on positioning of the spine, pelvis, head and neck, and thorax and adapting procedures to meet patient variations.

U 195T Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196T Independent Study 1-6 cr. (R-6) Offered intermittently.

U 211T Radiographic Procedures II 3 cr. Offered autumn. Knowledge and skills necessary to perform standard and specialty radiographic procedures. Emphasis on radiographic specialty procedures, pathology, and advanced imaging.

U 241T Radiographic Protection 2 cr. Offered autumn. Principles of radiation protection and radio biology. Topics include the effects of ionizing radiation on body tissues, protective measures for limiting exposure to the patient and personnel, and radiation monitoring devices.

U 245T Radiographic Analysis 3 cr. Offered spring. An overview of imaging concepts and introduction to methods of quality assurance. Topics include a systematic approach for image evaluation and analysis of imaging service and quality assurance.

U 251T Radiographic Clinical Education III 7 cr. Offered autumn. Experience in patient management specific to fluoroscopic and advanced radiographic procedures. Emphasis on applying appropriate technical factors to all studies and positioning of gastrointestinal and urological studies.

U 261T Radiographic Clinical Education IV 7 cr. Offered spring. Continuation of instruction in all basic radiographic procedures and experience in advanced areas. Emphasis on equipment operation, pathological recognition, pediatric and geriatric variations, and radiation protection requirements.

Respiratory Care (RES)

U 118T Integrated Science 3 cr. Offered autumn. Introduction to microbiology, chemistry, and physics for those desiring an applied approach to these sciences. Fundamental principles are applied to pathology, anatomy, physiology, and pathophysiology.

U 120T Perspectives in Health Care Communications 2 cr. Offered spring. Introduction to oral and written health communications as well as a brief overview of ethical and legal implications of respiratory care practice.

U 129T Patient Care and Assessment 3 cr. Offered spring. Prereq. or coreq., SCN 119N. Introduction to nursing-related knowledge and skills. Assessment of the respiratory system with cardiopulmonary diagnostic and laboratory tests. The theory, mechanics, calibration, and quality control of arterial blood gas analyzers. Medical terminology also covered.

U 131T Respiratory Care Fundamentals 4 cr. Offered spring. Prereq., COM 090T or 115; CRT 101; MAT 005 or 100; RES 118T; SCN 119N, and acceptance into the Respiratory Therapy program. Orientation to basic respiratory therapy science. Emphasis on theory and operation and troubleshooting of related equipment used at the entry level of practice.

U 133T Respiratory Care Pharmacology 2 cr. Offered spring. Prereq., MAT 005 or 100; RES 118T; SCN 119N, or consent of instr. Introduction to pharmacology as related to the pulmonary system.

U 135T Cardiopulmonary Anatomy and Physiology 3 cr. Offered spring. Prereq., MAT 005 or 100; RES 118T; SCN 119N. In-depth study of the macro and micro anatomy of the cardiopulmonary system with a focus on structure and function.

U 150T Respiratory Care Laboratory I 1 cr. Offered spring. Prereq., COM 090T or 115; CRT 101; MAT 005 or 100; RES 118T; SCN 199N, and acceptance into the
Respiratory Care program. Basic clinical competencies are studied in a laboratory setting. Demonstrations, peer review, and instructor review included.

U 231T Respiratory Critical Care 3 cr. Offered autumn. Prereq., COM 115; RES 131T, 133T, 250T, 255T. Continuation of RES 131T. Physiology, indication, contraindications, and application of mechanical ventilation. Emphasis on patient assessment, monitoring, stabilization and weaning during assisted pressure breathing. Analysis of the various modes of ventilation, including optimizing the patient-ventilator interface in the adult.


U 233T Cardiovascular and Related Pharmacology 1 cr. Offered summer. Prereq., MAT 100; RES 131T, 133T, 135T, 150T or consent of instr. Introduction to cardiovascular and related pharmacology in preparation for advanced cardiac life support.


U 242T Respiratory Home Care and Management 2 cr. Offered spring. Prereq., RES 231T, 232T. A study of pulmonary rehabilitation and home care. Departmental organization and administration procedures are included. Students must take an Entry Level Self-Assessment Exam, a written Registry Self-Assessment Exam, and a Clinical Simulation Self-Assessment Exam. The fee for this exam is included in course fees.

U 250T Respiratory Care Laboratory II 2 cr. Offered summer. Prereq., MAT 100; RES 131T, 133T, 135T, 150T. A continuation of RES 150T. Students will be BLS-certified.

U 252T Advanced Cardiopulmonary Assessment and Procedures 3 cr. Offered spring. Prereq., RES 129T, 131T, 133T, 231T, 241T. Continuation of RES 129T. Introduction to cardiopulmonary and nutritional assessments and procedures at the advanced practitioner level.

U 255T Clinical Experience I 5 cr. Offered summer. Prereq., MAT 100; RES 120T, 129T, 131T, 133T, 135T, 150T. Emphasis on the student directly performing basic clinical skills in a patient care setting.

U 260T Respiratory Care Laboratory III 1 cr. Offered autumn. Prereq., RES 150T, 255T. Advanced clinical lab competencies for respiratory care are studied in the laboratory setting. Demonstrations, peer review, and instructor review included. Emphasis on psychomotor skills in the critical care area. Students will be NRP and PALS certified at the end of the class.

U 265T Clinical Experience II 8 cr. Offered autumn. Prereq., COM 115; RES 250T, 255T. Continuation of clinical skills learned in RES 255T. Introduction to adult critical care areas.

U 270T Respiratory Care Lab IV 1 cr. Offered spring. Prereq., RES 260T, 265T. A continuation of RES 260T. Students will be ACLS and PALS-certified at the completion of the class.

U 275T Clinical Experience III 9 cr. Offered spring. Prereq., RES 260T, 265T. Continuation of RES 265T with critical care of the adult. Neonatal and pediatric critical care experiences also emphasized.

U 295T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Surgical Technology (SUR)

U 101T Introduction to Safe Patient Care 3 cr. Offered spring. Prereq., completion of all first semester courses; coreq., SUR 102T. Provides an orientation to the responsibilities and competencies of the surgical technologist in the central processing role in surgical departments.

U 102T Surgical Procedures Lab I 2 cr. Offered spring. Prereq., completion of all first semester courses; coreq., SUR 101T. Orientation to the physical organization of the central processing department with emphasis on documentation, sterilization, and preparation of instruments/supplies.

U 154T Surgical Pharmacology 3 cr. Offered spring. Prereq., MAT 005. Basic overview of the medications that are commonly used before, during and after a surgical procedure.

U 195T Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 200T Operating Room Techniques 3 cr. Offered autumn. Prereq., completion of all first and second semester courses; coreq., SUR 202T. Responsibilities and competencies of the surgical technologist in the perioperative scrub and circulator roles.

U 201T Surgical Procedures I 4 cr. Offered autumn. Prereq., completion of all first and second semester courses; coreq., SUR 203T. A study of surgical procedures following the patient through the preoperative, intraoperative, and post-operative stages of specific surgical specialties.

U 202T Surgical Procedures II 2 cr. Offered autumn. Prereq., completion of all first and second semester courses; coreq., SUR 200T. Orientation to the physical organization of the surgical suite, demonstration and return demonstration of perioperative competencies in the campus lab.

U 203T Surgical Lab Practicum I 4 cr. Offered autumn. Prereq., all first and second semester courses; coreq., SUR 200, SUR 201T, SUR 202T. Perioperative experience in the minor surgical procedure role through a supervised clinical hospital rotation.

U 204E Ethical Dimensions in Health Professions 3 cr. Offered autumn. Ethical decision-making tools for addressing common ethical issues in the health professions.

U 205T Surgical Procedures II 5 cr. Offered spring. Prereq., all first, second, and third semester courses. A study of surgical procedures following the patient through the preoperative, intraoperative, and post-operative phases of surgery.

U 206T Surgical Lab Practicum II 5 cr. Offered spring. Prereq., all first, second, and third semester courses; coreq., SUR 205T. Perioperative experience in the major surgical procedure role through a supervised clinical hospital rotation.

U 290T Surgical Internship 5 cr. Offered spring. Prereq., all first, second, and third semester courses, SUR 203T, SUR 206T. Capstone experience in the perioperative role in preparation for initial employment, increasing occupational awareness and professionalism. Students take call for emergency surgeries alongside experienced hospital staff.
Department of Industrial Technology

James Lizotte, Chair
The instruction for the three A.A.S. degree programs and four certificate programs of the Industrial Technology Department is delivered at the West Campus, 3639 South Avenue West.

Special Certificate and Degree Requirements
The related studies requirements are included in the following courses of study. Refer to the Academic Policies and Procedures section of this catalog for the specific requirements.

Course Fees, Tools, and Supplies
All programs in the Industrial Technology Department include courses with course fees and special tools and supplies requirements. To obtain a complete listing of these additional items and costs, call the College of Technology Admissions Office at 406-243-7882.

Building Maintenance-Certificate
Students in the Building Maintenance program are trained as building maintenance personnel who take care of commercial buildings including plumbing, painting, electrical work, carpentry, heating and air conditioning, troubleshooting, welding, and more. While in school, they study preventive maintenance, building cleaning, roofing and flooring repair, interior wall repair, lawn care and pruning techniques, and swimming pool and boiler system water treatment. Students learn how a building is constructed and how to maintain control systems. Heating and air conditioning systems are studied in-depth. They learn the rules and regulations of building codes and specifications and how to read blueprints. They gain related skills needed on the job such as familiarity with data processing and the use of computers, communication skills, and personnel supervision and management. Most courses are half-semester in length.

The Associate of Applied Science degree is awarded upon successful completion of the program.

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*Spring entry allowed with program director's consent.

Building Maintenance Engineering- A.A.S. Degree
Students in the Building Maintenance Engineering program train to be building maintenance personnel who take care of commercial buildings including plumbing, painting, electrical work, carpentry, heating and air conditioning, troubleshooting, welding and more. While in school, they study the physical and electrical theory that allows understanding of building systems. In addition, they study preventive maintenance, building cleaning, roofing and flooring repair, interior wall repair, lawn care and pruning techniques, and swimming pool and boiler system water treatment. Students learn how a building is constructed and how to maintain control systems. Heating and air conditioning systems are studied in-depth. They learn the rules and regulations of building codes and specifications and how to read blueprints. They gain related skills needed on the job such as familiarity with data processing and the use of computers, communication skills, and personnel supervision and management. Most courses are half-semester in length.

The Associate of Applied Science degree is awarded upon successful completion of the program.

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*Spring entry allowed with program director's consent.

Diesel Technology- A.A.S. Degree
Students in the Diesel Technology program train to be diesel mechanics who repair diesel-powered trucks and heavy equipment. Students study hydraulics, electrical systems, fuel systems, power trains, air conditioning, brakes and suspension, engine theory, and engine diagnosis, beginning with basic principles and proceeding to an advanced level of system technology. Along with these core courses, students take classes in welding, machining, computers, physics, communications, and math.

Students who complete the program successfully are awarded the Associate of Applied Science degree.
Credit for independent study is available to those desiring additional instruction in diesel mechanics. Contact the program director, Jim Headlee, at 406-243-7648 for more information.

**Autumn Entry:**

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<td>DET 128T Engine Service I</td>
<td>4</td>
</tr>
<tr>
<td>DET 135T Power Trains</td>
<td>7</td>
</tr>
<tr>
<td>MAT 110T Industrial Math</td>
<td>3</td>
</tr>
<tr>
<td>MPR 115T Related Metals Processes</td>
<td>3</td>
</tr>
<tr>
<td>PSY 110S Organizational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>WEL 111T Welding</td>
<td>2</td>
</tr>
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<td><strong>Total</strong></td>
<td>16</td>
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**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>DET 221T Brakes, Suspension, and Undercarriage</td>
<td>6</td>
</tr>
<tr>
<td>DET 225T Hydraulics</td>
<td>6</td>
</tr>
<tr>
<td>DET 229T Engine Service II</td>
<td>7</td>
</tr>
<tr>
<td>DET 230T Air Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>DET 231T Fuel Systems</td>
<td>5</td>
</tr>
<tr>
<td>DET 235T Advanced Power Trains</td>
<td>2</td>
</tr>
<tr>
<td>SCN 110T Industrial Physics</td>
<td>3</td>
</tr>
<tr>
<td>TRK 105T Commercial Driver's License (CDL)</td>
<td>(1)</td>
</tr>
<tr>
<td>WEL 139T Welding Maintenance and Repair</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17-18</td>
</tr>
</tbody>
</table>

*Spring entry allowed with program director's consent.

**Heavy Equipment Operation-Certificate**

Students in the Heavy Equipment Operation program are trained to safely and properly operate and maintain a variety of heavy equipment. They learn to operate equipment including crawler-tractors, graders, scrapers, front-end loaders, excavators, backhoes, and dump trucks. Students develop an understanding of basic surveying techniques, receive extensive training in safety regulations and procedures, and learn how to handle controls precisely and judge distances accurately.

A Certificate of Completion is awarded after the program is successfully completed. The program often has a waiting list for admittance. Interested persons are encouraged to apply one year prior to anticipated school attendance.

**Autumn Entry:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>HEO 140T Basic Surveying</td>
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<tr>
<td>HEO 142T Basic Surveying II</td>
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<tr>
<td>HEO 146T Safety and Basic Controls</td>
<td>5</td>
</tr>
<tr>
<td>HEO 148T Operational Skill Building</td>
<td>5</td>
</tr>
<tr>
<td>HEO 150T Job Simulation</td>
<td>6</td>
</tr>
<tr>
<td>HEO 151T Service and Maintenance</td>
<td>2</td>
</tr>
<tr>
<td>HEO 153T Construction Theory and Specialized Equipment</td>
<td>5</td>
</tr>
<tr>
<td>MAT 110T Industrial Math</td>
<td>3</td>
</tr>
<tr>
<td>MPR 112T Related Metals Processes</td>
<td>1</td>
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<tr>
<td>PSY 105T Work Attitudes</td>
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</tr>
<tr>
<td>TRK 106T Commercial Truck Driving</td>
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<tr>
<td>WEL 111T Welding</td>
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<tr>
<td><strong>Total</strong></td>
<td>17-18</td>
</tr>
</tbody>
</table>

**Recreational Power Equipment-Certificate**

Students in the program are trained to become recreational power equipment technicians who repair and maintain a wide variety of 2-stroke and 4-stroke cycle engines and related equipment. Students work on motorcycles, ATVs, snowmobiles, outboard motors, and personal watercraft. Units of instruction include mechanical, fuel, and electrical systems.

For more detailed information including program costs, tools, requirements, student class schedules, and course syllabi, visit: www.cte.umt.edu/departments/industrial/rec_power

Students are awarded a Certificate of Completion upon successful completion of the program. Spring entry allowed with program director consent.

Credit for independent study is available to those desiring additional instruction in recreational power equipment.

Contact the program director, Jim Lizotte, at 406-243-7642 or jim.lizotte@mso.umt.edu for more information.

**Autumn Entry:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CRT 101 Introduction to Computers</td>
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<tr>
<td>MAT 110T Industrial Math</td>
<td>3</td>
</tr>
<tr>
<td>MPR 115T Related Metals Processes</td>
<td>3</td>
</tr>
<tr>
<td>PSY 105T Work Attitudes</td>
<td>1</td>
</tr>
<tr>
<td>SET 160T Basic Electricity</td>
<td>3</td>
</tr>
<tr>
<td>SET 176T Motorcycle/ATV Engines, Suspension, and Chassis</td>
<td>3</td>
</tr>
<tr>
<td>SET 177T Motorcycle/ATV Electrical and Fuel Systems</td>
<td>4</td>
</tr>
<tr>
<td>SET 178T Marine Electrical and Fuel Systems</td>
<td>4</td>
</tr>
<tr>
<td>SET 179T Marine Powerheads and Lower Units</td>
<td>6</td>
</tr>
<tr>
<td>SET 180T Snowmobile Maintenance and Repair</td>
<td>2</td>
</tr>
<tr>
<td>SET 181T Snowmobile Maintenance and Repair II</td>
<td>2</td>
</tr>
<tr>
<td>SET 182T Computer Applications for Motor Sports</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

**Welding Technology - Certificate and A.A.S. Degree**

Students in the Welding Technology program study welding as it relates to manufacturing, fabrication, building construction, and repair and maintenance of equipment and facilities. They learn to make layouts according to blueprints and specifications. Students also learn to prepare material prior to welding and to apply proper filler metal according to national standards and specifications. Welding students develop skills in six different welding processes—oxygenacetylene, shielded metal arc, gas metal arc, flux core arc, submerged arc, and gas tungsten arc welding. They study the design and fabrication of jigs and related fixtures and learn how to test for, inspect, and repair defective welds. In addition, students study metallurgy and understand how the heating and cooling cycles of welding affect the properties of metals.

Welding technology students have the opportunity to become certified to American Welding Society specifications and receive documentation stating qualifications.

Students are awarded the Associate of Applied Science degree upon successfully completing the two-year program. Students who successfully complete the first year of the program are eligible to receive a Certificate of Completion.

For more detailed information including program costs, tool lists, class schedules, and course syllabi, visit our web site at: www.cte.umt.edu/department/industrial/welding_technology.
conditioning. Covers heating and refrigeration cycles, refrigerants, and components used in associated systems. Introduces the basic mechanical service procedures used in the industry.

U 221T Blueprint Reading 2 cr. Offered autumn. The fundamental working drawings used in the trades and crafts. Emphasizes recognition of various types of drawings and the development of interpretation skills. Introduction to drafting equipment, lettering techniques, sketching, basic dimensioning, scale reading, and geometric construction.


U 223T Basic Motors and Controls 3 cr. Offered autumn. Prereq., BME 121T, BME 129T. A survey of the various types of motors and protective devices. Includes single-phase capacitor start, capacitor start and run, shaded-pole tap-wound, permanent split-capacitor, and three-phase motors. Emphasis is placed on motor control problems and protective devices.

U 224T Pumps and Piping 2 cr. Offered spring. Prereq., BME 124T. Overview of the Uniform Plumbing Code. Discussion of plumbing installation tools, safety, materials, fittings, sizing, fixtures, and basic design. Covers centrifugal, rotary, reciprocating, and special service pumps. Includes single and multistage pumps, cavitation, balancing, bearings, packings, clearances, mechanical seals, and problem troubleshooting. The piping section covers hot, cold water, gas, compressed air, fire protection, waste, drain, and specialty piping.

U 227T HVAC Control Systems 3 cr. Offered autumn. Prereq., BME 129T, SCN 117T. Introduction to bimetallic, bourdon tube, remote bulb, CAB, thermostat, thermistor, RTD, and thermopile measuring devices. Temperature and pressure control devices are related to the operation of heating, ventilating, and air conditioning equipment. Two-position and proportional pneumatic control systems are presented, as well as pneumatic transmission. Computerized management systems for energy conservation are discussed.

U 228T Machine and Equipment Installation 2 cr. Offered spring. Prereq., SCN 117T, SCN 118T. Tools and procedures for installing, leveling, and aligning equipment and machinery. Mechanical advantage formulas presented in physics are demonstrated. Included are safe loads for ropes, jacks, slings, and blocks and tackles. Skills pertaining to the proper use of ladders, scaffolds, safety belts, and life nets used in maintenance work are discussed.

U 229T Heating and Air Conditioning II 5 cr. Offered spring. Prereq., BME 129T. Advanced study of heating, ventilation, and air conditioning principles. Includes refrigeration process, heat flow, temperature measurements, gas laws, system evacuation and charging, cooling towers, and chilled water systems. Includes overview of Uniform Mechanical Code.

U 230T Preventive Maintenance 1 cr. Offered spring. Concepts of equipment maintenance to prevent breakdowns and unscheduled downtime. Includes equipment inspection, maintenance scheduling, and nondestructive testing methods.

Diesel Equipment Technology (DET)

U 120T Electrical Systems 8 cr. Offered spring. The theory of AC/DC electricity including Ohm's Law, magnetism, wiring diagrams, and circuit analysis. Starting, charging, and related systems are covered in-depth using test equipment commonly found in heavy equipment repair facilities. Electronic systems are reviewed and tested using common electronic test equipment.
U 128T Engine Service I 4 cr. Offered autumn. Introduction to the construction and operation of internal combustion engines with the diesel engine being examined in detail. The use of measuring tools and related special tools is covered extensively along with common manufacture rebuild procedures. Start-up and running practices are demonstrated on various running diesel engines.

U 135T Power Trains 7 cr. Offered autumn. Chassis and drive train components used in light and heavy-duty trucks and other equipment. Clutches, manual transmissions, differentials, and final drives are covered.

U 196T Independent Study Variable cr. (R-6) Offered every term.

U 221T Brakes, Suspension, and Undercarriage 6 cr. Offered autumn. Air brake design, construction, and operating principles including an in-depth study of diagnostic procedures for troubleshooting and repairing brake systems. Suspension systems and undercarriage design and repair are covered along with common axle alignment procedures found in industry.

U 225T Hydraulics 6 cr. Offered autumn. Theory and application of hydraulics relative to mobile construction equipment and industrial hydraulic systems. Includes valves, pumps, motors, actuators, and related hydraulic components, system maintenance, troubleshooting, and repair.

U 229T Engine Service II 7 cr. Offered spring. Prereq., DET 128T. A continuation of Engine Service I with a major emphasis placed on the rebuilding of a diesel engine. Engine components repair and failure analysis are reviewed along with tune-up and running of diesel engines commonly found in the heavy equipment trade. Shop flat-rate procedures, work order procedures, and warranty requirements are covered.

U 230T Air Conditioning 3 cr. Offered spring. Prereq., DET 120T, DET 225T. Principles, theories, and the hazards of working with R-12 and R-34, including laws governing these refrigerants. An in-depth study of the components of an air conditioning system including hands-on practice. Discharging and charging principles are discussed, including leakage testing and other general diagnostic principles found in the field.

U 231T Fuel Systems 5 cr. Offered spring. A comprehensive study of diesel fuel injection systems to include: Cummins, Roosa Master, Caterpillar, Detroit Diesel, and Bosch. Disassembly and repair of these systems are covered in-depth along with calibration practices. Installation, timing, and on-engine adjustments are made on diesel engines. On-engine diagnosis of the fuel systems using special diesel engine diagnostic tools is reviewed.

U 235T Advanced Power Trains 2 cr. Offered spring. Prereq., DET 135T. A continuation of DET 135T with an emphasis on heavy automatic transmission, torque converters, and powershift transmission. In-depth coverage of component review troubleshooting and repair.

Heavy Equipment Operation (HEO)

U 140T Basic Surveying 2 cr. Offered autumn. Basic principles of surveying and the use of surveying equipment. Calculation of angles and distances to determine grade elevations. Introduction to Global Positioning Systems, lasers and their relationship to the heavy equipment operator.

U 142T Basic Surveying II 1 cr. Offered spring. Prereq., HEO 140T. Students plan and layout projects undertaken by the program within the community. The students participate in staking and controlling the project by using skills acquired in HEO 140T. Emphasis is on earthwork surveying.

U 146T Safety and Basic Controls 5 cr. Offered autumn. Orientation to the safe operation and basic control of crawler-tractors, scrapers, front-end loaders, motor graders, backhoes, trucks, and other heavy equipment units. Sufficient time is allowed for the development of basic machine operational skills.

U 148T Operational Skill Building 5 cr. Offered autumn. Prereq., HEO 140T. Advancement of basic skills. Proper understanding and operation of heavy equipment is pursued. Time is allowed for development of proper operational techniques.

U 150T Job Simulation 6 cr. Offered spring. Prereq., HEO 146T, HEO 148T. Incorporates learned skills into entry-level, industrial situations. Emphasis is on advanced equipment usage, problem definition and resolution, project-type earth moving assignments, proper equipment, and safety regulations. Course may allow participation in cooperative project efforts within the community.

U 151T Service and Maintenance 2 cr. Offered autumn. Different types of lubricants and their applications, scheduled and preventive maintenance procedures, and importance of periodic services and maintenance. Also included are safety procedures and regulations.


Metals Processes (MPR)

U 112T Related Metals Processes 1 cr. Offered spring. Use of hand tools and machines which relate to the repair of heavy equipment. Instruction covers fasteners, layout, bench metal, threads and threading, drills and drilling, and tool sharpening.

U 114T Related Metals Processes 3 cr. Offered autumn. Instruction and use of drills, files, threading and threading processes, basic lathe, drill press and band saw operation, including precision measuring instruments. Fasteners, layout procedures, and basic hand tools are covered.

U 115T Related Metals Processes 3 cr. Offered autumn and spring. A basic metalworking course covering fasteners, layout, bench metal, heat treating, threads and threading, drills and drilling, basic machining, and tool sharpening.

U 214T Advanced Related Metals Processes 3 cr. Offered autumn. Prereq., MPR 114T or 115T. Advanced skill development using machine tools such as milling machines, lathes, surface grinders, and drill presses, emphasizing safety and providing greater complexity than provided in MPR 114T. Welding and machining are used together demonstrating how sequencing work improves quality and productivity.

U 196T Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

Small Engine Technology (SET)

U 160T Basic Electricity 3 cr. Offered autumn. The theory of AC/DC electricity including Ohm’s Law, magnetism, series circuits, parallel circuits, the use of meters, and electrical test equipment. Includes electrical symbols, soldering, storage batteries, cranking motors, and electrical safety.

U 176T Motorcycle/ATV Engines, Suspension, and Chassis 3 cr. Offered autumn. Study of the design and function of several types of engines, transmissions, suspension, and brake systems.


U 178T Marine Electrical and Fuel Systems 5 cr. Offered spring. Prereq., SET 160T. Theory of and testing and troubleshooting of problems with ignition, charging, and cranking systems. Includes the design, testing, and troubleshooting of marine carburetion and fuel injection systems.
U 179T Marine Powerheads and Lower Units 6 cr. Offered spring. Prereq., SET 178T. Theory of design, function and components of outboard motor powerheads and lower units. Includes basic rigging, power trim and tilt, propelling, and personal watercraft design, function, and maintenance.

U 180T Snowmobile Maintenance and Repair I 2 cr. Offered autumn. Prereq., SET 177T. The repair and maintenance of air cooled and liquid cooled engines. Includes clutch, track, and rear suspension service and maintenance.

U 181T Snowmobile Maintenance and Repair II 2 cr. Offered spring. Prereq., SET 180T. Principles and theory of snowmobile electrical, fuel, front suspension, and brake systems.

U 182T Computer Applications for Motorsports Professionals I cr. Offered spring. Prereq., CRT 101. Use of recreational power equipment software for parts retrieval, invoicing and payment methods. Students build, query, and create reports using database software, and create a business plan for a hypothetical dealership.

U 195T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196T Independent Study Variable cr. (R-6) Offered intermittently.

Truck Driving (TRK)

U 106T Commercial Driver’s License (CDL) Training I cr. Offered intermittently. Prereq., consent of instr. Individual schedule. Truck safety, operation, and maintenance review. Schedule and obtain Class A Commercial Driver’s License (CDL).

Welding (WEL)

U 111T Welding 2 cr. Offered autumn and spring. Basic and intermediate processes of shielded metal arc welding (SMAW) and oxyacetylene welding are covered in flat, horizontal, and vertical positions in a variety of joint configurations. Instruction in the oxyacetylene cutting process.

U 139T Welding Maintenance and Repair 2 cr. Offered spring. Prereq., MPR 111T, WEL 111T. Combines the skills gained in welding and machine shop for practical applications such as repairing a broken cylinder block. Major emphasis is placed on repair techniques. Common repair procedures using machine shop and welding equipment is demonstrated.

U 180T Welding Metallurgy 4 cr. Offered autumn. Covers the manufacturing of iron and steel. Examination of physical and mechanical properties. Phase changes with the application of heating and cooling cycles. Ferrous crystal types and properties. Suggested welding procedures for low, medium, and high carbon steels, alloy steels, and cast iron.

U 181T Shielded Metal Arc Welding (Plate) and Thermal Cutting 4 cr. Offered autumn. Theory and safe operation of shielded metal arc welding (SMAW) of carbon steel on plate and structural components in all positions to industry standards. Visual inspection and destructive testing used to determine acceptability based upon industry standards (American Welding Society Structural Welding Code—Steel). Power sources and electrodes are covered in depth. Materials are prepared using mechanical plate shears and thermal cutting techniques. Thermal cutting techniques are examined relative to theory of operation and safe practices. Processes used are oxy-fuel cutting, plasma arc cutting, and air carbon arc cutting. Theory and operation of oxyacetylene welding examined.

U 182T Blueprint Reading and Development 3 cr. Offered spring. Prereq., WEL 183T. Practical experience in reading and drawing orthographic projections, interpreting dimensions, notes, scales, and welding symbols. Isometric projection (pictorial), sections, and auxiliary views with practical experience using conventional drafting tools and computer aided drafting (CAD).

U 183T Layout Techniques 2 cr. Offered autumn. Encompasses layout on material of various shapes using blueprints and practical layout techniques on pipe and structural steel. Use of contour markers and a review of geometric construction. Computation of approximate costs is included.

U 184T OSHA Rules and Regulations 1 cr. Offered spring. Study of the Occupational Safety and Health Administration rules and regulations that affect the welding and construction industries.

U 185T Flux Core Arc Welding 4 cr. Offered spring. Theory, practice, and safe operation of flux core arc welding equipment. Coupons are welded in the flat, horizontal, and vertical positions to industry standards using a variety of welding electrodes, diameters, and power sources, which prepare students for welding qualification to the American Welding Society Structural Welding Code specifications.

U 189T Metal Fabrication I 4 cr. Offered spring. Prereq., MPR 114T; WEL 181T; coreq., WEL 182T, 185T. Conception, design, and construction of a metal structure to industry standards using shears, presses, and other machine tools common to the welding industry. Skills are developed in the areas of shielded metal arc welding and flux core arc welding, oxyacetylene cutting, plasma arc cutting, and air carbon arc cutting.

U 195T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196T Independent Study Variable cr. (R-6) Offered intermittently.

U 200T Gas Tungsten Arc Welding 4 cr. Offered autumn. The theory and safe operation of Gas Tungsten Arc Welding (GTAW). Examination of power source controls and operation along with associated consumables such as gasses, electrode filler materials for carbon steel, stainless steel, and aluminum. Welding skill development according to industry standards using these materials in the flat, horizontal, and vertical positions.

U 281T Metal Fabrication II 4 cr. Offered spring. Prereq., MPR 114T, MPR 214T; WEL 181T, 185T, 182T, 183T, 280T, 283T. Students combine all knowledge and skills developed in the welding program to design and draw a full set of plans (blueprints) for an instructor-approved project using extensive welding, metal fabrication equipment, machining processes and automation. High quality performance, consistent with business and industry required.

U 282T Pipe Welding-SMAW and GTAW 4 cr. Offered autumn. Prereq., WEL 181T; coreq., WEL 280T. Emphasis on skill development in the welding of pipe sections to extremely high quality levels as required by national codes and standards. Pipe welding using GTAW for the root pass and SMAW for the remaining passes in all positions. Visual inspection and destructive testing used to evaluate work according to industry standards.

U 283T Gas Metal Arc Welding 4 cr. Offered spring. Prereq., WEL 185T. Theory and safe operation of Gas Metal Arc Welding (GMAW). Theory of flux core arc welding applied to GMAW. Primary focus on application, practical skill development, and producing welds that meet industry standards. Metals welded are low carbon steel, stainless steel, and aluminum. Short circuit arc and spray arc transfer used. Examination of gas and electrode selection.

U 285T Automation in Welding 3 cr. Offered spring. Application of the welding process to automation. Examination of simple automation techniques such as tools, clamping, and fixturing to aid in the rapid joining of production runs. Increasing complexity is examined leading into equipment that carries the welding gun, tractors, and carriages by fully-
automated systems with the student performing set-up and troubleshooting (Submerged Arc Welding) and automated parts processing (optical tracer torch). Programmable controllers are investigated and used. The use of industrial robots studied. U 486T Welding Certification and Codes 2 cr. Offered spring. Prereq., WEL 181T, 185T. Fundamental concepts and requirements of the American Society of Mechanical Engineers (ASME) and American Welding Society (AWS) are examined. Through laboratory experience students are provided the opportunity to qualify (certify) under the two codes mentioned above.

Faculty

Murray Catlin, B.S., Montana State University, 1975 (Industrial Technology)
Cathy Corr, M.Ed., Montana State University, 1989 (Applied Arts and Science)
Josef Crepeau, M.A., The University of Montana, 1994 (Applied Arts and Science)
Anne Delaney, M.B.A., The University of Montana, 2002 (Health Professions)
Deborah Fillmore, M.E. The University of Montana, 2000, R.N. (Health Professions)
Cheryl Galipeau, M.E., The University of Montana, 1999 (Business Technology)
Cec Gallagher, Ed.D., Montana State University, 1998 (Academic Support)
Tom Gallagher, M.S. Western Washington University, 1996 (Business Technology)
William Gleason, M.S., Montana College of Mineral Science, 1989 (Welding Technology)
James Headlee, M.E., Northern Montana College, 1987 (Industrial Technology)
Colin Henderson, Ph.D., University of New Mexico, 1985 (Applied Arts and Sciences)
Carol Hinricher, M.S., Montana State University, 1983 (Business Technology)
Penny Jakes, M.E., The University of Montana, 1981 (Business Technology)
Allen LaCasse, B.S., Liberty University, 1990 (Health Professions)
Brian Larson (Business Technology)
James Lizotte, M.S., University of Wisconsin Stout, 1967 (Industrial Technology; Chair)
Ross Lodahl, Certificate, Spokane Community College, 1967 (Business Technology)
Tim Lytle (Industrial Technology)
Vicki Micheletto, M.E., The University of Montana, 1986 (Business Technology; Chair)
Ed Moore, M.E., The University of Montana, 1988 (Applied Arts and Sciences)
Mary Nielsen, M.S.N., Clarkson College, 2001, R.N. (Health Professions)
Sue Olson, M.E., The University of Montana, 1996 (Business Technology)
Steven Rice, M.E., Northern Montana College, 1991 (Electronics Technology)
Niki Robinson, M.E., The University of Montana, 2000 (Business Technology)
Michelle Sare-Conn, B.S.N., Montana State University, 1977 (Health Professions)

Carl Scott (Industrial Technology)
Bob Shook, M.S., Utah State University, 1989, American Welding Society Certified Welding Inspector, 1989 (Industrial Technology)
Thomas Stanton, J.D., University of Cincinnati, 1991 (Business Technology)
Steve Stiff, B.S., The University of Montana, 2001 (Electronics Technology)
Lynn Stocking, M.E., The University of Montana, 1987 (Associate Dean; Director, Academic Computing; Business Technology)
Linda Strelnick, B.S., The University of Montana, 1973 (Health Professions)
Lisa Swallow, M.S., California State University, Chico, 1990, C.P.A., C.M.A. (Business Technology)
Rhonda Tabish, Certificate, The University of Montana, 1974 (Business Technology)
Linda Voigt, B.S., The University of Montana, 1976, CST/CFA (Health Professions)
Margaret Wafstet, M.N., Montana State University, 1980, R.N. (Health Professions)
Robert Wafstet, M.S., Eastern Washington University, 1974, R.R.T. (Health Professions)
Lisa Wrobel, Pharm.D., The University of Montana, 2003, R.Ph. (Health Professions)

Adjunct Faculty

Ryan Alter, B.S., Youngstown State University (Business Technology)
Alex Alviar, M.F.A., The University of Montana, 2004 (Applied Arts and Sciences)
Mariessa Backes (Health Professions)
Kristi Bailey, CST (Health Professions)
Michael Bailey, L.L.B., University of Sydney Law School, 1985 (Business Technology)
Richard Bayless, M.S., Ohio University, 1984 (Applied Arts and Sciences)
Pamela Bilyeau, B.S.N., Montana State University, 1974 (Health Professions)
Michelle Boller, B.A., The University of Montana, 1999 (Business Technology)
Sheila Bradley (Applied Arts and Sciences)
Kathryn Brauer, B.S., The University of Montana, 1983, C.Ph.T, 1997 (Health Professions)
Monty Brekke, M.A., Bowling Green State University, 1965 (Applied Arts and Sciences)
Megan Brophy, A.A., The University of Montana, 1997 (Health Professions)
Dora Cardillo, B.S., Boise State University, 1985 (Health Professions)
Cindy Condon, B.S.W., Seattle Pacific University, 1998, R.N. (Health Professions)
Colleen Dowdall, J.D., The University of Montana, 1981 (Business Technology)
Peggy Eggleston, Certificate, The University of Montana (Health Professions)
Jacki Elam, B.A., The University of Montana, 1997 (Health Professions)
Kirk Flynn, A.A.S., The University of Montana, 2001 (Business Technology)
Stacey Gordon, J.D., The University of Montana, 2000 (Business Technology)
Mike Hagerman, A.A.S., The University of Montana, 1992 (Industrial Technology)
Colleen Holmquist, A.A., The University of Montana, 1994 (Health Professions)
Elaine Hunter, R.N., CNOR, CST (Health Professions)
Ed King (Industrial Technology)
James Koepke (Industrial Technology)
Jeri Larsen, M.A., The University of Montana, 2003 (Applied Arts and Sciences)
Kim Larson (Business Technology)
Donnie Laughlin, B.A., The University of Montana, 1968 (Industrial Technology)
Mary Beth Martin, B.S., University of Mississippi, 1977 (Academic Support Center)
Mark McLaVerty, J.D., The University of Montana, 1992 (Business Technology)
Charles Meyers, M.E. (Applied Arts and Sciences)
Barbara Milligan, A.A.S., The University of Montana, 1993 (Business Technology)
John Munch (Industrial Technology)

Candice Neaves, B.S.N., Montana State University, 1991 (Health Professions)
Kent Nelson, B.S., Colorado State University, 1962 (Business Technology)
Kim Reiser, M.A., The University of Montana, 2000 (Applied Arts and Sciences)
Cheryl Richards, B.S.N., Montana State University, 1989, R.N. (Health Professions)
Michael Sehestedt, J.D., The University of Montana, 1973 (Business Technology)
Alisha Smith, A.A.S., The University of Montana, 1996 (Business Technology)
Christine Solomon, M.A., The University of Montana, 2002 (Applied Arts and Sciences)
Linda Eagleheart Thomas, Ph.D., The University of Montana, 2002 (Applied Arts and Sciences)
Teresa Thompson, J.D., The University of Montana, 1986 (Business Technology)
Patrick Todd, M.A., Eastern Washington University, 1986 (Applied Arts and Sciences)
Laurie Trudeau, A.S., Spokane Falls Community College, 1998 (Health Professions)
Kristine Vessey, M.Ed., The University of Montana, 2002 (Business Technology)
Wynne Wakley, A.A.S., The University of Montan, 1995 (Business Technology)
Lynnette Walker, Certificate, The University of Montana (Health Professions)
Thomas Williams, B.S., The University of Montana, 2003 (Applied Arts and Sciences)
Graduate School
Graduate School

David A. Strobel, Dean

The College of Arts and Sciences and the professional schools offer graduate study at both the masters and doctoral level. Admission and graduation for these graduate programs are administered by the Graduate School. Information on specific programs should be directed to the appropriate college or school. Please refer to the Areas of Study section of this catalog for the specific degree programs offered.

The following courses are designed for doctoral students in the Individual Interdisciplinary Program who may not find appropriate course numbers available from an existing doctoral discipline.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Graduate Studies-Interdisciplinary (GS)


G 697 Advanced Research Variable cr. (R-9) Offered every term. Prereq., consent of instr. Independent research projects other than dissertation.

The Maureen and Mike Mansfield Center

Terry M. Weidner, Director

The Maureen and Mike Mansfield Center was established in 1986 to pay tribute to Maureen and Mike Mansfield and to recognize their important contributions to U.S. Asian relations and public policy. The Center is an academic unit within The University of Montana and receives core funding from an endowment managed by the Maureen and Mike Mansfield Foundation. Mansfield Center faculty offer classroom instruction, conduct research and organize various types of conferences, all with a focus on East Asia. The Center faculty collaborate with the University’s Asian Studies Program.

Courses

U for undergraduate credit only, UG= for undergraduate or graduate credit, G= for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Mansfield Center (MANS)

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of new courses or one-time offerings of current topics.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 494 Mansfield Center Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Faculty

Professors

Terry M. Weidner, Ph.D., University of California, Davis, 1980 (Mansfield Professor of Modern Chinese Affairs)

Philip West, Ph.D., Harvard University, 1971 (Mansfield Professor of Modern Asian Affairs)

Adjunct Professors

Ambassador Mark Johnson, M.A., George Washington University, 1971 (Adjunct Mansfield Professor)
Mansfield Library
The Maureen and Mike Mansfield Library

Frank D'Andraia, Dean

The University of Montana libraries are teaching and research libraries that provide an array of information resources and services in support of the curricular and research programs of the University. These resources include traditional library collections and electronic access to a network of research databases, e-journal packages, electronic journal subscriptions, and a Web-based library catalog. Library services include in-depth research and reference assistance, an extensive instruction program integrated into the university curriculum, and full-service computing and copying facilities. Extensive services for the distance education students and faculty are available to provide an equitable educational experience.

The Maureen and Mike Mansfield Library comprises the heart of UM’s library system. Collections exceed 1.3 million bound volumes, access to over 5,000 print and electronic journals, depository collection, and an archives and special collections. These collections are supplemented by an active interlibrary loan service through which the resources of other libraries are made available to students and faculty. The Mansfield Library is open seven days a week for 98 hours during the academic semester. Library resources in support of the Missoula College of Technology are located on the East Campus. Students and faculty at both campuses have access to all library resources and services.

Over 100 public workstations throughout the building are wired for fast and stable Internet connectivity in support of electronic information resources. A state-of-the-art Student Learning Center underscores the goal of the library as a learning library in which students learn how to access and evaluate information in support of their advancing academic careers. Study carrels, group study rooms, and study tables on all floors of the library provide quiet study locations.

Affiliated library collections of The University of Montana system are located in Butte at Montana Tech and at the College of Technology-Montana Tech, in Dillon at The Carson Library of The University of Montana-Western, and in Helena at The University of Montana-Helena.

Courses

U = for undergraduate credit only, Ug = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Library (LIB)

U 195 Special Topics 1-6 cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196 Independent Study 1-6 cr. (R-6) Prereq., consent of instructor.

U 295 Special Topics 1-6 cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study 1-6 cr. (R-6) Prereq., consent of instructor.

U 395 Special Topics 1-9 cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study 1-9 cr. (R-9) Prereq., consent of instructor.

U 495 Special Topics 1-12 cr. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-9 cr. (R-9) Prereq., consent of instructor.

G 595 Special Topics 1-9 cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study 1-9 cr. (R-9) Prereq., consent of instructor.

Faculty

Professors

Steven Atkin, J.D., The University of Montana, 1994
Frank D'Andraia, M.L.S., Simmons College, 1975 (Dean)
Karen Driessen, M.A., University of Denver, 1967
Erling R. Oelz, M.S., University of Illinois, 1968
Dennis L. Richards, M.A., Florida State University, 1963
Bonnie H. Schuster, M.A., University of Minnesota, 1968

Associate Professors

Barry Brown, M.I.L.S., University of Michigan, 1989
Kimberly M. Granath, M.L.S., University of Oklahoma, 1985
K. Elaine Higgins, M.S.L.S., University of Southern California, 1971
Coburn R. Johnson, M.A., University of Denver, 1972
Susan M. Mueller, M.L.S., Emporia State University, 1975
Christopher Mullin, M.A., University of Washington, 1969
Sue Samson, M.A., University of Missouri, 1977

Assistant Professors

Sebastian Derry, M.L.I.S., Dalhousie University, 2002
Donna McCrea, M.L.S., University of Wisconsin-Milwaukee, 1999
Michelle Millet, M.A., University of South Florida, 2001

Emeritus Professor

Devon Chandler, Ed.D., University of Oregon, 1973
Richard T. Dunn, M.A.L.S., Rosary College, 1972
William W. Elison, M.A., University of Denver, 1970
Douglas E. Mills, M.A., University of California, 1950
Robert G. Schipf, M.L.S., University of Oklahoma, 1961

Emeritus Associate Professor

Adeline S. Midgett, B.A., The University of Montana, 1933
School of Business Administration
School of Business Administration

Larry D. Gianchetta, Dean
Michael V. Harrington, Associate Dean

Homepage: http://www.business.umt.edu

The School of Business Administration, founded in 1918, is the largest professional school at the University. All programs are accredited by AACSB International–The Association to Advance Collegiate Schools of Business.

Mission

The faculty and staff of the School of Business Administration are committed to excellence in innovative experiential learning and professional growth through research and service.

The goal of the School of Business Administration is to provide a broad foundation in organizational administration and exposure to the basic principles of various business disciplines. The complexity of contemporary society has brought an increasing need for responsible leadership. A professional business education combined with solid grounding in the liberal arts and sciences prepares men and women to meet difficult challenges and to participate in the molding of the future.

Students may pursue a program of studies leading to the B.S. in Business Administration, with an option in any of the following areas: accounting, financial management, information systems, international business, management, and marketing.

Opportunity for further study at the graduate level is offered through programs leading to the degrees of Master of Business Administration, Master of Accountancy, joint J.D./M.B.A., and joint M.B.A./Pharm.D. The M.B.A. program is particularly suited to those students whose undergraduate training has been in areas other than business administration. Further details may be obtained from the Graduate Studies bulletin or by specific inquiries directed to: Director of Graduate Studies, School of Business Administration.

Foundation Program for Graduate Work in Business

The Master of Business Administration (M.B.A.) and Master of Accountancy (M.Acct.) at most universities are open to graduates of non-business undergraduate programs. Students in the arts and sciences or other professional schools who anticipate doing graduate work in business are encouraged to take as many of the foundation courses listed below as possible in their undergraduate programs. Completion of all of the foundation courses will reduce the time required for the M.B.A. or M.Acct at The University of Montana-Missoula by one year.

ACCT 201 Financial Accounting
ACCT 202 Managerial Accounting
BADM 257 Business Law
FIN 322 Business Finance
IS 270 Quantitative Business Applications
IS 341 Systems and Operations
MGMT 340S Management and Organizational Behavior
MKTG 360 Marketing Principles
ECON 111S Introduction to Microeconomics
MATH 241 Statistics

High School Preparation: High school students who are planning to major in business administration at The University of Montana-Missoula should take their school’s college preparatory curriculum. Additional courses to improve reading, writing, and computer skills will be beneficial. Students should take as much mathematics as possible including two years of algebra.

Credit/No Credit Option: Courses in the School of Business Administration are available on a credit/no credit basis as follows:

For Non-Business Majors: All 100, 200, 300 and 400-level business administration courses that are not identified as traditional letter graded only.

Business Majors: All courses except those required courses listed in 1 and 2 below, required courses in the student's option, and courses that are not identified as traditional letter graded only.

For business majors, exceptions to the above may be made by the instructor with the approval of the department chair unless the course is identified as traditional letter graded only.

Any course taken to satisfy a general education requirement must be taken for traditional letter grade.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

To earn the B.S. in Business Administration degree, the student must:

1. Complete the following requirements during the freshman-sophomore years:
   - ENEX 101 Composition
   - MATH 117 Probability and Linear Mathematics (must earn a grade of C or better)
   - ECON 111S, 112S Microeconomics, Macroeconomics
   - COMM 111A Introduction to Public Speaking
   - CS 172 Computer Modeling
   - MATH 241 Statistics
   - ACCT 201, 202 Financial Accounting, Managerial Accounting
   - BADM 257 Business Law
   - IS 270 Quantitative Business Applications

2. Complete the following requirements during the junior-senior years:
   - FIN 322 Business Finance
   - IS 341 Systems and Operations
   - MGMT 340S Management and Organizational Behavior
   - MKTG 360 Marketing Principles
   - MGMT 445 Small Business Management and Strategic Planning or MGMT 446 Strategic Management or IS 448 Management Game

   - Note: A student must have completed a minimum of 60 semester credits and have completed all the freshman-sophomore requirements listed in number 1 above before advancing to the 300-level requirements listed in this section.

   - Non-business majors must have the consent of the department chair to enroll in any undergraduate business course numbered 300 and above.

3. Choose one of the following options by the beginning of the junior year: accounting, financial management, information
systems, international business, management, or marketing.

4. Complete course work required in the selected option during the junior-senior years.

5. Complete three different business-oriented experiential learning experiences including the capstone course (MGMT 445, MGMT 446, or IS 448) requirement. A list of courses qualifying to meet this requirement will be prepared annually and is available from the School of Business Administration.

This requirement is reduced as follows for students who have more than 60 transfer credits when entering The University of Montana-Missoula for the first time:

- Students with an initial transfer of 60.1-90 semester credits complete two different business-oriented experiential learning experiences including the capstone requirement (MGMT 445, MGMT 446, or IS 448).

- Students with an initial transfer of more than 90 semester credits complete the experiential learning exposure by fulfilling the capstone requirement (MGMT 445, MGMT 446, or IS 448).

6. Complete the Upper-division Writing Expectation by taking an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog.

7. Complete no fewer than 51 credits in courses in the School of Business Administration. All courses offered by the Department of Economics may count toward the 51-credit requirement. At least fifty percent (50%) of all business credits applied toward the requirements for the business degree must be earned at The University of Montana-Missoula; this includes all economics credits, if they are counted toward the business requirements.

8. Complete no fewer than 60 credits (exclusive of health and human performance activity credits) of work in departments and schools other than the School of Business Administration.

9. Complete at least a total of 120 credits of which at least 39 are at the 300- or 400-level.

10. Please note that not all business courses are offered every academic term.

### Department of Accounting and Finance

**Stanley Earl Jenne, Chair**

The Department of Accounting and Finance prepares ethical and informed decision makers with effective analytical and decision making skills to become leaders in their respective professions. The department offers the Master of Accountancy degree and two undergraduate options within the Bachelor of Science in Business Administration degree: accounting and financial management.

The Master of Accountancy program is designed to prepare ethical and informed decision makers with the potential to become leaders in the profession of accountancy. This program has achieved national recognition due to the outstanding performance of graduates on the uniform CPA examinations. Graduates hold positions in some of the most prestigious accounting firms in the world.

### Accounting Option

The undergraduate accounting option develops competence in the broad range of accounting practices. The curriculum strives to foster critical thinking and problem solving skills. Students are prepared to enter professional positions in accounting with business, nonprofit, or government organizations. In addition they can continue their education in the Master of Accountancy program and/or pursue a variety of professional certifications.

#### Basic Requirements for the Accounting Option

**Required:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 310 Accounting Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 311 Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 312 Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 313 Advanced Accounting Topics</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 421 Cost Management I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 422 Cost Management II</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 431 Income Tax</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 441 Auditing</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 451 Non-Profit Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Students should select, in consultation with their faculty advisor, the 400-level accounting courses from the above list that best fit their individual career goals. Some of these courses may be taught once a year—see advisor for the schedule each academic year.

#### Basic Accounting Prerequisites for the Master of Accountancy

**Required—All courses must be completed with a C or better:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 310 Accounting Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 311 Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 312 Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 313 Advanced Accounting Topics</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 421 Cost Management I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 431 Income Tax</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 441 Auditing</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 451 Non-Profit Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: One 400-level class listed in the Masters requirements above can be taken in the Masters program for graduate credit if it was not taken at the undergraduate level and if taken after admission to the Masters program. In order to complete the Masters program in a timely fashion, it is strongly recommended that only ACCT 451 be taken at the graduate level.

### Financial Management Option

The financial management curriculum is designed to equip students with a comprehensive foundation in financial management, financial markets and investments. Students will gain competence in effective decision making, performing complex analyses, providing expert financial advice and utilizing current technology tools and data sources.

#### Basic Requirements for Financial Management Option

All students must fill out a plan of study during their sophomore year or the first semester of their junior year. The plan of study is available from a finance faculty advisor and must be completed and signed by the faculty advisor.
Failure to implement and adhere to a program of study may delay graduation.

Required: Credits
FIN 420 Investments 3
FIN 424 Financial Markets 3
FIN 429 Financial Management I Theory and Analysis 3
FIN 439 Financial Management II Analysis and Problems 3
Plus one (1) of the following:
FIN 301 Financial Statement Analysis 3
ACCT 311 Intermediate Accounting I 3
ACCT 421 Cost Management I 3
ACCT 422 Cost Management II 3
In addition to the above required courses, financial management option students must take three (3) courses at the 300- or 400-level from a career track selected in consultation with their advisor and incorporated into their program of study. Suggested career tracks include Banking/Investment, Financial Planning/Services, Accounting/Corporate, Economics, Information Sciences, and International Finance. Details are available from advisors.

FIN 228 (Personal Financial Planning and Investment) is a recommended course and will normally be taken before FIN 322. It may be taken concurrently with FIN 322. No student may receive University credit for FIN 228 after FIN 322 is taken. Students who transfer to the University with credit for FIN 322 will not take FIN 228.

Department of Information Systems and Technology

Belva L. Jones, Chair

The Department of Information Systems and Technology offers an option in Information Systems.

Information Systems Option

The information systems curriculum prepares students to manage an organization’s information resources. The option focuses on: 1) analyzing and managing the flows of information within and across the organization’s business processes; 2) effectively managing the acquisition and utilization of information technology; and 3) using both information and information technology to enhance the organization’s strategic advantage.

The knowledge and skills developed in the curriculum lead to careers in programming, systems analysis and design, database administration, e-commerce, telecommunications, network administration, and project management.

Basic Requirements for Information Systems Option

Required: Credits
IS 370 Database Management Systems 3
IS 371 Business Applications Development 3
IS 372 Telecommunications Management 3
IS 373 Systems Analysis and Design 3
IS 476 Project Management 3
Choose two courses (6 credits) from the following: 6
IS 452 Management Science
IS 453 Manufacturing Planning and Control
IS 471 Fundamentals of Network Management
IS 472 Advanced Network Management
IS 474 Quality Management Systems
IS 475 Advanced Technology Support
IS 477 Multimedia Development for Business
IS 478 Development of E-Commerce Systems
IS 495 Special Topics (up to 6 credits)
IS 496 Independent Study
IS 498 Information Systems Internship (up to 3 credits)
MKTG 460 Marketing of High-Technology Products and Innovations
ACCT 310 Accounting Information Systems
C&I 280 Office Technology and Information Design
C&I 441 Advanced Integrated Software Applications
CS 181 Electronic Publishing on the World Wide Web
CS 221 Programming in C & C++
MATH 381 Discrete Optimization
MATH 382 Linear Optimization
NOTE: Students completing their IS option with lower-division classes still must earn a total of 39 upper-division credits to fulfill University requirements.

Department of Management and Marketing

Nader H. Shooshtari, Chair

The Department of Management and Marketing offers three options: International Business, Management, and Marketing. A description of each follows.

International Business Option

The international business option provides students with the opportunity to focus on the managerial, economic, cultural, political and social dimensions that will prepare them for functioning in a global business community.

Basic Requirements for International Business Option

Required: Credits
MGMT 368 International Business 3
MGMT 480 Cross-Cultural Management 3
FIN 473 Multinational Financial Management and Accounting 3
And one of the following: 3
MGMT 465 World Trade and Commerce
MGMT 485 Seminar in Contemporary International Issues
Suggested Course of Study

For all business options:

First Year
- BADM 100S Introduction to Business .................................................. 3
- COMM 111A Introduction to Public Speaking ................................................... 3
- CS 172 Computer Modeling ........................................................................ 3
- ECON 111S Microeconomics ...................................................................... 3
- ECON 112S Macroeconomics ..................................................................... 3
- ENEX 101 Composition .................................................................................. 3
- MATH 117 Probability and Linear Math ......................................................... 3
- Electives and General Education ................................................................. 3-6

Second Year
- ACCT 201 Financial Accounting .................................................................. 3
- ACCT 202 Managerial Accounting ................................................................. 3
- MATH 241 Statistics ....................................................................................... 3
- BADM 257 Business Law .............................................................................. 3
- IS 270 Quantitative Business Applications ................................................... 3
- Electives and General Education ................................................................. 8-6

15 15

Individual programs may differ from the suggested course of study to better accomplish the needs of the particular student.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Courses at the 500 and 600 levels are open only to graduate students admitted to degree programs.

Accounting (ACCT)

U 196 Independent Study Variable cr. (R-3) Offered every term. Prereq., consent of instr.

U 201 Financial Accounting 3 cr. Offered every term. Prereq., Math 117 or consent of instr. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.

U 202 Managerial Accounting 3 cr. Offered every term. Prereq., ACCT 201. Continuation of ACCT 201 with a focus on managerial accounting topics.

U 295 Special Topics 1-6 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 298 Cooperative Education Experience Variable cr. (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study.

U 310 Accounting Information Systems 3 cr. Offered autumn and spring. Prereq., ACCT 202, CS 172 and junior standing in Business. Focus on manual and computer accounting systems, including understanding internal control and security issues. Topics include database and spreadsheet applications, using Internet resources, and current technology advances.

U 311 Intermediate Accounting I 3 cr. Offered autumn and spring. Prereq., junior standing in Business, ACCT 201 and 202 or consent of instr. Topics include concepts in

Basic Requirements for Management Option

Four (4) courses from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT 344 Human Resource Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 348 Entrepreneurship</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 368 International Business</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 395 or 495 Special Topics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 440 Business and Society</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 444 Management Communication</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 480 Cross-Cultural Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 483 Commercial Recreation, Marketing and Tourism*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 485 Fundamentals of Media Arts Production</td>
<td>3</td>
<td></td>
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<tr>
<td>CS 181 Electronic Publishing on the World Wide Web</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

*Please check courses descriptions for prerequisites.

NOTE: Students competing their marketing option with lower-division classes still must earn a total of 39 upper-division credits to fulfill University requirements.

Basic Requirements for Marketing Option

Required:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MKTG 362 Consumer Behavior</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MKTG 363 Marketing Communication</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MKTG 366 Marketing Research</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MKTG 461 Marketing Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Six (6) credits from the following:</td>
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<td></td>
</tr>
<tr>
<td>MKTG 369 Advertising Competition</td>
<td>3-6</td>
<td></td>
</tr>
<tr>
<td>MKTG 395 or 495 Special Topics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MKTG 398 or 498 Marketing Internship</td>
<td>3-6</td>
<td></td>
</tr>
<tr>
<td>MGMT 368 International Business</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 348 Entrepreneurship</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 440 Business and Society</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 444 Management Communication</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MKTG 460 Marketing of High-Technology Products and Innovations</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 480 Cross-Cultural Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IS 370 Database Management Systems</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IS 372 Telecommunications Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSYC 350 Social Psychology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>RECM 483 Commercial Recreation, Marketing and Tourism*</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MAR 111A Fundamentals of Media Arts Production</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CS 181 Electronic Publishing on the World Wide Web</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Plus any combination of 9 credits, approved by the business school’s international faculty advisor, and selected from internationally-focused courses, an international exchange, an international internship, or a study abroad program. Students should consider an area/cultural focus, such as Japan, China, Western Europe, Central Europe, Eastern Europe.

Plus four semesters or the equivalent (as determined by the Department of Modern and Classical Languages and Literatures) of any one foreign language is required. It is recommended that students complete the foreign language by the end of their junior year.

Management Option

The management option is designed to provide students with the interpretative, analytical, and integrative skills required in managerial positions in a variety of business and nonprofit organizations.

Marketing Option

The marketing option provides students with knowledge and skills required in the process of marketing products, services, or ideas. The contemporary role of marketing in society is treated from various perspectives, including functional and institutional analysis, along with the application of decision making tools.
U 311 Intermediate Accounting II 3 cr. Offered autumn and spring. Prereq., junior standing in Business, ACCT 311 or consent of instr. Continuation of ACCT 311. Topics include concepts in financial accounting, coverage of the liability and equity side of the balance sheet, the cash flow statement, and several special financial accounting topics.

U 313 Advanced Accounting Topics 3 cr. Offered autumn or spring. Prereq., junior standing in Business; ACCT 311 or consent of instr. Application of accounting principles to partnerships, foreign currency transactions and translations, accounting for income taxes, post-retirement benefits, accounting changes and other accounting topics.

U 394 Undergraduate Seminar Variable cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

UG 421 Cost Management I 3 cr. Offered autumn. Prereq., senior standing in Business or consent of instr. The study of cost management for business and other organizations. Emphasis on how information about costs helps managers make better decisions.

UG 422 Cost Management II 3 cr. Offered spring. Prereq., senior standing in Business and ACCT 421 or consent of instr. Advanced cost management with emphasis on how financial and non-financial information helps managers in a wide variety of business and not-for-profit organizations make better decisions. Current readings in cost management and related topics

UG 431 Income Tax 3 cr. Offered autumn or spring. Prereq., junior standing in Business, ACCT 312 or consent of instr. The application of the federal income tax law to determine income, deductions and losses. Special topics include property transactions.

UG 441 Auditing 3 cr. Offered autumn or spring. Prereq., junior standing in Business, ACCT 312 or consent of instr. Introduction to auditing with emphasis on the independent audit of financial statements. Coverage includes professional standards, ethics, audit risk, evidence, internal controls, procedures, opinions, operational and compliance auditing.

UG 451 Government/Non-Profit Accounting 3 cr. Offered autumn or spring. Prereq., junior standing in Business and ACCT 312 or consent of instr. Principles of accounting and financial reporting for governmental units, hospitals, the federal government, and other non-profit organizations.

UG 461 Accounting Leadership 1-6 cr. (R-6) Offered autumn or spring. Prereq., junior standing in Business and consent of instr. Leadership training for students holding positions of responsibility in professional accounting organizations, to include conducting meetings, delegation, committees, motivating others, following through on assignments and evaluating performance.

UG 494 Seminar Variable cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

UG 495 Special Topics Variable cr. (R-9) Offered autumn and spring. Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study Variable cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

U 498 Accounting Internship Variable cr. (R-9) Offered every term. Prereq., junior standing in Business and consent of instr. Students are placed with private or governmental organizations to receive on-the-job training. Written reports are required.

G 509 Financial Reporting and Control 3 cr. Offered autumn. Prereq., admission or application to M.B.A. or M.Acct. programs. Reporting and using financial information of an enterprise, with a focus on internal and external decision-making. Topics include analysis and recording financial transactions, understanding how these events affect financial statements, and using quantitative tools for internal decision-making.

G 611 Consolidated Financial Statements 2 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, Business core, accounting core, and graduate student in Business or consent of accounting graduate director. The equity method of accounting for investments, accounting for acquisitions, non-controlling interest, intercompany transfers, intercompany debt and other consolidation issues.

G 615 Accounting Theory 3 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, Business core, accounting core, and graduate student in Business or consent of accounting graduate director. A critical analysis of the concepts underlying the development and application of financial accounting in the United States. Coverage of current accounting standards as well as other current topics in financial accounting.

G 631 Advanced Tax 3 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, ACCT 431, graduate student in business or consent of accounting graduate director. The application of the federal income tax law to corporations and partnerships, and special problems associated with taxation of trusts, estates and gifts.

G 641 Advanced Auditing 3 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, ACCT 441, graduate student in business or consent of accounting graduate director. Research cases in auditing and coverage of contemporary topics in auditing, typically including attestation standards, other reports and services, legal and ethical environment, and fraud detection.

G 656 Accounting Information Systems Topics 1-3 cr. (R-3) Offered autumn or spring. Prereq., graduate student in business. Selected topics addressing information systems issues as they relate to accounting. Selected topics may include systems auditing, expert systems, databases, specific accounting applications, report design, electronic transactions, and internal controls.

G 661 Accounting Law and Ethics 3 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, Business core and graduate student in business or consent of accounting graduate director. Legal issues from the common law and appropriate statutes applicable to the public practice of accounting. The professional responsibilities and ethics of a practicing CPA.

G 675 Contemporary Accounting Problems 4 cr. Offered summer. Prereq. or coreq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, ACCT 611, 615, 631, 641, and 661. Integration of accounting
theory and practice. Primarily for the student preparing to take the uniform CPA examination. Graded only on pass/not pass basis.

G 694 Seminar 3 cr. (R-15) Offered every term. Prereq., graduate student in business or consent of business graduate director. Selected topics in accounting.

G 696 Independent Study Variable cr. (R-9) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Directed study of individual or small groups of students in topics not available in scheduled classes.

G 698 Internship Variable cr. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Placements with private or governmental organizations for practical training. Written reports required. Grade option pass/not pass only.

G 699 Thesis Variable cr. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director.

Business Administration (BADM)

U 100S Introduction to Business 3 cr. Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit not allowed for both BADM 100S and BUS 103S.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196 Independent Study Variable cr. (R-6) Offered intermittently.

U 257 Business Law 3 cr. Offered every term. An analysis of the legal and ethical implications of domestic and international commercial transactions.

U 295 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Finance (FIN)

U 228 Personal Financial Planning and Investment 3 cr. Offered spring. Concepts, strategies and techniques in analyzing financial situations and investment opportunities from the individual’s perspective. Cannot be taken for credit after completing FIN 322 or equiv.

U 298 Cooperative Education Experience Variable cr. (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study.

U 301 Analysis of Financial Statements 3 cr. Offered intermittently. Prereq., junior standing in Business, ACCT 201. Analysis of balance sheets, income and cash flow statements and statements of owners’ equity in terms of structure, strategy and performance of the company being analyzed. Emphasis is on the use rather than preparation of financial statements.

U 321 Real Estate Fundamentals 3 cr. Offered intermittently. Prereq., junior standing in Business or consent of instr. Introduction to the principles and practices of real estate. Includes the study of real estate law, financing, valuation, brokerage and land use.

U 322 Business Finance 3 cr. Offered every term. Prereq., junior/senior/graduate standing; ACCT 201, ACCT 202, ECON 111S and ECON 112S or consent of instr. The methodology and practice of business financial decisions.

U 331 Income Tax for Managers 3 cr. Offered intermittently. Prereq., ACCT 201. Tax issues and concepts which affect management decisions in areas such as business form, capital budgeting, dividend policy, investment and the like. For non-accounting business students.

U 394 Undergraduate Seminar Variable cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-6) Offered autumn and spring. Prereq., junior standing in Business and consent of instr.

U 410 $50,000 Portfolio 3 cr. Offered autumn. Prereq., junior standing in Business, FIN 322, and consent of department chair. Under the guidance of a broker, students manage a diversified investment portfolio for a semester. Students analyze and discuss investment opportunities and implement their decisions.

U 420 Investments 3 cr. Offered autumn. Prereq., junior standing in Business, FIN 322 or consent of instr. Principles, practices and methodology in investment analysis and portfolio management.

U 424 Financial Markets 3 cr. Offered spring. Prereq., junior standing in Business, FIN 322 and ECON 112S or consent of instr. Operations and analysis of the national and international money and capital markets, and financial institutions.

U 429 Financial Management I: Theory and Analysis 3 cr. Offered autumn. Prereq., junior standing in Business, FIN 322 or consent of instr. Understanding the practice of business investment and working capital decisions. Computer models and cases used to demonstrate the management process.

U 439 Financial Management II: Analysis and Problems 3 cr. Offered spring. Prereq., junior standing in Business, FIN 322 or consent of instr. Raising capital, capital structure issues and debt and equity markets.

U 450 Banking 3 cr. Offered spring. Prereq., junior standing in Business, FIN 322, or consent of instr. The financial management of banking institutions including financial analysis, interest rate risk and loan portfolio management. Students manage a bank within a simulated bank community.

U 473 Multinational Financial Management and Accounting 3 cr. Offered spring. Prereq., junior standing in Business, FIN 322, ACCT 202, MGMT 368. Financial skills required of corporate executives in international business. Topics may include: differences in global accounting and analytical methods, valuation and the resulting effects on multinational corporations.

U 494 Seminar Variable cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

U 495 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 496 Independent Study Variable cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

U 498 Finance Internship Variable cr. (R-9) Offered every term. Prereq., junior standing in Business and consent of instr. Students are placed with private or governmental organizations to receive on-the-job training. Written reports are required.

G 522 Principles of Financial Analysis 3 cr. Offered spring. Prereq., admission or application to M.B.A. or M.Acct. programs; ACCT 509. Introduction to principles of microeconomics and financial management and the application of these principles to business decisions. Topics include supply and demand, market demand, theory of the firm, theories of competition, financial analysis, time value of money, theories of risk and return, stock and bond valuation and capital budgeting.

G 694 Seminar Variable cr. (R-15) Offered intermittently. Prereq., graduate student in business or consent of business graduate director. Selected topics in finance.

Information Systems (IS)

U 195 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196 Independent Study 1-3 cr. (R-3) Offered every term. Prereq., consent of instr.

U 270 Quantitative Business Applications 3 cr. Offered every term. Prereq., CS 172 and MATH 241. Introduction to the computer-based information systems used in business. Provides proficiency in a number of quantitative computer-based information tools used in upper-division courses. Graded only on pass/not pass basis.


U 282 Implementing Core Server Technologies 2 cr. Offered intermittently. Prereq., IS 281 or consent of instr. Advanced information systems issues and heterogeneous network environments.

U 283 Implementing and Designing Advanced Network Infrastructures 2 cr. Offered intermittently. Prereq., IS 282 or consent of instr. Implementation of complex networks in medium to large-sized organizations.

U 284 Implementing and Designing a Directory Services Infrastructure 2 cr. Offered intermittently. Prereq., IS 283 or consent of instr. Implementation of directory services in a large heterogeneous network environment.

U 296 Independent Study 1-3 cr. (R-3) Offered every term. Prereq., consent of instr.

U 298 Cooperative Education Experience 1-3 cr. (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study.

U 341 Systems and Operations 3 cr. Offered every term. Prereq., junior standing in Business and IS 270. Survey course bridging the gap between the design and the utilization of information systems in the enterprises operations function.

U 341 Database Management Systems 3 cr. Offered autumn. Prereq., junior standing in Business and IS 270. Information systems design and implementation within a database management system environment. Topics include data models, structured and object design, relational, hierarchical, network and object-oriented models.

U 371 Business Application Development 3 cr. Offered autumn. Prereq., junior standing in Business and IS 270. Provides an understanding of algorithm development, programming, computer concepts and the design and application of data and file structures.

U 372 Telecommunications Management 3 cr. Offered spring. Prereq., junior standing in Business and IS 270. Provides in-depth knowledge of data communications and networking requirements including telecommunications technologies, hardware and software. Emphasis on the analysis and design of networking applications in business.

U 373 Business Systems Analysis and Design 3 cr. Offered spring. Prereq., junior standing in Business and IS 270. Provides an understanding of the systems development and modification process including requirements determination, logical design, physical design, test planning, implementation planning and performance evaluation.

U 394 Undergraduate Seminar Variable cr. (R-3) Offered intermittently. Prereq., junior standing in Business and consent of instr.

U 395 Special Topics 1-9 cr. (R-9) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study 1-6 cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

U 448 Management Game 3 cr. Offered autumn and spring. Prereq., senior standing in Business, all business core, or consent of instr. Simulation of a large business organization in which students make executive-level decisions in the areas of production, marketing, finance, human resources and organization.

U 452 Management Science 3 cr. Offered intermittently. Prereq., junior standing in Business, IS 341, or consent of instr. Study of the theory and application of management science techniques including mathematical programming and simulation.

U 453 Manufacturing Planning and Control Systems 3 cr. Offered intermittently. Prereq., IS 341, junior standing in Business, or consent of instr. Principles and techniques of production scheduling and inventory control. Systems for setting strategic and tactical objectives, accomplishing detailed material and capacity plans, and establishing and executing shop floor priorities.

U 471 Fundamentals of Network Management 3 cr. Offered intermittently. Prereq., junior standing in Business and IS 372. Current topics will focus on the design, installation, configuration, and operation of local area networks. Includes a hands-on lab to demonstrate the concepts.

U 472 Advanced Network Management 3 cr. Offered intermittently. Prereq., junior standing in Business, IS 372, and IS 471. Focuses on network security, directory services, and network infrastructure. Includes a hands-on lab to demonstrate the concepts.

U 474 Quality Management Systems 3 cr. Offered intermittently. Prereq., junior standing in Business and IS 270. Focus on the primary objectives of world class organizations, i.e., teamwork, customer focus and continuous improvement. TQM, JIT, and SPC are discussed in detail.

U 475 Advanced Technology Support 3 cr. Offered autumn. Prereq., junior standing in Business and consent of instr. Project oriented class covering varying aspects of technical support in a business environment. Topics may
include hardware and software support, helpdesk operations, operating systems, AS400 operations, and local and wide area networking.

U 476 Project Management 3 cr. Offered spring. Prereq., junior standing in Business and IS 270, 370, 371 and 373. Focuses on project planning, team selection models, and network management techniques. An innovative software package is used to demonstrate how projects are planned, managed, monitored, and controlled.

U 477 Multimedia Development for Business 3 cr. Offered intermittently. Prereq., junior standing in Business and consent of instr. Focus on high-tech multimedia tools to develop marketing and promotional materials for a business or organization.

U 478 Development of E-Commerce Systems 3 cr. Offered intermittently. Prereq., junior standing in Business, IS 370 and 371. Focuses on using high-tech computer technology to develop systems for conducting and supporting business through the Internet. Students will develop e-commerce enabled web sites.

U 494 Seminar 1-6 cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

U 495 Special Topics 1-9 cr. (R-9) Offered autumn and spring. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-6 cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

U 498 Information Systems Internship 1-9 cr. (R-9) Offered every term. Prereq., junior standing in Business and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 541 Systems and Operations 3 cr. Offered spring. Design and use of information systems to meet the tactical and strategic needs of an enterprise, particularly within the operations function. Topics include systems analysis, data and process modeling, database designs, manufacturing planning and control, forecasting, and quality management.

Management (MGMT)

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196 Independent Study Variable cr. (R-3) Offered every term. Prereq., consent of instr.

U 296 Independent Study Variable cr. (R-3) Offered every term. Prereq., consent of instr.

U 298 Cooperative Education Experience Variable cr. (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study.

U 340S Management and Organizational Behavior 3 cr. Offered every term. Prereq., junior standing in Business. An intensive examination of the fundamentals of management and organization supported by the application of behavioral science principles to the management of people in organizations.

U 344 Human Resource Management 3 cr. Offered every term. Prereq., junior standing in Business, MGMT 340S; PSYC 100S recommended. Examines the personnel function in business organizations, with emphasis on staffing, equal opportunity employment, job design, training and development, performance appraisal, compensation, and labor-management relations. Includes case analyses and experiential exercises.

U 348 Entrepreneurship 3 cr. Offered autumn and spring. Prereq., junior standing in Business, FIN 322, MGMT 340S, MKTG 360. Focuses on starting and managing a growing business. Topics include recognizing business opportunities, setting strategy for the firm, raising capital, marketing new products, and organizing a management team. Students write a business plan for themselves or for a local entrepreneur.

U 368 International Business 3 cr. Offered every term. Prereq., junior standing in Business. Analysis of business in diverse parts of the globe. Examines the impact of socio-economic, political, legal, educational, and cultural factors on management.

U 394 Undergraduate Seminar Variable cr. (R-3) Offered intermittently. Prereq., junior standing in Business and consent of instr.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-6) Offered every term. Prereq. junior standing in Business and consent of instr.

U 440 Business and Society 3 cr. Offered autumn and spring. Prereq., junior standing in Business. Business organizations and their relationship to the external environment and various stakeholders. Focuses on responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values.

U 444 Management Communications 3 cr. Offered autumn and spring. Prereq., junior standing in Business. Focuses on internal and external business communications. Selected topics include: developing communications strategies, designing and conducting communications audits, selecting appropriate message vehicles, orchestrating presentations, and management press relations.

U 445 Small Business Management and Strategic Planning 3 cr. Offered autumn and spring. Prereq., senior standing in Business, all business core. Application of the concepts of strategic management to small businesses. Integrates the functional areas of management, marketing, finance and accounting. Students work with local businesses in a consulting role and are required to write a consulting report. Credit not allowed for both MGMT 445 and 446.

U 446 Strategic Management 3 cr. Offered every term. Prereq., senior standing in Business, all business core. Integration of the functional areas of management, marketing, finance and accounting. Heavy case orientation, class discussions. Industry and competitor analysis and strategy formulation. Credit not allowed for both MGMT 446 and 445.

U 449 Business Plan Implementation 3 cr. Offered spring. Prereq., senior standing in Business; MGMT 348 or an MBA seminar in entrepreneurship. Development and implementation of a business plan through the complete sequence of steps required for financing and actual startup of a business enterprise.

U 465 World Trade and Commerce 3 cr. Offered every term. Prereq., junior standing in Business and consent of instr. A practical hands-on approach to understanding the
complexities and intricacies of successfully working in the new global marketplace. Classes are supported by work assignments at the Montana World Trade Center.

**UG 480 Cross-Cultural Management 3 cr. Offered autumn.** Prereq., junior standing in Business, MGMT 368. Study of issues related to cultural diversity within the workplace and the problems inherent in the management of a firm’s activities on an international scale.

**UG 485 Seminar in Contemporary International Issues 3 cr. Offered spring.** Prereq., junior standing in Business, MGMT 368; recommended prereq., FIN 473, MGMT 480. Focus on the application, synthesis and integration of business concepts in the international business community.

**UG 494 Seminar Variable cr. (R-6) Offered intermittently.** Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 496 Independent Study Variable cr. (R-6) Offered every term.** Prereq., junior standing in Business and consent of instr.

**U 498 Management Internship Variable cr. (R-9) Offered every term.** Prereq., junior standing in Business and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

**G 540 Management and the Legal System 3 cr. Offered summer.** Prereq., admission or application to the M.B.A. or M.Acct. programs. Basic management principles, exploration of concepts such as strategic planning, goal-setting and giving feedback, leadership, motivation, and reward systems. Law as it relates to operating in the global environment; ethical dimensions of business decision-making.

**G 595 Special Topics 1-9 cr. (R-9) Offered intermittently.** Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**Marketing (MKTG)****

**U 195 Special Topics 1-6 cr. (R-6) Offered intermittently.** Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 196 Independent Study 1-3 cr. (R-3) Offered every term.** Prereq., consent of instr.

**U 296 Independent Study 1-3 cr. (R-3) Offered every term.** Prereq., consent of instr.

**U 298 Cooperative Education Experience 1-3 cr. (R-3) Offered every term.** Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study.

**U 360 Marketing Principles 3 cr. Offered every term.** Prereq., junior standing in Business. The marketing environment product, price, distribution, and promotion strategies including government regulation and marketing ethics.

**UG 362 Consumer Behavior 3 cr. Offered autumn and spring.** Prereq., junior standing in Business and MKTG 360; PSYC 100S and 240S recommended. A behavioral analysis of consumer decision making and of the factors influencing consumer decisions, i.e., those decisions directly involved with the obtaining of economic goods and services.

**UG 363 Marketing Communications 3 cr. Offered autumn and spring.** Prereq., junior standing in Business, MKTG 360. An integrated course in promotion strategy. Topics include advertising message design, media selection, promotions, public relations, personal selling, and other selected topics.

**UG 366 Marketing Research 3 cr. Offered autumn and spring.** Prereq., junior standing in Business, MATH 241, MKTG 360. Emphasis on data acquisition and analysis for improved decision making in marketing. Topics include problem definition; secondary data; primary data via observation, interrogation and experimentation; data analysis; written and oral reports. May include field project.

**U 369 Advertising Competition 3 cr. (R-6) Offered autumn and spring.** Prereq., junior standing in Business, MKTG 360, MKTG 362, 363, 366; or consent of instr. An experiential course in the strategy, research, and execution of an integrated marketing communications plan. Students’ work culminates in the American Association of Advertising’s National Student Advertising Competition.

**U 394 Undergraduate Seminar 1-3 cr. (R-3) Offered intermittently.** Prereq., junior standing in Business and consent of instr.

**U 395 Special Topics 1-9 cr. (R-9) Offered intermittently.** Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 396 Independent Study 1-6 cr. (R-6) Offered every term.** Prereq., junior standing in Business and consent of instr.

**UG 460 Marketing of High-Technology Products and Innovations 3 cr. Offered autumn.** Prereq., MKTG 360; marketing option or consent of instr. Exploration of concepts and practices related to marketing in fast-paced environment; draws from a range and diversity of industries and contexts including the Internet.

**UG 461 Marketing Management 3 cr. Offered autumn and spring.** Prereq., senior standing in Business; MKTG 360, 362, 363, 366 or consent of instr. Case analysis in marketing management.

**UG 494 Seminar 1-6 cr. (R-6) Offered intermittently.** Prereq., junior standing in Business and consent of instr.

**UG 495 Special Topics 1-9 cr. (R-9) Offered autumn and spring.** Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 496 Independent Study 1-6 cr. (R-6) Offered every term.** Prereq., junior standing in Business and consent of instr.

**U 498 Marketing Internship 1-9 cr. (R-9) Offered every term.** Prereq., junior standing in Business and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

**G 560 Marketing and Applied Business Statistics 3 cr. Offered autumn.** Prereq., admission or application to the M.B.A. or M.Acct. programs. Introduction to marketing principles to create long-term competitive advantage for an organization. Topics include environmental analysis, marketing planning, segmentation analysis, target marketing, and planning for product, price, promotion and distribution. Business statistics covered including cross-tabs, z-statistics, and the central limit theorem, analysis of variance, regression and correlation analysis.; statistics in context of marketing research and marketing problems.
Master of Business Administration (MBA)

G 601 Career and Leadership Skills Seminar 1 cr.
Offered autumn during orientation week. Prereq., admission to the M.B.A. or M.Acct. programs. Provides an intensive orientation and introduction to behavioral skills required to excel in the M.B.A. program and one's business career; structured to create a sense of community among students and faculty and set expectations for future class involvement. Graded only on a pass/no pass basis.

G 602 The Contemporary Organization 3 cr. Offered autumn. Prereq., admission to the M.B.A. or M.Acct. programs. Provides an integrated framework to apply concepts and tools from 500-level foundation courses; covers both role of strategy and role of information systems as integrating themes for the various functional areas of a business such as marketing, operations management, finance and accounting.

G 603 Integrated Project 1 cr. Offered spring. Prereq., MBA 602 and admission to the M.B.A. or M.Acct. programs. Written paper to be developed around a company's successful or failed attempt at establishing a sustainable competitive advantage, paying particular attention to the role that business strategy and information systems played in the outcome.

G 605 Administrative Controls 2 cr. Offered spring. Prereq., admission to the program. The application of accounting information to managerial and/or financial decision-making.


G 645 Interpersonal Perspective Seminar Variable cr. (R-12) Offered every term. Prereq., admission to the M.B.A. or M.Acct. program. Selected topics covering leadership theory and practice, ethics in the workplace, and managerial processes such as motivation, communication, conflict resolution, negotiations, team building, critical thinking, goal setting, and building workforce commitment.

G 650 Quantitative Analysis 2 cr. Offered spring. Prereq., admission to the M.B.A. or M.Acct. programs. Quantitative methods supporting managerial decision-making. Theory and logic underlying such methods as linear programming and simulation. Solution of complex problems and practice of interpersonal skills in team projects.

G 655 Technology Perspective Seminar Variable cr. (R-12) Offered every term. Prereq., admission to the M.B.A. or M.Acct. programs. Contemporary issues in information technology with emphasis on how technology is used in business organizations. Topics vary each term and may include electronic commerce on the Internet, decision support technology, electronic media support, advanced spreadsheet applications, accounting applications and quality control systems.

G 660 Marketing Management 2 cr. Offered autumn. Prereq., admission to the M.B.A. or M.Acct. programs. Marketing decisions faced in a variety of business settings including large corporations, small businesses and not-for-profit organizations.

G 665 Strategic Management Seminar 2 cr. Offered spring. Prereq., admission to the M.B.A. or M.Acct. programs and MBA 602, 603, 640, 660, and 681 or consent of instr. Analysis of the firm within its industry and the structure of the industry; competitive positioning and competitor analysis; decision-making under conditions of uncertainty; developing a competitive advantage in international markets.


G 685 International Business 2 cr. Offered spring. Prereq., admission to the M.B.A. or M.Acct. programs and MBA 602, 603, 640, 660, and 681 or consent of instr. Review and analysis of international trade theories and institutions, the role of the multinational enterprise (MNE) in global trade and how the MNEs operate in a global setting.

G 694 Seminar Variable cr. (R-15) Offered every term. Prereq., graduate student in business or consent of business graduate director. Selected topics in business.

G 696 Independent Study Variable cr. (R-9) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Directed study of individual or small groups of students in topics not available in scheduled classes.

G 698 Internship Variable cr. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Placements with private or governmental organizations for practical training in business. Written reports required. Grade option pass/not pass only.

G 699 Thesis Variable cr. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director.

Faculty

Professors
Aaron W. Andreason, Ph.D., Brigham Young University; 1975
Teresa K. Beed, Ph.D., University of Colorado, 1981; C.P.A., Montana, 1973 (Director, M.Acct. Program)
Mary Ellen Campbell, M.A., University of Illinois, 1969
Gerald E. Evans, Ph.D., Claremont Graduate School, 1985
Maureen J. Fleming, Ph.D., Southern Illinois University, 1969
Jerry L. Furniss, J.D., University of Idaho, 1980
Larry D. Gianchetta, Ph.D., Texas A & M, 1974 (Dean)
Stanley E. Jenne, Ph.D, University of Illinois-Urbana, 1982; C.P.A., Utah, 1988; C.F.E., 1997 (Chair, Department of Accounting and Finance)
Timothy A. Manuel, Ph.D., University of South Carolina, 1988
Jack K. Morton, J.D., The University of Montana, 1971
Clyde W. Neu, Ph.D., University of Minnesota, 1973 (Director, MBA Program)
Paul E. Polzin, Ph.D., Michigan State University, 1968 (Director, Bureau of Business and Economic Research)
Stephen F. Seninger, Ph.D., Washington University, 1971 (Chair, Department of Management and Marketing)
Nader H. Shoosharti, Ph.D., Arizona State University, 1983 (Chair, Department of Management and Marketing)
Lee N. Tangedahl, Ph.D., University of Colorado, 1976
Joseph A. Weber, Ph.D., University of Minnesota, 1983; C.P.A., Montana, 1975
Associate Professors
Carol L. Bruneau, Ph.D., University of Arizona, 1997
Barbara Chaney, Ph.D., University of Georgia, 1997
Anthony J. Crawford, Ph.D., Pennsylvania State University, 1993
Terri L. Herron, Ph.D., University of Texas at Arlington, 1996; C.P.A., Texas, 1987; C.I.S.A., 2000
Belva L. Jones, Ph.D., Oklahoma State University, 1976 (Chair, Department of Information Systems and Technology)
Jaki J. Mohr, Ph.D., University of Wisconsin-Madison, 1989
Jeffrey P. Shay, Ph.D., Cornell University, 1999

Assistant Professors
Bruce Costa, Ph.D., Florida State University, 2000
Bambi M. Douma, Ph.D., University of Arizona, 2003
David R. Firth, Ph.D., University of California, Los Angeles, 2003
Michael V. Harrington, J.D., The University of Montana, 1990
Keith J. Jakob, Ph.D., University of Utah, 2000
Fengru Li, Ph.D., University of Washington, 1996

Adjunct Associate Professor
Charles E. Keegan, M.S., The University of Montana, 1976 (Bureau of Business and Economic Research)

Emeritus Professors
Paul B. Blomgren, D.B.A., Indiana University, 1952 (Dean Emeritus)
Bernard J. Bowlen, Ph.D., Iowa State University, 1954 (Malmstrom Air Force Base)
Bruce P. Budge, Ph.D., University of Minnesota, 1968; C.P.A., Idaho, 1973
Gary L. Cleveland, Ph.D., University of Minnesota, 1986
Robert J. Connole, Ph.D., University of Iowa, 1968
Richard T. Dailey, Ph.D., Pennsylvania State University, 1968
Robert W. Hollmann, Ph.D., University of Washington, 1973
Maxine C. Johnson, M.A., The University of Montana, 1952 (Director, Bureau of Business and Economic Research; Emeritus)
Jack J. Kempner, Ph.D., Ohio State University, 1956; C.P.A., Montana, 1957
Thomas J. Steele, Ph.D., Pennsylvania State University, 1974
Norman E. Taylor, Ph.D., University of Minnesota, 1955
David W. Weber, Ph.D., University of Colorado, 1973
Richard P. Withycombe, Ph.D., University of Oregon, 1972
School of Education

Paul M. Rowland, Dean
Sharon Dinkel Uhlig, Associate Dean

The School of Education is comprised of three academic departments—Curriculum and Instruction, Educational Leadership and Counseling, and Health and Human Performance—and The Division of Educational Research and Service (DERS). Its mission is as follows:

The School of Education shapes professional practices that contribute to the development of human potential. We are individuals in a community of lifelong learners, guided by respect for knowledge, human dignity, and ethical behavior. We work together producing and disseminating knowledge to advance the physical, emotional, and intellectual health of a diverse society.

The School of Education operates as the coordinating unit for the pre-service preparation of elementary and secondary teachers. The Departments of Curriculum and Instruction and Educational Leadership and Counseling prepare professionals for careers in education with Bachelor’s, Master’s, Education Specialists, and Doctor of Education programs. These programs are organized to foster the development of learning communities and incorporate three basic themes: integration of knowledge and experience; cooperation among participants; and inclusiveness, caring, and respect for others. The above programs are accredited at all levels by the National Council for Accreditation of Teacher Education.

The Department of Health and Human Performance and the Counselor Education program both prepare professionals for careers in human service professions. Via its Bachelor and Master of Science degrees, the Department of Health and Human Performance prepares students in the areas of athletic training, exercise science, exercise and performance psychology, and health promotion/education. The National Athletic Training Association approved option in athletic training is accredited by the Commission on Accreditation of Allied Health Education Programs. Students pursuing the Master of Arts in Counselor Education are prepared to work in a variety of community/agency settings. Upon completion of the program, graduates are prepared to sit for the Licensed Practical Counselor or Licensed Practical Clinical Counselor examination.

Central to its research and outreach efforts with P/K-12 schools, the School of Education’s Division of Educational Research and Service (DERS) designs, evaluates, and disseminates programs that support the well-being of students and communities. Since 1957, DERS has collaborated with numerous local, state, national, and federal organizations to provide effective, data-driven research models that enhance the social development and academic achievement of all learners. Externally sponsored teaching, research, and service activities are central to DERS. In addition, the School of Education supports a Preschool Laboratory, Preschool Program, Health and Human Performance Laboratory and Technology Resource Center. These centers offer enhanced opportunities for student involvement and learning.

Specific program options within the School of Education are described below and in the various departmental sections of this catalog. The Web address for the School of Education is http://www.soe.umt.edu.

Department of Curriculum and Instruction

Carolyn J. Lott, Chair

The Department of Curriculum and Instruction offers the Bachelor of Arts in Education degree and certification/licensure in elementary education and in business education. As well, it offers certification/licensure in a wide range of secondary programs for students who are earning or already have completed the baccalaureate degree in their chosen field(s) of interest. At the graduate level, the department offers the master’s and doctoral degrees in curriculum and instruction. Programmatic themes across all levels include integration of instruction, collaborative learning, and respect for the individual. The Web address for the Department of Curriculum and Instruction is http://www.soe.umt.edu/cni/default.php.

Graduate Programs

The department offers the Master of Education (M.Ed.) in curriculum and instruction. Students select from one of the following options: curriculum studies, elementary education, library-media services, literacy education, secondary education and special education. Students may earn the master’s degree in combination with requirements for licensure at the elementary and secondary levels. This option is explained further below. The department also offers the Doctor of Education (Ed.D.) in curriculum and instruction. Information about these programs is available from the department office, UM Graduate Programs and Admissions Catalog, and online: www.soe.umt.edu/cni/graduate.php.

Teacher Preparation

Students preparing to teach in elementary school complete a major in elementary education. Prior to admission to the Teacher Education Program, usually at the end of the sophomore year, students are considered pre-education majors and are advised by the Academic Advising Office. Upon admission to the program, students are considered elementary education majors and are advised within the department. Students preparing to teach business education at the middle and high school level complete a major in education and are advised within the department. Students preparing to teach any other subject at the middle or high school level will major in the subject area(s) they wish to teach, e.g., English or mathematics. They are advised within their major department and, upon admission to the Teacher Education Program, they also are advised within the Department of Curriculum and Instruction. All secondary certification students seek admission to the Teacher Education Program, usually at the end of the sophomore year, and complete course work required for licensure in their chosen field(s). Applicants for state licensure must: (1) satisfy all course, credit, and degree requirements as outlined below; and (2) be at least 18 years of age.
Master’s Degree and Initial Licensure

Degree-holding students may elect to apply to the department’s Graduate Program and combine the master’s degree in curriculum and instruction (curriculum studies option) with licensure to teach. This option is available to elementary and secondary teacher candidates.

At the secondary level, the program may be completed in a summer-autumn-spring-summer sequence provided the student has completed previously most of the content courses listed on the following pages by subject area. At the elementary level, the program typically takes two years.

Admission to the Teacher Education Program

All students seeking licensure to teach apply for admission to the Teacher Education Program. Admission is limited each academic year to approximately 125 elementary and 125 secondary candidates. Deadlines for application are September 15 and February 15. To be eligible for admission a student must have (1) completed 30 semester credits of college-level work; (2) attained a minimum cumulative grade point average (GPA) of 2.75, including all transfer credits; and (3) earned at least a C- in both an English composition course and an introductory psychology course. In application to the Teacher Education Program, students submit an essay writing sample, document formal experiences working with children and youth, and present recommendations from two faculty members who are familiar with their work as students. Applicants should note that meeting minimum eligibility requirements does not assure acceptance into the Teacher Education Program. The Teacher Education Policy Packet that contains the policy handbook and the application is available from the UC Bookstore and online: www.soe.umt.edu/forms.php.

Once admitted, students must maintain a minimum GPA of 2.75 each semester to continue in the program. Students who interrupt their studies for more than two years will be placed on inactive status and must request reactivation in order to resume their studies.

Students seeking a K-12 endorsement in library-media, literacy, or special education must have full admission into the Teacher Education Program or already be a licensed teacher before applying to one of these specialized programs.

Admission Policy for Minority Students and Students with Disabilities

The Teacher Education Program is committed to providing opportunities for teacher preparation for members of groups that historically have been disadvantaged and subject to discrimination. The criteria for admission are the same for members of racial, ethnic and other minorities, and students with disabilities as for other candidates; however, exceptions may be made to those admission requirements. Candidates who do not meet one or more of the criteria for admission are encouraged to describe in their applications any special circumstances and/or special talents that may compensate for unmet criteria. The physical, social, economic, and cultural circumstances that may have influenced the candidate’s ability to achieve minimum eligibility for admission will be considered. A special effort will be made to determine the candidate’s abilities and potential to overcome disadvantage or discrimination and become a successful beginning teacher. Upon entry to the program, the student will be assigned an advisor and as a mentor. The student and mentor will design an appropriate course of study to achieve progress toward the degree and/or certification/licensure.

Application for Student Teaching

At the end of the junior year, students should begin planning for student teaching. Students must meet the following criteria to be eligible to student teach: (1) full admission into the Teacher Education Program; (2) a grade of C- or above in courses required for certification; (3) a minimum cumulative GPA of 2.75 and 2.75 in each field of licensure; (4) passed the University upper-division writing proficiency assessment; and (5) consent of the Director of Field Experiences. Any exception to the requirements for student teaching will be considered on a petition basis. In addition, elementary education majors must have completed the required courses in methods of elementary teaching, and secondary students must have completed their methods course and at least two-thirds of the courses in their teaching field(s). Recommendation from the departments in the major and/or minor fields is also a prerequisite to student teaching. Candidates for K-12 licensure must student teach at both elementary and secondary levels. Instructions for student teaching are contained in the Student Teaching Packet available in the UC Bookstore. Consult the Teacher Education Policy Handbook or the web page www.soe.umt.edu/forms.php, for application deadlines and procedures. Internships and practicums in library media, literacy, and special education do not substitute for the student teaching semester required for licensure in a subject field.

Native American Studies Course Requirement

Students preparing for licensure in all programs are required to complete a minimum of one course in Native American Studies. Students also may choose ANTH 323H, Indians of Montana, to meet this requirement.

Elementary Education Degree and Licensure Requirements (Grades K-8)

To qualify for the Montana elementary teaching license, candidates must earn a baccalaureate degree from the University or other approved institution of higher education. The degree in elementary education requires a minimum of 128 credits. Students must complete all specific requirements listed below with a grade of "C" or better. None of these courses may be taken as pass/not pass except where that is the only grading option.

Elementary education students must complete a 12-credit area of concentration, selected from one of the following six elementary curriculum categories: (1) English/language arts, including reading/literary analysis; (2) fine arts; (3) health and human performance; (4) mathematics; (5) science; and (6) social science. Degree-holding students and transfer students should seek advice about the substitution of course work completed in a previous major or minor.

The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index. C&I 318, Teaching Language and Literacy will satisfy this requirement.

Information regarding the options and requirements for the 12-credit area of concentration and all other elementary education degree and certification requirements are outlined in the Teacher Education Policy Handbook. The Policy Handbook and Application to the Teacher Education Program are available in the UC Bookstore and online at http://www.soe.umt.edu/c&i.

Students who are interested in preparing to teach K-3 are encouraged to take C&I 330 Early Childhood Education; those who are interested in preparing to teach 4-8 are encouraged to take PSYC 240S Child and Adolescent Development.

Curriculum for Elementary Education

<table>
<thead>
<tr>
<th>First and Second Years</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENEX 101</td>
<td>3</td>
</tr>
<tr>
<td>SCI 225N, 226N General Science</td>
<td>10</td>
</tr>
<tr>
<td>HHP 233 Health Issues of Children and Adolescents</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSC 100S Introduction to American Government</td>
<td>3</td>
</tr>
<tr>
<td>HIST 269 Montana and the West</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 101S Introduction to Human Geography OR</td>
<td>3</td>
</tr>
</tbody>
</table>
GEOG 103S World Regional Geography .............. 3
MATH 130-131 Math for Elementary Teachers .......... 9
SCI 350 Environmental Perspectives ................. 2
Selected history course (HIST 151 or 152 recommended) 3-4
Selected literature course ................................ 3-4
Native American Studies course ...................... 3
Current Standard First Aid and CPR certificates OR
HHP 288/289 ........................................... 0-3
Area of concentration .................................. 12
Lower-division writing course ......................... 3

**Third and Fourth Years**

*Block I:
C&I 200 Exploring Teaching Through Field Experiences 1
C&I 303 Educational Psychology and Measurements 3
C&I 306 Instructional Media and Computer Applications 3
C&I 410 Exceptionality and Classroom Management 3

**Block II:
C&I 300 or 301 Field Experience ....................... 1
C&I 316 Children’s Literature and Critical Reading 3
C&I 318 Teaching Language Arts K-8 ................. 3

**Block III:
C&I 400 or 401 Field Experience ....................... 1
C&I 402 Teaching Mathematics K-8 ................... 3
C&I 403 Teaching Social Studies K-8 ................. 3
C&I 404 Teaching Science K-8 ........................ 3
C&I 405 Teaching Reading K-8 ......................... 3

ART 314A Elementary School Art ...................... 3
DAN 327 Dance in Elementary Education .............. 2
DRAM 327 Drama in Elementary Education ............. 2
HHP 339 Instructional Strategies in Elementary Health and Physical Education ................. 3
MUS 335 Music Education in the Elementary School 3
C&I 407E Ethics and Policy Issues .................... 3
C&I 481 Student Teaching: Elementary ................ 14
C&I 494 Professional Portfolio ......................... 1
Electives and General Education ...................... 0-3

*Students are encouraged to enroll concurrently in the courses listed in Block I.

**Students must enroll concurrently in the courses listed in Block II and Block III.

They add other courses as desired or necessary to complete a full semester course load. This blocked format allows for integration of curriculum, modeling of cooperative learning and collaborative teaching, and corresponding developmental field experiences.

**Secondary Teaching Licensure Requirements (Grades 5-12)**

To qualify for the Montana secondary teaching license, candidates must possess a degree in the subject area they plan to teach at the middle or high school level and complete requirements for the teaching major/minor in their chosen field(s). If the candidate’s major does not qualify as a single-field endorsement, he or she also must complete requirements for a teaching minor. Candidates in Business and Information Technology Education complete a major in education (see this secondary option below). All prospective middle and secondary teachers are advised to complete licensure in more than one teaching field, even if the chosen field qualifies as a single-field endorsement such as English or mathematics. The University reserves the right to modify course requirements listed. Students should seek advising from both the degree-granting departments and the Department of Curriculum & Instruction.

A University recommendation for licensure to teach in accredited schools in Montana requires the following:

1. The baccalaureate degree from the University (minimum 128 credits) or another accredited institution of higher education.

2. Completion of an English composition course, an introduction to psychology course, and a Native American studies course.

3. Completion of HHP 233, Health Issues of Children and Adolescents or equivalent, and current standard first-aid and CPR cards.

4. Completion of the professional education course work: C&I 200, 300, 306, 407E, 410, 427 (or ENT 440), appropriate methods courses with co-requisite field experience (301/302), and student teaching.

5. Preparation in one or more specific subject areas that are part of the middle and high school curriculum. See options available under Course Requirements in Major and Minor Teaching Fields that follow. Single-field endorsements include: art, biology, business and information technology education, chemistry, English, French, general science, German, health and human performance, mathematics, music, social sciences, and Spanish. All other teaching majors require a teaching minor or a second teaching major.

6. Completion of all requirements outlined above with a grade of C- or better; completion of all requirements outlined above for a traditional letter grade except where CR/NCR is the only grading option.

Information regarding licensure requirements are explained further in the Teacher Education Policy Handbook. The Policy Handbook and Application to the Teacher Education Program are available in the UC Bookstore and online at http://www.soe.umontana.edu/c&i.

**Curriculum for Secondary Licensure**

**First and Second Years**

<table>
<thead>
<tr>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENEX 101</td>
</tr>
<tr>
<td>PSYC 100S</td>
</tr>
<tr>
<td>HHP 233</td>
</tr>
<tr>
<td>Current Standard First Aid and CPR certificates or HHP 288/289</td>
</tr>
<tr>
<td>Native American Studies course</td>
</tr>
<tr>
<td>Electives, General Education and/or Courses in Major and/or Minor Teaching Field(s)</td>
</tr>
</tbody>
</table>

**Third and Fourth Years**

*Block I:
C&I 200 Exploring Teaching through Field Experiences 1
C&I 303 Educational Psychology and Measurements 3
C&I 306 Instructional Media and Computer Applications 3
C&I 410 Exceptionality and Classroom Management 3

*Block II:
C&I 301 or 302 Field Experience ....................... 1
C&I 427 Literacy Strategies in Content Areas OR
ENT 440 Teaching Reading and Writing Across the Curriculum** ................................. 3
Teaching field(s) methods course(s) ................... Variable

C&I 407E Ethics and Policy Issues .................... 3
C&I 482 Student Teaching: Secondary ................ 14
C&I 494 Professional Portfolio ......................... 1
Electives, General Education and/or Courses in Major and/or Minor Teaching Field(s) Variable

* Students are encouraged to enroll concurrently in the courses listed as “blocked” in each of two professional semesters. They add other courses as desired or necessary to complete a full semester course load. This blocked format allows for integration of curriculum, modeling of cooperative learning and collaborative teaching, and corresponding developmental field experiences. Block scheduling is not required.

**English teaching majors and minors must take ENT 440.

**Licensure in Library-Media:** The library-media program is
designed to prepare library-media specialists for K-12 settings. To be eligible for library-media licensure students must meet the teacher licensure requirements as well as complete a minimum of 25 credits in the following required courses: C&I 316, 470, 479, 480, 483, 484, 485, and LIB 461 offered through UM-Western. This program is combined with that of UM-Western.

Licensure in Reading: The program is designed to enhance the diagnostic and instructional skills of K-12 classroom teachers and remedial reading teachers. The program follows the philosophy of the International Reading Association. The undergraduate reading minor requires the following courses: C&I 316, 318, 405, 427, 433, 435, and 437.

Licensure in Special Education: The Special Education program prepares teachers to work with children with disabilities in Special Education and inclusive settings. To be eligible for a K-12, non-categorical endorsement in the State of Montana, students accepted into the program must complete the following courses: C&I 357, 433, 457, 459, 463, 469. Students complete C&I 357 prior to beginning the endorsement; they must be admitted into the Special Education program before enrolling in C&I 457. The last semester is a professional block including focused course work for five weeks preceding the internship experience, and is done after regular student teaching or teaching experience in an elementary, middle, or secondary school setting.

Secondary Option in Business and Information Technology Education:
Candidates for licensure in business and information technology education must complete the following:
1. Meet the requirements for a baccalaureate degree in Education by completing a minimum of 30 credits in Curriculum and Instruction courses.
2. Meet the requirements for business and information technology education listed in this catalog.
3. Meet the Upper-division Writing Expectation by successfully completing an upper-division writing course from the approved list in the General Education requirements section of this catalog. See index. C&I 452E will satisfy this requirement.

Students meeting the requirements for business and information technology education listed in this catalog are eligible to apply for licensure in business and information technology education and marketing education, as well as earn a non-teaching office systems management minor. Office systems management is also available as a separate non-teaching minor. For details of this program, contact an advisor in business and information technology education.

Requirements for Non-Teaching Minors

Library-Media Services
To complete a non-teaching minor in library-media services, the student must complete the following courses:

Office Systems Management
To earn a non-teaching minor in office systems management the student must complete the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BADM 201 Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BADM 257 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BADM 340S Management and Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 183 Integrated Software Applications</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 187 Business Communications</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 280 Business Technology and Information Design</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 442 Administrative Management and Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CS 487 Network System Administration</td>
<td></td>
</tr>
<tr>
<td>ECON 111S Introduction to Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>27</td>
</tr>
</tbody>
</table>

Course Requirements for Major and Minor Teaching Fields

Students who wish to qualify for the Montana secondary teaching certificate/license must, according to the regulations of the State Office of Public Instruction which were in effect when this catalog was printed, complete requirements for a major teaching field (30 or more credits, depending on the field) and a minor teaching field (20 or more credits, depending on the field) in areas commonly taught in high schools. In the event that the Montana Office of Public Instruction changes the program standards of major and minor teaching fields, the University reserves the right to modify the requirements listed for them.

Art

Grades K-12. Qualifies as a single-field endorsement.
For an endorsement in the extended major teaching field of Art, a student must complete the requirements for a Bachelor of Arts with a major in Fine Arts with an Art Education option (see the Department of Art section in this catalog and below). Individuals holding a baccalaureate degree must meet those requirements by completing the courses or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj. Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 123A Drawing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ART 125A Color and Design</td>
<td>3</td>
</tr>
<tr>
<td>ART 135A Three-Dimensional Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ART 150L-151L Art of Western Civilization</td>
<td>6</td>
</tr>
<tr>
<td>ART 203 Introduction to Art Criticism</td>
<td>3</td>
</tr>
<tr>
<td>ART 215A Photography I</td>
<td>3</td>
</tr>
<tr>
<td>ART 223 Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART 229A Ceramics I</td>
<td>3</td>
</tr>
<tr>
<td>(choose one)</td>
<td></td>
</tr>
<tr>
<td>ART 235 Sculpture I</td>
<td>3</td>
</tr>
<tr>
<td>ART 240A Painting I</td>
<td>3</td>
</tr>
<tr>
<td>ART 323 Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>ART 407-408 Teaching K-12 Art</td>
<td>6</td>
</tr>
<tr>
<td>DAN 427 Teaching Creative Movement</td>
<td>3</td>
</tr>
<tr>
<td>ART upper-division studio courses</td>
<td>9</td>
</tr>
<tr>
<td>ART upper-division art history courses</td>
<td>6</td>
</tr>
<tr>
<td>ART upper-division art criticism</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>66</td>
</tr>
</tbody>
</table>
Biology

Grades 5-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major teaching field of Biology, a student must complete the requirements for the B.A. with a major in Biology, option in Biological Education (see the Biology section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For endorsements in the minor teaching field of Biology, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>BIOL 101N-102N Principles of Biology and Laboratory</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 103N-104N Diversity of Life</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 223 Genetics and Evolution</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 301 Developmental Biology or BIOL 345 Principles of Physiology</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>BIOL 340-341 Ecology and Laboratory</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 444 Plant Physiology</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>MICB 300-301 General Microbiology and Laboratory</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>C&amp;I 426 Teaching Science in Middle and Secondary Schools</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150 Applied Calculus or 152 Calculus I</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 151N-152N, 154N General and Inorganic and Organic and Biological Chemistry and Laboratory (major only)</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 485 Laboratory Safety</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 121N General Physics I</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>GEOL 109N Environmental Geoscience or 301 Environmental Geology</td>
<td>2-3</td>
<td>2-3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>61-62</td>
<td>47-48</td>
</tr>
</tbody>
</table>

A biology major qualifies as a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.

Business and Information Technology Education

Grades 5-12. Qualifies as a single-field endorsement.

For licensure in the major teaching field of Business and Information Technology Education (BITE), a student must complete the requirements for a B.A. in Education with an option in BITE. Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>ACCT 201 Financial Accounting</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 202 Managerial Accounting</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>BADM 257 Business Law</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 187 Business Communications</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 280 Business Technology &amp; Information Design</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 429 Teaching Business Subjects</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>C&amp;I 442 Administrative Management and Supervision</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 443 Philosophy and Procedures of Career and Technical Education</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 444 Advanced Technology and Supervision</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>CS 172 Introduction to Computer Modeling</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>CS 472 Network System Administration</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111S Introduction to Microeconomics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ECON 112S Introduction to Macroeconomics</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>FIN 322 Business Finance</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>IS 270 Quantitative Business Applications</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>IS 341 Operations Management</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>IS 448 Management Game</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>MATH 241 Business Statistics</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>MGMT 340S Management and Organizational Behavior</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>MGMT 446 Strategic Management or MKTG 360 Marketing Principles</td>
<td>3</td>
<td>-</td>
</tr>
</tbody>
</table>

Total Credits 71

Although not required, it is recommended that students complete a second teaching major or minor.

Chemistry

Grades 5-12. Qualifies as a single-field endorsement.

For an endorsement in the major teaching field of Chemistry, a student must complete the requirements for the B.A. with a major in Chemistry, with appropriate electives, and with the addition of CHEM 485. A student also must complete MATH 241, BIOL 380, C&I 426 and SCI 350 (see the Department of Chemistry section of this catalog and below). The foreign language requirement is waived by the Department of Chemistry for students using the B.A. degree for teacher certification. Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For endorsement in the minor teaching field of Chemistry, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>CHEM 101N Chemistry for the Consumer</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>CHEM 221-222-223 Organic Chemistry and Laboratory</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>CHEM 221, 222, 223, 264 (or 224 in place of 264) Organic Chemistry and Laboratory</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>CHEM 334 Chemistry Literature and Scientific Writing</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry</td>
<td>3-4</td>
<td>-</td>
</tr>
<tr>
<td>CHEM 371-372 Physical Chemistry</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>CHEM 341 Quantitative Analysis Instrumental Methods</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 342 Instrumental Analysis and Physical Measurements</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>CHEM 452-453 Inorganic Chemistry</td>
<td>6</td>
<td>-</td>
</tr>
<tr>
<td>CHEM 485 Laboratory Safety</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 494 Undergraduate Chemistry Seminar</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>BIOL 380 Fundamentals of Biochemistry</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>CS 172 Computer Modeling</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 152, 153, and 251 Calculus I, II, and III</td>
<td>12</td>
<td>-</td>
</tr>
<tr>
<td>MATH 152 Calculus I</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 221N-222N General Physics</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>PHYS 121N-122N General Physics</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>SCI 350 Environmental Perspectives</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>C&amp;I 426 Teaching Science in Middle &amp; Secondary Schools</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>85</td>
<td>59</td>
</tr>
</tbody>
</table>

A chemistry major qualifies as a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.
For an endorsement in the major teaching field of Drama, a student must complete the requirements for the B.A. with a major in Fine Arts with a Drama Education Option (see the Department of Drama/Dance section of this catalog and below). Individuals holding a baccalaureate degree must demonstrate course equivalency. For an endorsement in the minor teaching field of Drama, a student must complete the courses listed below or demonstrate course equivalency.

### Drama

Grades 5-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Drama, a student must complete the requirements for the B.A. with a major in Fine Arts with a Drama Education Option (see the Department of Drama/Dance section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Drama, a student must complete the courses for the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAM 103A</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 106A</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 107</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

The demand for teaching in this field is limited. The required second endorsement (either a teaching major or teaching minor) should be in a field in high demand.

### Earth Science

Grades 5-12. Major only. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Earth Science, a student must complete the requirements for the B.S. with a major in Geology, Earth Science Education option (see the Department of Geology section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 100N</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GEOL 105N</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>GEOL 130</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GEOL 226</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>GEOL 301</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GEOL 310</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GEOL 330</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GEOL-301</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>GEOL-302</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>ASTR 131N</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>MATH 121</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MATH 341</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CS 172</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 426</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BIOL 121N</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BIOL 122N</td>
<td>4-10</td>
<td></td>
</tr>
<tr>
<td>CHEM 485</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td>63-69</td>
<td></td>
</tr>
</tbody>
</table>

The demand for teaching in this field is limited. The required second endorsement (either a teaching major or teaching minor) should be in a field in high demand.

### Economics

Grades 5-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Economics, a student must complete the requirements for the B.A. with a major in Economics (see the Department of Economics section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Economics, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 111S</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>ECON 112S</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>ECON 204</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ECON 311</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ECON 315</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ECON 317</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ECON 323</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ECON 460</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Economics electives</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ENLT 487</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ENLT 489</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>CS 1428</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>MATH 117</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 152</td>
<td>7-8</td>
<td></td>
</tr>
<tr>
<td>MATH 241</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td>51</td>
<td>24</td>
</tr>
</tbody>
</table>

The demand for teaching in this field is limited. The second endorsement (either a teaching major or teaching minor) should be in a field in high demand.

### English

Grades 5-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major teaching field of English, a student must complete the requirements for the B.A. with a major in English. English Teaching option (see the Department of English section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of English, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalent.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENLT 223L</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENLT 224L</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>ENLT 301</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENLT 320</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENLT 121L</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENLT 222L</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENLT 211A</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENLT 439</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENLT 440</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENLT 441</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENLT 442</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENLT 465</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>45</td>
<td>36</td>
</tr>
</tbody>
</table>

An English major qualifies for a single-field endorsement.
Although not required, it is recommended that students complete a second teaching major or minor.

**English as a Second Language**

Grades K-12. Minor only.

For an endorsement in the minor teaching field of English as a Second Language, a student must complete the courses in the minor teaching field as listed in the Linguistics section of this catalog and listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>LING 470 Introduction to Linguistic Analysis</td>
<td>3</td>
</tr>
<tr>
<td>LING 471 Phonology and Morphology</td>
<td>3</td>
</tr>
<tr>
<td>LING 472 Syntax and Semantics</td>
<td>3</td>
</tr>
<tr>
<td>LING 477 Bilingualism or 478 Second Language Acquisition</td>
<td>3</td>
</tr>
<tr>
<td>At least two courses from the following:</td>
<td></td>
</tr>
<tr>
<td>LING 466 Pedagogical Grammar</td>
<td></td>
</tr>
<tr>
<td>LING 473S Language and Culture</td>
<td></td>
</tr>
<tr>
<td>LING 475 Linguistics Field methods</td>
<td></td>
</tr>
<tr>
<td>LING 476 Child Language Acquisition</td>
<td></td>
</tr>
<tr>
<td>LING 489 Languages of the World</td>
<td>6</td>
</tr>
<tr>
<td>LING 480 Teaching English as a Foreign Language</td>
<td>3</td>
</tr>
<tr>
<td>LING 491 ESL Senior Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 24

*Students must have the equivalent of two years of a foreign language. Non-native speakers of English must take an English competency examination administered by the chair of the Linguistics Program. Courses required for the teaching minor cannot be taken on a pass/not pass basis.

**French**

Grades K-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major teaching field of French, a student must complete all the requirements for the B.A. with a major in French including FREN 401 and MCLG 410 (see the Department of Modern and Classical Languages and Literatures section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of French, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREN 101-102 Elementary French</td>
<td>10-10</td>
</tr>
<tr>
<td>FREN 201-202 Intermediate French</td>
<td>8-8</td>
</tr>
<tr>
<td>FREN 301 Oral and Written Expression</td>
<td>3-3</td>
</tr>
<tr>
<td>FREN 302 French Civilization and Culture</td>
<td>3-3</td>
</tr>
<tr>
<td>FREN 311-312 Survey of French Literature</td>
<td>6</td>
</tr>
<tr>
<td>FREN 401 Applied Linguistics</td>
<td>3-3</td>
</tr>
<tr>
<td>FREN 408 Advanced Composition and Conversation</td>
<td>3-3</td>
</tr>
<tr>
<td>FREN literature at the 400-level</td>
<td>3</td>
</tr>
<tr>
<td>FREN upper-division electives</td>
<td>3</td>
</tr>
<tr>
<td>HIST - one course from 306, 307</td>
<td></td>
</tr>
<tr>
<td>309, 310, 311H, 312H, 314, 315</td>
<td>3</td>
</tr>
<tr>
<td>LING 270 Introduction to Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>MCLG 410 Methods of Teaching Foreign</td>
<td>3</td>
</tr>
<tr>
<td>Languages (prereq. to student teaching)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 51-33

*A The Department of Modern and Classical Languages and Literatures requires a recommendation of the student's language proficiency and an overall minimum grade point average of 3.00 in upper-division course work in both the teaching major and minor as a prerequisite to student teaching. Study in a French language country, provided either through UM's Study Abroad Program or an experience considered to be equivalent also is required.

A French major qualifies as a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.

**General Science Broadfield Major**

Grades 5-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major field of General Science, a student must complete the requirements for the B.A. with a major in Biology, Ecology option (see the Biology section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 131N, 134N Elementary Astronomy and Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 101N-102N Principles of Biology and Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 103N-104N Diversity of Life and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 223 Genetics and Evolution</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 340-341 Ecology and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
<td>10</td>
</tr>
<tr>
<td>CHEM 152N Organic and Biological Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 485 Laboratory Safety</td>
<td>1</td>
</tr>
<tr>
<td>GEOL 100N-101N General Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 301 Environmental Geology</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150 Applied Calculus or 152 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 121N-122N or 221N-222N General Physics</td>
<td>10</td>
</tr>
<tr>
<td>C&amp;I 426 Teaching Science in Middle and Secondary Schools</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 67

**Geography**

Grades 5-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Geography, a student must complete the requirements for the B.A. degree with a major in Geography (an option is not required; see the Department of Geography section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Geography, a student must complete the courses for the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 101S Introduction to Human Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 102N Introduction to Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 104 Introduction to Maps and Air Photos</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 103S World Regions or GEOG 201S Montana or another regional course</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 105 Map and Air Photo Lab</td>
<td>1</td>
</tr>
<tr>
<td>GEOG 385 Field Techniques or GEOG 471 Workshop in Teaching Geography</td>
<td>2-3</td>
</tr>
<tr>
<td>GEOG 387/9 Principles of Digital Cartography and Laboratory</td>
<td>4</td>
</tr>
</tbody>
</table>

(minor may choose GEOG 385 or 389/9 or 471) 2-4

Three upper-division systematic geography courses one each from the fields of geography and society, physical geography, and human-environmental interaction (two for minor) 6

C&I 428 Teaching of Social Studies in Middle and Secondary School 3

Electives 7

Total Credits: 36-21-23

The demand for teaching in this field is limited. The required second endorsement (either a teaching major or
teaching minor) should be a field in high demand.

**German**

Grades K-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major teaching field of German, a student must complete the requirements for the B.A. with a major in German including MCLG 410 (see the Department of Modern and Classical Languages and Literatures section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of German, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

| GERM 101-102 Elementary German | 10 | 10 |
| GERM 201-202 Intermediate German | 8 | 8 |
| GERM 301-302 Oral and Written Expression I | 6 | 6 |
| GERM 311-312 Intro to German Literature | 6 |
| GERM 403 Applied Linguistics | 3 | 3 |
| GERM literature at 400-level | 6 |
| HIST one course in history of Central Europe at 200-300 level and either GERM 303H, 304H, 355, 361L or 362H | 6 |
| LING 270 Introduction to Linguistics | 3 |
| MCLG 410 Methods of Teaching Foreign Languages (prereq. student teaching) | 3 |

Total Credits 54

*The Department of Modern and Classical Languages and Literatures requires a recommendation of the student's language proficiency and an overall minimum grade point average of 3.00 in upper-division course work in both the teaching major and minor as a prerequisite to student teaching. Study in a German language country, provided either through UM’s Study Abroad Program or an experience considered to be equivalent also is required.

A German major qualifies as a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.

**Government**

Grades 5-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Government, a student must complete the requirements for the B.A. with a major in Political Science (see the Department of Political Science section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Government, a student must complete the courses for a minor teaching field listed below or demonstrate course equivalency.

| PSC 100S Introduction to American Government | 3 | 3 |
| PSC 120S Introduction to Comparative Government | 3 | 3 |
| PSC 130E International Relations | 3 | 3 |
| PSC 150E Political Theory | 3 | 3 |
| PSC one 300-400 level course in four of the five fields: 1) American Government 2) Public Administration 3) Political Theory 4) Comparative Government 5) International Relations | 12 |

**Health and Human Performance**

Grades K-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major teaching field of Health and Human Performance, a student must complete the requirements for a B.S in Health and Human Performance with an option in Health Studies-Health Enhancement option (see the Department of Health and Human Performance section of this catalog and below). Individuals holding a baccalaureate degree must meet those requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Health and Human Performance, a student must complete the courses for the minor teaching field listed below or demonstrate course equivalency.

Students seeking an endorsement in Health and Human Performance (both majors and minors) must earn a minimum grade of C- in all required courses, including prerequisites. All HHP majors and minors must demonstrate competency in First Aid/Emergency Care and CPR upon entry into student teaching.

| HHP 181 Foundations of Health and Human Performance | 3 |
| HHP 224-275 Professional Activities | 4 |
| HHP 226 Physical Conditioning/Weight Training | 2 |
| HHP 233 Health Issues of Children and Adolescents | 3 |
| HHP 236 Nutrition | 3 |
| HHP 261 Spreadsheets for the Exercise Sciences | 0.5 |
| HHP 262 Computer Application in the Health Professions | 0.5 |
| HHP 288-289 First Aid/Emergency Care and Laboratory | 0.5 |
| HHP 301 Instructional Strategies in Secondary Health and Physical Education | 3 |
| HHP 339 Instructional Strategies in Elementary Health and Physical Education | 3 |
| HHP 361 Assessment in Physical and Health Education | 3 |
| HHP 365 Management in Health and Human Performance Professions | 3 |
| HHP 377 Physiology of Exercise (prereq. BIOL 212N-213N) | 3 |
| HHP 378 Physiology of Exercise Laboratory | 1 |
| HHP 384 Motor Learning | 3 |
| HHP 386 Applied Anatomy, Kinesiology and Biomechanics | 3 |
| HHP 466 Strategies in K-12 Health Education | 3 |
| HHP 475E Legal and Ethical Issues in the Health and Exercise Profession | 3 |
| BIO1 106N Elementary Medical Microbiology | 3 |
| BIO1 121N Introductory Ecology or SCI 350 Environmental Perspectives | 2-3 |
CHEM 151N General & Inorganic Chemistry . . . 3 
COMM 111A Introduction to Public Speaking . . 2 2 
ENT 440 Teaching Composition OR C&I 427 
Literacy Strategies in Content Areas . . . . . 3 3 
PSYC 100S-Introduction to Psychology . . . . . 3 4 
PSYC 240S Developmental Psychology . . . . . 3 
Total Credits 63-69 33-36

A Health and Human Performance major qualifies as a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.

History
Grades 5-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of History, a student must complete the requirements for the B.A. with a major in History with an option in History Education (see the Department of History section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of History a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

Maj. Min.

HIST 104H-105H European Civilization (choose one) 4 4
HIST 151H-152H The Americans 8 8
HIST 269 Montana and the West 3 3
HIST 300 The Historians’ Craft 3 3
HIST non-western course 3 3
Upper-division courses in United States history 6 3
Upper-division courses in European history 6 3
History electives upper-division courses in history 6 -
C&I 428 Teaching Social Studies in Middle and Secondary Schools 3 3
Total Credits 42 30

The demand for teaching in this field is limited. The required second endorsement (either a teaching major or a teaching minor) should be in a field in high demand.

Latin*
Grades K-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Latin, a student must complete the requirements for the B.A. with a major in Classics, Latin option, as well as MCLG 410 (see Department of Modern and Classical Languages and Literatures section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Latin, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

Maj. Min.

LAT 101-102 Elementary Latin or equivalent 10 10
LAT 211 Latin Readings and Grammar Review 4 4
LAT 212 Latin Readings: Vergil 3 3
LAT 300 Major Latin Writers 15 6
LAT 402 Composition 3 3
MCLG 160L Classical Mythology 3 -
MCLG 361L Roman, Early Christian, and Byzantine Art 3 -
MCLG 410 Methods of Teaching Foreign Languages (prereq. to student teaching) 3 3
HIST 303H Classical Rome 3 -
Total Credits 47 29

*The Department of Modern and Classical Languages and Literatures requires a recommendation of the student’s language proficiency and an overall minimum grade point average of 3.00 for upper-division course work in both the teaching major and minor as a prerequisite to student teaching.

Library Media

C&I 316 Children’s Literature and Critical Reading 3
C&I 470 Young Adult Literature and Critical Reading 3
C&I 479 Online Reference Resources 3
C&I 480 Collection Development and the Curriculum 3
C&I 483 Library Media Technical Processes 2
C&I 484 Administration and Assessment of Library/Media Program 3
C&I 485 Library-Media Practicum 3
LIB 461 Information Literacy 3
Total Credits 23

A Library Media Practicum is separate from student teaching. It includes 90 hours of field work in a school library-media center and 10 hours of seminar.

Mathematics
Grades 5-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major teaching field of Mathematics, a student must complete the requirements for the B.A. degree with a major in Mathematics with a Mathematics Education option (see Department of Mathematical Sciences section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Mathematics, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

Maj. Min.

MATH 152-153 Calculus I, II 8 8
MATH 221 Linear Algebra 4 4
MATH 301 Mathematics with Technology for Teachers 3 3
MATH 305 Introduction to Abstract Mathematics 3 3
MATH 336 Elementary Number Theory 3 3
MATH 341 Introduction to Probability & Statistics 3 3
MATH 406 History of Mathematics 3 -
MATH 421 Abstract Algebra 4 -
MATH 431 Euclidean & Non-Euclidean Geometry 3 3
MATH 251 or additional 300-400-level course 3-4 -
C&I 430 Teaching Math in Middle and Secondary Schools 4 4
Total Credits 41-42 31

A math major qualifies as a single-field endorsement if a student also completes 12 science credits. Although not required, a second teaching major or minor is recommended.

Music
Grades K-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major teaching field of Music, a student must complete the requirements for a Bachelor of Music Education degree (see the Music section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

Maj.

MUS 100A Performance Study 2
MUS 151-251-351 Principal Performance 5
MUS 107A/307A-108A/308A-
104A/304A-310A Ensembles ............... 7
MUS 111-112 Theory I, II .................. 4
MUS 115A-116A Piano in Class I, II .... 2
MUS 117A Voice in Class ................. 1
MUS 124-131 Strings, Woodwinds, .... 
Brass, Percussion Class .................. 8
MUS 135L Introduction to Music Literature 3
MUS 137-138 Aural Perception I, II .... 4
MUS 211-212 Theory III, IV ............... 4
MUS 215-216 Intermediate Piano in Class I, II 2
MUS 235-236 Aural Perception III, IV ... 4
MUS 302 Instrumental Conducting ....... 2
MUS 303 Choral Conducting .............. 2
MUS 305 Instrumental Methods and Materials 2
MUS 306 Choral Methods and Materials ... 2
MUS 322-323 General Music Methods and Materials I, II 6
MUS 324H-325H History of Music I, II ... 6
MUS 328 Orchestration I .................. 2
MUS upper-division electives ..... 3-4
Total Credits 68-69

Music students should refer to the Department of Music section of this catalog for requirements concerning upper-division music course work.

Physics
Grades 5-12. Does not qualify as a single field endorsement.
For an endorsement in the major teaching field of Physics, a student must complete the requirements for the B.A. with a major in Physics (see the Department of Physics and Astronomy section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.
For an endorsement in the minor teaching field of Physics, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

Maj. Min.
PHYS 121N-122N or 221N-222N Fundamentals of Physics (coreq. of Calculus for 221N) .... 10 10
PHYS 301 Vector Analysis ................. 3
PHYS 322-323 Optics ..................... 4 4
PHYS 328 Methods of Teaching Physics ... 2
PHYS 341 Fundamentals of Modern Physics ... 3 3
PHYS 371 Mechanics ...................... 3 3
PHYS 414 Electromagnetism I ............ 3
PHYS 461 Quantum Mechanics I ......... 3
Electives-courses in physics .......... 3
ASTR 131N-132N Elementary Astronomy ... 6 3
MATH 152-153 Calculus I and II ........ 8 8
MATH 241 Statistics or MATH 341 Introduction to Probability and Statistics ..... 3-4 3-4
MATH 251 Calculus III .................... 4 4
MATH 311 Ordinary Differential Equations ... 3 3
CS 131 Fundamentals of Computer Science opts CS 201 Programming Languages or CS 203-FORTRAN Programming ..... 3 3
C&I 426 Teaching Science in Middle and Secondary Schools .. 3
CHEM 151N General Chemistry .......... 3 3
CHEM 485 Laboratory Safety ............ 1
BIOL 101N Principles of Biology or BIOL 103N Diversity of Life or BIOL 120N General Botany or BIOL 121N Introductory Ecology .......... 3 3
GEOL 100N-101N General Geology ....... 3
GEOL 301 Environmental Geology ....... 3
Total Credits 77-78 53-54

The demand for teaching in this field is limited. The required second endorsement (either a teaching major or a teaching minor) should be in a field in high demand.

Psychology
Grades 5-12. Does not qualify as a single field endorsement.
For an endorsement in the major teaching field of Psychology, a student must complete the requirements for the B.A. degree with a major in Psychology, General option.
For an endorsement in the minor teaching field of Psychology, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

Maj. Min.
PSYC 100S Introduction to Psychology .. 4 4
PSYC 120 Introduction to Psychological Research 3 3
PSYC 220 Psychological Statistics ..... 3
At least two of the following:
PSYC 260S Fundamentals of Learning PSYC 265S Cognition PSYC 270N Fundamentals of Biological Psychology .................. 6
At least three of the following for the major:
PSYC 240S Child and Adolescent Psychology PSYC 330S Abnormal Psychology PSYC 350S Social Psychology PSYC 351S Psychology of Personality .... 6
At least one of the following for the minor:
PSYC 240S Child and Adolescent Psychology PSYC 350S Social Psychology PSYC 351S Psychology of Personality .... 3
For an endorsement in the minor teaching field of Psychology, at least two psychology courses (at least three of which must be at the 200-level or higher), not to include PSYC 396, 398, 493 or 499 . 12
Two of the following for the minor:
PSYC 335S Fundamentals of Clinical Psychology PSYC 330S Abnormal Psychology PSYC 335S Child and Adolescent Psychological Disorders PSYC 337 Principles of Cognitive Behavior Modification II .... 3
Four other psychology courses (at least three of which must be at the 200-level or higher),
Total Credits 40-41 22
Six of the 22 credits for the minor must be at the 300-level or above.
The demand for teaching in this field is limited. The required second endorsement (either a teaching major or a teaching minor) should be in a field in high demand.

Reading
Grades K-12. Minor only.
C&I 316 Children's Literature and Critical Reading or 470 Young Adult Literature and Critical Reading ... 3
C&I 318 Teaching Language P-8 .... 3
C&I 405 Teaching Reading K-8 .......................... 3
C&I 427 Literacy Strategies in Content Areas . 3
C&I 433 Basic Diagnosis and Correction of Reading and Writing . 3
C&I 435 Organizing Classroom Reading and Writing Programs . 3
C&I 437 Application of Literacy Models . 6
Total Credits 24

**Russian**

Grades K-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Russian, a student must complete the requirements for the B.A. with a major in Russian including Russ 301-302 and MCLG 410 (see the Department of Modern and Classical Languages and Literatures section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Russian, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUSS 101-102 Elementary Russian</td>
<td>10</td>
</tr>
<tr>
<td>RUSS 201-202 Intermediate Russian</td>
<td>8</td>
</tr>
<tr>
<td>RUSS 301 Oral and Written Expression</td>
<td>3</td>
</tr>
<tr>
<td>RUSS 302 Russian Culture and Civilization</td>
<td>3</td>
</tr>
<tr>
<td>RUSS 305L-306L Introduction to Russian Literature (minors take 306L)</td>
<td>6</td>
</tr>
<tr>
<td>RUSS upper-division electives</td>
<td>9</td>
</tr>
<tr>
<td>MCLG 410 Methods of Teaching Foreign Languages (prereq. to student teaching)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 45

*The Department of Modern and Classical Languages and Literatures requires a recommendation of the student’s language proficiency and an overall minimum grade point average of 3.00 in upper-division course work in both the teaching major and minor as a prerequisite to student teaching.

The demand for teaching in the field is limited. The required second endorsement (either a teaching major or a teaching minor) should be in a field in high demand.

**Comprehensive Social Science**

Grades 5-12. Qualifies as a single-field endorsement.

Students seeking teaching certification in Comprehensive Social Science must complete special degree requirements for the combined major in history and political science (see the Department of History or the Department of Political Science sections of this catalog). Individuals holding a baccalaureate degree must show evidence of completing the courses listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 104H-105H European Civilization</td>
<td>12</td>
</tr>
<tr>
<td>HIST 151H-152H The Americans (choose 3)</td>
<td>12</td>
</tr>
<tr>
<td>HIST 300 The Historians’ Craft</td>
<td>3</td>
</tr>
<tr>
<td>HIST upper-division electives to include American and non-American history</td>
<td>9</td>
</tr>
<tr>
<td>PSC 100S Introduction to American Government</td>
<td>3</td>
</tr>
<tr>
<td>PSC 120S Introduction to Comparative Government</td>
<td>3</td>
</tr>
<tr>
<td>PSC 130E International Relations</td>
<td>3</td>
</tr>
<tr>
<td>PSC upper-division electives</td>
<td>15</td>
</tr>
<tr>
<td>C&amp;I 428 Teaching Social Studies in Middle and Secondary Schools</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111S-Introduction to Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 112S-Introduction to Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 300-level elective, e.g.</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 72

**Sociology**

Grades 5-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Sociology, a student must complete the requirements for the B.A. with a major in Sociology (see the Department of Sociology section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Sociology, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 171 Communicating via Computers or CS 172 Introduction to Computer Modeling or a higher-level CS course</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SOC 110S Principles of Sociology</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SOC 201 Social Science Methods</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SOC 202 Social Statistics</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>SOC 220S Race, Gender and Class</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SOC 230S Criminology or 330S Juvenile Delinquency</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>SOC 455 Classical Social Theory</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Two of the following: SOC 270 Introduction to Rural and Environmental Change SOC 300 Sociology of the Family SOC 306S Sociology of Work SOC 320 Complex Organizations SOC 325 Social Stratification SOC 355S Population and Human Ecology SOC 485 Political Sociology Sociology electives</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>C&amp;I 428 Teaching Social Studies in Middle and Secondary Schools</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 59

*Computer class does not count toward 33 credit minimum in sociology for the teaching major or 21 credit minimum in sociology for the teaching minor.

The demand for teaching in this field is limited. The required second endorsement (either a teaching major or a teaching minor) should be in a field in high demand.

**Spanish**


For endorsement in the extended major teaching field of Spanish, a student must complete the requirements for the B.A. with a major in Spanish including SPAN 301, 302, 405, 408 and MCLG 410 (see the Department of Modern and Classical Languages and Literatures section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For endorsement in the minor teaching field of Spanish, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 101-102 Elementary Spanish</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>SPAN 201-202 Intermediate Spanish</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>SPAN 301 Written Expression in Cultural Contexts</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 302 Phonetics and Oral Expression</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>
SPAN 311L/312L Introduction to Contemporary Spanish Literature (minors take one) .......... 6 3
SPAN 405 Applied Linguistics .................. 3 3
SPAN 408 Advanced Composition and Conversation .......................... 3 -
SPAN two literature courses at 400-level ....... 6 -
LING 270 Introduction to Linguistics ......... 3 3
MCLG 315L Major Hispanic Authors .......... 3 -
MCLG 410 Methods of Teaching Foreign Languages (prereq. to student teaching) .... 3 3
Total Credits .................................. 51 36
*The Department of Modern and Classical Languages and Literatures requires a recommendation of the student's language proficiency and an overall minimum grade-point average of 3.00 in upper-division course work in both the teaching major and minor as a prerequisite to student teaching. Study in a Spanish-language country, provided either through UM's Study Abroad Program or an experience considered to be equivalent, also is required.

A Spanish major qualifies as a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.

Special Education
Grades P-12. Minor only.

C&I 357 Introduction to Special Education Law & Policy ............................. 3
C&I 420 Assessment & Curriculum In Early Childhood Special Education OR elective* 2-3
C&I 453 Basic Diagnosis and Correction of Reading and Writing ............... 3
C&I 457 Assessment and Instruction for Exceptional Learners .................... 5
C&I 459 Consulting/Resource Teacher (coreq. C&I 469) 3
C&I 463 Advanced Classroom Management for Exceptional Learners/Practicum (coreq. C&I 468). 3
C&I 469 Student Teaching: Special Education (coreq. CI 459 and C&I 463) .......... 10
Total Credits .................................. 29-30
*Required course for early childhood education counts as elective credit. Other elective courses must be approved by a special education advisor.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Curriculum and Instruction (C&I)

U 160 Learning Strategies for Higher Education 2 cr. Offered every term. Instruction and application of college study skills including lecture notetaking, time management, reading textbooks, test taking, and critical thinking. Elective credit only.

U 183 Integrated Software Applications and Multimedia 3 cr. Offered every term. Prereq., keyboarding skills. Emphasis on use of integrated application programs, use of multimedia products in teaching, and use of technology in instruction.

U 187 Business Communications 3 cr. Offered autumn and spring. Emphasis on consistent and logical approaches to solving communication problems and creating successful communication products.

U 200 Exploring Teaching through Field Experiences 1 cr. Offered autumn and spring. Prereq., admission to Teacher Education Program or GPA of 2.75 and consent of Field Experiences Director. Guided introductory field experience for students committed to teaching as a profession. Connects field experience to content of concurrent theory classes. Seminars include professional development portfolio, developmental level of students, diversity, learning/teaching strategies, motivation, classroom management, and assessment of learning.

U 280 Business Technology and Information Design 3 cr. Offered spring. Prereq., C&I 183. Provides the knowledge base and skills necessary to function effectively in today's business environment. Topics include business technology, Internet research, presentations, desktop publishing, beginning web design, and document design. Completion of realistic activities and applications emphasized.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Offerings of visiting professors, new courses, or current topics.

U 296 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of advisor and instr.

U 298 Internship Variable cr. (R-6) Offered intermittently. Prereq., consent of advisor, instructor, and director of field experiences.

U 300 Field Experience/Elementary Language Arts 1 cr. (R-4) Offered autumn and spring. Prereq., C&I 200 coreq., C&I 316 and 318. Arranged field experience with 10 hours in a PK setting and 20 hours in either a K-6 or a K-8 school setting.

U 301 Field Experience/Mid-Level 1 cr. (R-4) Offered autumn and spring. Prereq., C&I 200; coreq., an elementary or secondary methods course. Arranged field experience in an elementary or middle school classroom, grades 4-8. For elementary education majors whose C&I 200 experience was in grades PK-3 and for secondary certification students whose C&I 200 experience was in a high school classroom.

U 302 Field Experience/Secondary 1 cr. (R-4) Offered autumn and spring. Prereq., C&I 200; coreq., a secondary methods course. Arranged field experience in a high school classroom. For students whose C&I 200 experience was in a middle school setting.

U 303 Educational Psychology and Measurements 3 cr. Offered every term. Prereq., admission to Teacher Education program; prereq. or coreq., C&I 200. Analysis of fundamental psychological concepts underlying classroom teaching and management, learning and evaluation including educational measurement. Emphasis on cognition, developmental, and motivational aspects of learning.

U 306 Instructional Media and Computer Applications 3 cr. Offered every term. Prereq., admission to the Teacher Education Program and general computer literacy skills; prereq. or coreq., C&I 200. Integration and use of computer and other technologies in education.

UG 316 Children's Literature and Critical Reading 3 cr. Offered autumn and spring. Prereq., C&I 303; coreq., C&I 318 and 300/301. Genre survey including multi-ethnic literature. Focus is on extensive reading and responding to quality children's literature through listening, speaking, writing, drama, and media activities which emphasize criteria for selection, critical thinking skills, the "whole language" approach, and effective integration of literature into the elementary curriculum.

U 318 Teaching Language Arts K-8 3 cr. Offered autumn and spring. Prereq., C&I 303; coreq., C&I 300/301, C&I 316. Language development and primary and secondary language acquisition; theory and application of teaching listening, speaking, writing and viewing in a pre-8 setting.

UG 330 Early Childhood Education 3 cr. Offered spring odd-numbered years. Prereq., consent of instr. Offered
alternate years. Theory and techniques of teaching in pre-school and primary levels of education. Observation and participation in pre-school programs. Recommended for kindergarten and primary teachers.

UG 355 Child in the Family 3 cr. Offered spring even-numbered years. Prereq., PSYC 100S. Physical, social, emotional and intellectual development, learning theories and child rearing practices related to children 0-6 years of age.

UG 357 Introduction to Special Education Law and Policy 3 cr. Offered autumn and odd-numbered summer. Prereq., admission to the special education endorsement program. Introduction to the processes involved in the identification and instructional planning for students requiring special education services. Considers the prereferral, referral, multidisciplinary evaluation and individual educational programming required under state and federal mandates.

UG 367 Pre-School Practicum Laboratory 3 cr. Offered autumn and spring. Prereq., C&I 355. Practicum experiences including observational assessment of children, study of the planning process, team teaching of a one-week unit plan, and planning and directing parent/teacher conferences. Students will complete selected readings and assignments on child development, early childhood ecological arrangements, and classroom management. Weekly seminars include early childhood pedagogy, adapted and regular physical education.

U 393 Omnibus Variable cr. (R-9) Offered intermitently. Independent work under the University omnibus option. See index.

U 394 Seminar Variable cr. (R-9) Offered intermitently. Group analysis of problems in specific areas of education.

U 395 Special Topics Variable cr. (R-9) Offered intermitently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

UG 400 Elementary Methods K-3 Field Experience 1 cr. (R-2) Offered autumn and spring. Coreq., C&I 402, 403, or 404. Arranged field experience in an elementary classroom, kindergarten through third grade completed with the Elementary Professional Methods Block. Students register for C&I 400 if their previous assignment was in a 4th grade or above classroom.

UG 401 Elementary Methods Grades 4-8 Field Experience 1 cr. (R-2) Offered autumn and spring. Coreq., C&I 402, 403, or 404. Arranged field experience in an elementary or middle school classroom, grades 4-8, completed with Elementary Professional Methods Block. Students register for C&I 401 if their previous assignment was in grades K-3.


U 403 Teaching Social Studies K-8 3 cr. Offered autumn and spring. Prereq., C&I 300/301, 316, 318. Emphasis on developing, teaching, and assessing social studies teaching/learning opportunities that incorporate literature, primary sources, and other developmentally appropriate activities. Overarching themes address diversity, integration across the curriculum, and understanding state and national curriculum standards.

U 404 Teaching Science K-8 3 cr. Offered autumn and spring. Prereq., C&I 300/301, 316, 318; Sci 225N, 226N, 305. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards.

UG 405 Teaching Reading K-8 3 cr. Offered autumn and spring. Prereq., C&I 300/301, 316, 318. Preparation to teaching reading in a K-8 setting to children from a variety of backgrounds and wide range of academic abilities. Emphasis on integrating the strands of a quality reading program at each grade level, becoming familiar with literacy materials, applying best practices in reading assessment, and developing student enthusiasm for reading.

UG 407E Ethics and Policy Issues 3 cr. Offered every term. Prereq., admission to Teacher Education Program and C&I 200. Practical application of ethical principles of the teaching profession. Analysis of the American public school and major policy issues from historical, legal, political, social as well as ethical perspectives.

UG 410 Exceptionality and Classroom Management 3 cr. Offered every term. Prereq., admission to Teacher Education Program. Prereq. or coreq., C&I 200. Focus on classroom management and the characteristics and instructional adaptations for exceptional students in the regular classroom. Technological considerations included.

UG 420 Curriculum and Methods in Early Childhood Special Education 3 cr. Offered autumn even-numbered years. Prereq., C&I 357 and 459. Principles in selecting and adapting early childhood curriculum materials for young children with handicaps development, implementation and evaluation of individualized education plans and appropriate teaching strategies for the early childhood special education classroom. Includes 22 hours of tutoring in a special education pre-school setting.

UG 421 Issues in Early Intervention 3 cr. Offered autumn odd-numbered years. Prereq., C&I 357. For case managers, school psychologists and special educators involved in P.L. 99-457. Issues in parent and child advocacy, least restrictive placements in pre-school and school environments, transitions concerning service providers and plans, case management in rural communities, transdisciplinary teaming processes, and individualized family service plans.

UG 426 Teaching Science in the Middle and Secondary School 3 cr. Offered autumn. Prereq., C&I 303, a science teaching major or minor. Methods and materials to teach science in grades 5-12. Techniques of evaluation.

UG 427 Literacy Strategies in Content Areas 3 cr. Offered autumn and spring. Prereq., C&I 303. Theories, models, instructional approaches for using literacy for learning in content fields. Emphasis on research, instructional practice, classroom assessment, multicultural and discipline integration.

UG 428 Teaching Social Studies in the Middle and Secondary School 3 cr. Offered autumn. Prereq., C&I 303. A science teaching major or minor. Methods and materials to teach social studies curriculum. Elements of lesson design, including instructional methods, materials and assessment.

UG 429 Teaching Business Subjects 4 cr. Offered autumn. Prereq., C&I 303, business teaching experience. Methods of unit and lesson planning methods of instruction and presentation learning theory computer applications student assessment micro teaching test design and evaluation of business courses and students.

UG 430 Teaching Mathematics in the Middle and Secondary School 4 cr. Offered autumn. Prereq., C&I 200 and C&I 303 at least two-thirds of the teaching major or

UG 433 Basic Diagnosis and Correction of Reading and Writing 3 cr. Offered autumn and spring. Prereq., C&I 318 or 427. Based on the analytic process, emphasis on assessing, identifying, and devising instructional strategies to meet students' reading/writing strengths and needs.

UG 435 Organizing Classroom Reading and Writing Programs 3 cr. Offered autumn and spring. Prereq., C&I 318 or 427. Emphasis on developing and supervising the school-wide literacy program and relating literacy research to educational practice to plan, implement, and assess a quality reading/writing program.

UG 437 Application of Instructional Models 6 cr. Offered summer intermittently. Prereq., C&I 433 or C&I 533. Provides students classroom teaching experience under direct supervision. Students teach reading and writing and apply knowledge of assessing and correcting reading and writing difficulties in grades K-12.

UG 442 Administrative Management and Supervision 3 cr. Offered spring. Management and supervision of office personnel.

UG 443 Philosophy and Procedures of Career and Technical Education 3 cr. Offered autumn. Theories and issues in career and technical business and information technology education. Development of educational philosophy; organization, operation, and evaluation of programs; and grant writing.

UG 444 Advanced Technology and Supervision 3 cr. Offered spring. Planning, supervision, utilization, and evaluation of advanced technology in vocational business and information technology education.

UG 452E Ethics and Consumer Economics 3 cr. Offered autumn. Analysis of personal resource use and consumer choice based on ethical theory, personal needs, market and governmental influences, and global issues.

UG 455W Workshop Variable cr. (R-6) Offered intermittently. Special courses experimental in nature dealing with a relatively narrow, specialized topic of particular current interest. Credit not allowed toward a graduate degree.

UG 457 Assessment and Instruction for Exceptional Learners 5 cr. Offered autumn; offered summer in even-numbered years. Prereq., C&I 357, admission to special education program coreq., C&I 459. Understanding and using assessment information for educational decision making. Instructional models and strategies used in teaching students with learning and behavior problems. Includes field experience.

UG 459 Consulting/Resource Teacher 3 cr. Offered spring; offered summer odd-numbered years. Prereq., C&I 357 coreq., C&I 463, 469. Consultation approaches for educating exceptional learners in regular classes and managing resource rooms. Rural education and multicultural issues are emphasized.

UG 463 Advanced Classroom Management for Exceptional Learners 3 cr. Offered spring; offered summer odd-numbered years. Prereq., C&I 357 coreq., C&I 459, 469. In-depth study of the principles and procedures for managing problem behaviors with an emphasis on prevention and classroom management. A field experience is required.

UG 469 Student Teaching in Special Education Variable cr. (R-10) Offered autumn and spring. Prereq., completion of all courses in the special education minor and consent of instr. and Director of Field Experiences; coreq., C&I 459, 463. Supervised field experience in special education.

UG 470 Young Adult Literature and Critical Reading 3 cr. Offered intermittently. Genre surveys; extensive reading, auditing, and viewing of literature and media addressed to students age 13-18. Emphasizes effective teaching strategies for using quality literature with secondary students. Not a substitute for C&I 316.

UG 478 Library-Media Workshop Variable cr. (R-6) Offered intermittently. Investigation of issues in library-media field, technology, and information resources. General sessions, committee work, and individual projects on issues or problems of special interest within the workshop topic.

UG 479 Reference, Media Skills, and Technology 3 cr. Offered intermittently. Evaluation, selection, and use of basic reference resources. Teaching of media skills, information negotiation, search strategies, database use, and information services.

UG 480 Collection Development 3 cr. Offered autumn. Focus on building and maintaining a foundation print and non-print media collection; devising a selection policy; demonstrating media use in support of the curriculum; and compiling annotated bibliographies.

UG 481 Student Teaching: P-8 Elementary Variable cr. (R-14) Offered autumn and spring. Prereq., consent of Director of Field Experiences and Student Teaching.

UG 482 Student Teaching: Secondary Variable cr. (R-14) Offered autumn and spring. Prereq., consent of Director of Field Experiences and Student Teaching.

UG 483 Library-Media Technical Processes 2 cr. Offered spring odd-numbered years; offered summer even-numbered years. Coreq., C&I 488. Focus on acquisition, processing, descriptive cataloging, application of AACR2, and the Dewey Decimal Classification for the print and non-print media collections.

UG 484 Administration and Assessment of the Library-Media Program 3 cr. Offered spring. Administrative and management procedures; assessment in terms of state, regional, and national guidelines for library-media programs and services.

UG 485 Authentic Assessment in Library Media 3 cr. Offered summer. Prereq., 9 credits in library-media course work and consent of instr. Supervised field experience in selected phases of library-media center operations, including assessment.

UG 486 Statistical Procedures in Education 3 cr. Offered autumn and spring. Same as HHP 486. Introduction to basic concepts and procedures characterizing both descriptive and inferential statistics. Awareness of ways in which statistical procedures are commonly misused.

UG 488 Libraries and Technology 2 cr. Offered spring odd-numbered years and summers even-numbered years. Coreq., C&I 483. Uses of computers in automation of library services and in administration of the library media program.

UG 493 Omnibus Variable cr. (R-9) Offered intermittently. Independent work under the University omnibus option. See index.

UG 494 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Group analysis of problems in specific areas of education.

UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Terms Offered</th>
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<tbody>
<tr>
<td>UG 496</td>
<td>Independent Study Variable cr. (R-6)Offered</td>
<td>1-3</td>
<td>intermittently. Prereq., consent of instr.</td>
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<tr>
<td>U 498</td>
<td>Cooperative Education Experience Variable cr.</td>
<td>1-2</td>
<td>(R-9) Offered intermittently. Prereq., consent of chair.</td>
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<tr>
<td>G 501</td>
<td>Curriculum Design, Implementation, and Evaluation</td>
<td>3</td>
<td>Offered spring even-numbered years; offered summer. Underlying principles of</td>
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<td></td>
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<td>design and implementation, and evaluation and assessment of</td>
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<td>K-12 curricula at the student and program levels.</td>
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<tr>
<td>G 502</td>
<td>Philosophy of Education 3 cr. Offered autumn and</td>
<td>3</td>
<td>summer. Same as EDLD 502. Major philosophical schools of</td>
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<td>thought and leading proponents of each. Concepts of society, the educative</td>
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<td>process, and the role of education.</td>
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<tr>
<td>G 504</td>
<td>History of American Education 3 cr. Offered</td>
<td>3</td>
<td>spring and summer odd-numbered years. Same as EDLD504. Exploration of the</td>
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<td>ideas, individuals, and events that have influenced the curriculum,</td>
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<td>pedagogy, and operation of the American public school, from colonial America</td>
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<td>to the present time.</td>
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<tr>
<td>G 506</td>
<td>Comparative Education 3 cr. Offered</td>
<td>3</td>
<td>spring even-numbered years. How the American educational system compares</td>
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<td>with those in selected other countries.</td>
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<tr>
<td>G 508</td>
<td>Sociology of Education 3 cr. Offered</td>
<td>3</td>
<td>autumn even-numbered years. Modern public education as it affects and is</td>
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<td>affected by religious, economic, and political systems and other social</td>
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<td>institutions.</td>
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<td>G 510</td>
<td>Advanced Educational Psychology 3 cr. Offered</td>
<td>3</td>
<td>autumn odd-numbered years. The exploration of theoretical and empirical</td>
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<td>issues in psychology (e.g., learning theory and intelligence).</td>
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<tr>
<td>G 514</td>
<td>Education Across Cultures 3 cr. Offered</td>
<td>3</td>
<td>autumn and spring odd-numbered years; offered summer even-numbered years.</td>
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<td></td>
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<td>Educational foundations of the study of diversity in American schools.</td>
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<td>G 515</td>
<td>Computer and Other Technological Applications</td>
<td>3</td>
<td>in Education 3 cr. Offered autumn; offered summer even-numbered years.</td>
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<td></td>
<td>in Education 3 cr.</td>
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<td>Prereq., a basic computer course or demonstrated computer literacy.</td>
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<td>Computer systems and other hardware utilizing various software applications</td>
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<td>by administrators, counselors, librarians, teachers, and students.</td>
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<tr>
<td>G 518</td>
<td>Inclusion and Collaboration 3 cr. Offered</td>
<td>3</td>
<td>autumn even-numbered years; offered summer odd-numbered years. Legal and</td>
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<td>ethical issues involved in the responsible inclusion of all individuals with</td>
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<td>disabilities through multi-disciplinary and collaborative efforts.</td>
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<tr>
<td>G 520</td>
<td>Educational Research 3 cr. Offered every term.</td>
<td>3</td>
<td>Same as EDLD/HHP 520. An understanding of basic quantitative and qualitative</td>
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<td>research methodology and terminology, particularly as they are used in studies</td>
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<td>presented in the professional literature.</td>
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<td>G 521</td>
<td>Foundations in Environmental Education 3 cr.</td>
<td>3</td>
<td>Offered autumn. Prereq., graduate standing in environmental studies. Same as</td>
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<td>EVST 521. Problem-solving approach to environmental education; problem</td>
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<td>identification, research and design and implementation of an educational</td>
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<td>approach to selected environmental issues.</td>
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<tr>
<td>G 525</td>
<td>Teaching Environmental Science 1-3 cr. (R-6)</td>
<td>3</td>
<td>Offered spring even-numbered years. Prereq., consent of instr. Same as EVST</td>
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<td>525. Identification and examination of potential solutions to environmental</td>
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<td>problems and their impact on society. Major emphasis on teaching methods as</td>
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<td>they apply to environmental science.</td>
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<tr>
<td>G 527</td>
<td>Advanced Literacy Strategies in Content Areas 3</td>
<td>3</td>
<td>Offered autumn; offered summer even-numbered years. Prereq., teaching</td>
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<td>experience. Advanced theories, models, instructional approaches for using</td>
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<td></td>
<td>reading/writing for learning in content fields. Emphasis on research,</td>
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<td>instructional practice, classroom assessment.</td>
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<tr>
<td>G 530</td>
<td>Socio-Cultural Foundations of Literacy 3 cr.</td>
<td>3</td>
<td>Offered summer odd-numbered years. Survey of history and research related to</td>
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<td>literacy practices in schools/communities. Theories, models, politics of</td>
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<td>literacy in K-12/Adult education.</td>
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<td>G 533</td>
<td>Advanced Diagnosis and Correction of Reading</td>
<td>3</td>
<td>Offered autumn odd-numbered years; offered summer even-numbered years. Based</td>
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<td>and Writing 3 cr.</td>
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<td>on the case study approach, emphasis on diagnosing and devising instructional</td>
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<td>strategies for students with reading/writing strengths and needs.</td>
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<td>G 540</td>
<td>Supervision and Teaching Language Arts 3 cr.</td>
<td>3</td>
<td>Offered intermittently in spring and summer. Prereq., teaching experience.</td>
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<td>Curriculum trends, instructional materials, research and supervisory</td>
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<td>techniques relevant to a modern school mathematics program.</td>
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<td>G 541</td>
<td>Supervision and Teaching of Children’s Literature</td>
<td>3</td>
<td>Offered intermittently in spring and summer. Prereq., teaching experience.</td>
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<td></td>
<td>and Critical Reading 3 cr.</td>
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<td>Curriculum trends, instructional materials, research and supervisory</td>
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<td>techniques relevant to a modern school mathematics program.</td>
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<td>G 542</td>
<td>Supervision and Teaching of Mathematics 3 cr.</td>
<td>3</td>
<td>Offered intermittently in spring and summer. Prereq., teaching experience.</td>
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<td>Curriculum trends, instructional materials, research and supervisory</td>
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<td>techniques relevant to a modern school mathematics program.</td>
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<td>G 543</td>
<td>Supervision and Teaching of Reading 3 cr.</td>
<td>3</td>
<td>Offered intermittently in spring and summer. Prereq., teaching experience.</td>
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<td>Curriculum trends, instructional materials, research and supervisory</td>
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<td>techniques relevant to a modern school mathematics program.</td>
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<td>G 544</td>
<td>Supervision and Teaching of Science 3 cr.</td>
<td>3</td>
<td>Offered intermittently in spring and summer. Prereq., teaching experience.</td>
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<td>Curriculum trends, instructional materials, research and supervisory</td>
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<td>techniques relevant to a modern school mathematics program.</td>
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<td>G 545</td>
<td>Social Studies Education 3 cr. Offered</td>
<td>3</td>
<td>summer even-numbered years. Survey of theory and research related to</td>
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<td>developing and supervising reading instruction programs.</td>
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<td>G 546</td>
<td>Supervision and Teaching of Young Adult Literature</td>
<td>3</td>
<td>Offered intermittently. Prereq., teaching experience. Designing curricula</td>
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<td></td>
<td>and Critical Reading 3 cr.</td>
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<td>based on the structure of knowledge, and analyzing existing elementary</td>
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<td>science programs.</td>
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<td>G 548</td>
<td>Supervision and Teaching in Environmental</td>
<td>3</td>
<td>Offered intermittently. Prereq., teaching experience. Historical trends and</td>
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<td>Education 3 cr.</td>
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<td>curriculum issues related to social studies instruction. Emphasis on current</td>
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<td>research concerning social studies curriculum design, instructional practices,</td>
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<td>and use of resources.</td>
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<td>G 553</td>
<td>Information Searching, Retrieval and the</td>
<td>3</td>
<td>Offered intermittently. Prereq., basic course in reference. Search strategy,</td>
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<td>Curriculum 3 cr.</td>
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<td>informed selection, and curricular utilization of general and subject</td>
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<td>reference and information sources integration of research and media skills</td>
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<td>into the K-12 curriculum.</td>
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</table>
G 555 Workshop Variable cr. (R-6) Offered intermittently. Special courses experimental in nature dealing with a relatively narrow, specialized topic of particular current interest. Credit not allowed toward a graduate degree.

G 557 Advanced Application of Literacy Models Variable cr. (R-8) Offered intermittently in summer. Prereq., C&I 433 or 533. Based on readers’ literacy strengths and needs, practitioners diagnose, devise, and implement instructional strategies for students in grades K-12.

G 570 Instructional Technology Foundation 3 cr. Offered autumn even-numbered years and summer odd-numbered years. Same as EDLD 570. General introduction to the field, theory, and profession of instructional technology. Definition of instructional technology; history of the field.

G 571 Planning, Preparing, and Assessing Educational Technology Media 3 cr. Offered intermittently. Same as ELED 571. Principles and practices of instructional design for integration of educational technology. Emphasis on role of technology in contemporary teaching/learning/assessing theory and practice, including learning styles and multiple intelligences.

G 572 Evaluation of the School Media Program 3 cr. Offered intermittently. Prereq., completion of 15 semester credits in the library media program or consent of instr. Study and application of measures used to evaluate school media program and services includes district, state, regional, and national instruments. Required for M.Ed. with a library-media concentration.

G 580 Distance Learning Theory and Implementation 3 cr. Offered autumn odd-numbered years. Same as EDLD 580. Introduction to distance learning models and exploration of satellite and computer-mediated course development, implementation, and evaluation.

G 581 Planning and Management for Technology in Education 3 cr. Offered autumn odd-numbered years. Same as EDLD 581. Creating, implementing, maintaining, and evaluating technology plans for educational institutions, including budgets, facilities, and hardware planning.

G 582 Educational Technology: Trends and Issues 3 cr. Offered spring even-numbered years. Same as EDLD 582. Exploration of trends and issues in the use of educational technology in a variety of settings.

G 583 Educational Technology: Trends and Issues 3 cr. Offered intermittently. Same as EDLD 583. Leadership and strategic planning processes for technology integration within schools.

G 585 Unit Course in Business and Information Technology Education Variable cr. (R-6) Offered summer odd-numbered years. Each unit course will carry a special title designating topic covered that is related to improvement of instruction.

G 590 Supervised Internship 1-9 cr. (R-9) Offered intermittently.

G 594 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr.

G 597 Research Variable cr. (R-9) Offered every term. Prereq., consent of instr.

G 598 Internship Variable cr. (R-9) Offered every term. Prereq., consent of instr. Supervised field experience.

G 618 Educational Statistics 3 cr. Offered spring. Prereq., C&I 486 or equiv., or consent of instr. Same as EDLD 618. Advanced statistical methods and use of the mainframe computer and microcomputer for data analysis. Use of a recognized statistical package (e.g., SPSS-X) for research applications.

G 620 Qualitative Research 3 cr. Offered autumn. Prereq., C&I 520 or 618, or equiv. Same as EDLD 620. In-depth review of descriptive, experimental, historiographic, ethnographic, and other qualitative research methods, designs, and approaches. The development of a research proposal.

G 625 Quantitative Research 3 cr. Offered spring. Prereq., C&I 520 and 486 or equiv. and coreq., C&I 618. Same as EDLD 625. Principles and techniques of quantitative research in educational settings. Students prepare a draft of a research proposal and an abbreviated dissertation proposal defense.

G 630 Special Topics in Literacy 1-3 cr. (R-3) Offered every term. Prereq., consent of instr. Should be taken in conjunction with or immediately prior to comprehensive examinations. In-depth coverage of selected topics in reading and writing related to current literacy issues and practices.


G 694 Advanced Seminar in Curriculum and Instruction Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

G 697 Advanced Research in Curriculum and Instruction Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

G 699 Thesis/Dissertation Variable cr. (R-10) Offered every term.

Faculty

Professors

Marlene J. Bachmann, M.S., University of Nebraska, 1967
Janice LaBonty, Ph.D., University of Montana, 1987
Carolyn J. Lott, Ed.D., The University of Montana, 1985 (Chair)
Jean A. Luckowski, Ed.D., Oklahoma State University, 1983
Marian J. McKenna, Ph.D., University of Colorado, 1987
Audrey L. Peterson, M.S., The Pennsylvania State University, 1970
Richard van den Pol, Ph.D., Western Michigan University, 1981

Associate Professors

Lisa M. Blank, Ph.D., Indiana University, 1997
Sarah M. Brewer. Ed.D., University of Central Florida, 1995
Fletcher Brown, Ph.D., Miami University, 1994
Georgia A. Cobbs, Ph.D., The Ohio State University, 1995
David R. Erickson, Ph.D., The Ohio State University, 1994
Ann N. Garfinkle, Ph.D., University of Washington, 1999
Darrell W. Stolle, Ed.D., University of Montana, 1998
Stephanie Wasta, Ph.D., University of Iowa, 1993
Assistant Professors
Trent L. Atkins, Ph.D., University of Oregon, 2003
Sandra R. Williams, Ed.D., The University of Montana, 2000

Research Faculty
Nancy Arnold, Ph.D., University of Northern Colorado, 1995
Douglas A. Beed, Ed.D., University of Northern Colorado, 1980
Susan Harper-Whalen, Ed.M., Harvard University, 1984
Stacia Jepson, B.A., The University of Montana, 1995
Richard Kiefer-O’Donnell, Ph.D., University of Utah, 1996
Theodore Maloney, M.A., Goddard College, 1978
Gail McGregor, Ed.D., The Johns Hopkins University, 1984
Lucy Hart Paulson, M.S., University of Illinois, 1980
Susan Toth, M.A., University of Iowa, 1974
R. Timm Vogelsberg, Ph.D., University of Illinois, 1979

Department of Educational Leadership and Counseling

John C. Lundt, Chair
Catherine Jenni, Director, Counselor Education

The Educational Leadership knowledge base emphasizes the realities of the workplace, blending practical tasks with the conceptual models of effective leadership. The model uses leadership assessment and problem-based learning throughout nine curricular strands: change/future, leadership, research community, communication, assessment/program evaluation, management, diversity, curriculum, and professionalism/socialization. Students at both degree levels experience integrated coursework, performance-based assessment, and exit interviews on completion of the degree programs.

The Counselor Education program educates students for employment in school (K-12 and higher education) and community mental health and human service settings. Counselors are systems, family and individual consultants, practitioners and coordinators who assist in problem solving, decision-making skills, personal growth and development, and individual, family school, and career issues. Counselors receive training in the eight core areas identified by the American Counseling Association Council for Accreditation of Counseling and Related Educational Programs: human growth and development, social and cultural foundations, the helping relationship, group theories and methods, career and lifestyle development, client assessment and evaluation, research and program evaluation, and professional orientation. Student may focus on School Counseling (M.Ed.) or Agency (Mental Health) Counseling (M.A.). Each track requires additional specialty courses and comprehensive written and oral examinations focused on the student’s career track. The more advanced graduate degrees (Ed.S. and Ed.D.) develop depth, supervisory, and leadership skills in these areas.

Graduate Programs: The M.A. is offered in Counselor Education as an interdisciplinary degree; the M.Ed., Ed.S., and Ed.D. are offered in education administration and supervision as well as in counselor education. Information regarding specific requirements and program options is available from the School of Education. For more information, please refer to The University of Montana Graduate Programs and Admissions Catalog.

Admission to Counseling: Applicants for this program should contact the Department for more specific admissions information. Requirements include GRE verbal and quantitative less than 5 years old; official transcripts from all undergraduate and graduate institutions attended; three current letters of recommendation; and a letter of application stating academic and professional background, purpose in obtaining the degree, and thoughts about eventual employment and career direction. Deadline is February 15. Admission is competitive. Meeting graduate school minimum grade average and GRE requirements will not necessarily insure acceptance.

Admission to Educational Leadership: The Program Admissions Committee has established policies and standards for admission which include the GRE (verbal and quantitative); three letters of recommendation (one from an immediate supervisor); official transcripts for all undergraduate and graduate coursework; qualifying examination; and interviews (doctoral). Contact the Department for details.

Certification Requirements: Degree programs lead to certification at the Class I and Class III levels.

Courses
U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Counselor Education (COUN)

UG 455 Workshop Variable cr. (R-6) Offered intermittently. Special courses experimental in nature dealing with a relatively narrow, specialized topic of particular current interest. Credit not allowed toward a graduate degree.

UG 475 Forgiveness and Reconciliation 3 cr. Offered spring. Survey of the theory and practice of healing fractured relationships at the individual and community levels, treating historical and personal issues from philosophical, psychological and religious perspectives drawn from several diverse cultures.

UG 495 Special Topics 1-9 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 511 Theories and Techniques of Counseling 3 cr. Offered autumn. Examination of historic and current theories
of counseling. Overview of techniques associated with each theory, basic introduction to ethical concerns with each theory.

G 512 Counseling Fundamentals 3 cr. Offered spring. Prereq., COUN 511. Overview of approaches to counseling, including common factors. Includes meta-theoretical considerations and guided dyadic practice.


G 530 Applied Counseling Skills 2 cr. Offered autumn and spring. Prereq., COUN 511, 512 and consent of instr. Review and application of counseling theories and techniques to client issues. Intensive supervision including ethics, professional practice and diagnostic considerations. Lecture and class presentation with a focus on professional counseling development.

G 540 Individual Appraisal 3 cr. Offered spring. Prereq., C&I 517 or consent of instr. Overview of appraisal techniques utilized in counseling, including interviewing, observation, and psychological/educational testing. The processes of selection, administration, scoring, interpretation, and reporting information from appraisal techniques are examined in relation to practical, legal, and ethical considerations.

G 550 Introduction to Family Counseling 3 cr. Offered spring. Prereq., admission to Counselor Education program or consent of instr. An introduction to the major theories, techniques, and diagnostic tools of family counseling. Course includes a family systems emphasis.

G 555 Workshop Variable cr. Offered intermittently. Special courses experimental in nature dealing with a relatively narrow, specialized topic of particular current interest. Credit not allowed toward a graduate degree.

G 560 Lifespan Developmental Counseling 3 cr. Offered spring. Overview of counseling from the framework of lifespan developmental theory. Normal and abnormal development in the environmental context of family, school, society and culture emphasized.

G 565 School Counseling, Program Development and Supervision 3 cr. Offered spring. Prereq., graduate standing or consent of instr. Examination of counseling techniques and approaches relevant to prevention and remediation of behavioral, social, emotional and academic problems for students P-12. Overview of school counseling program development and administration.

G 566 Counseling Children and Adolescents 3 cr. Offered every spring. Prereq., COUN 511, 512, 565 or consent of instr. Review and application of counseling concerns and approaches with children and adolescents in school and related educational settings, including classroom and psychoeducational strategies.

G 570 Career Counseling Theory and Techniques 3 cr. Offered spring. Examination of theories of career choice and development; information sources for career counseling; techniques and approaches of career counseling with clients at different stages of career and life development and from diverse populations.

G 575 Multicultural Counseling 3 cr. Offered autumn. Prereq., graduate standing or consent of instr. An introduction to the field of multicultural counseling. Issues and practical considerations in counseling five population groups: definition of terms and concepts.


G 585 Counseling Methods: School and Agency 2-9 cr. Offered every term. Prereq., COUN 511, 512. Supervised counseling methods and theories as applied in mental health agencies and schools. Review of the principles of counseling as they apply to various settings and client issues.

G 589 Comprehensive Project 2 cr. Offered autumn and spring. Integration of professional experience and academic research in a comprehensive paper or applied project. Students may elect to have an oral examination covering the eight CACREP core areas of counseling.

G 594 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Group analysis of problems in specific areas of education.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 597 Research Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

G 610 Professional Ethics and Orientation 3 cr. Offered autumn. Prereq., COUN 530 or consent of instr. The public and institutional roles and responsibilities of counseling professionals including ethical and legal responsibilities.

G 615 Diagnosis and Treatment Planning in Counseling 3 cr. Offered autumn. Prereq., COUN 512. Overview of diagnosis, treatment planning and case documentation in counseling.

G 630 Applied Counseling Skills: Advanced Variable cr. (R-12) Offered autumn and spring. Prereq., COUN 530 and consent of instr. Review and application of counseling theories and techniques at an advanced level. Intensive supervision including ethics, professional practice and diagnostic considerations. Lecture and class presentations focus on professional counseling development.

G 633 Supervision and Consultation in Counseling: Advanced Practicum 2-4 cr. (R-4) Offered spring. Prereq., COUN 530. Approaches and techniques for supervision and consultation in counseling. Supervised experience with first year counselor education graduate students.

G 685 Advanced Counseling Methods: School and Agency 2-9 cr. (R-9) Offered every term. Prereq., COUN 585. Supervised advanced counseling methods and approaches as applied to mental health agencies and schools.

G 699 Thesis/Professional Paper 2-10 cr. (R-10) Offered intermittently. Prereq., EDLD 620 or 625.

**Educational Leadership (EDLD)**

G 502 Philosophy of Education 3 cr. Offered autumn. Same as C&I 502. Major philosophical schools of thought and leading proponents of each. Concepts of society, the educative process, and the role of education.

G 504 History of American Education 3 cr. Offered spring and summer odd-numbered years. Same as C&I 504. Exploration of the ideas, individuals, and events that have influenced the curriculum, pedagogy, and operation of the American public school, from colonial America to the present time.

G 512 Educational Futures 3 cr. Offered spring. Predicting and projecting the near and more distant future of education. The changing place and nature of education and leadership in tomorrow's society.

G 519 Measurement and Analysis of Educational Data 3 cr. Offered summer. Prereq., graduate standing.
Explanation and practice in measurement and statistical analysis of educational data. Preparation in measurement and statistical analysis for educational research.

G 520 Educational Research 3 cr. Offered every term. Same as C&I and HHP 520. An understanding of basic quantitative and qualitative research methodology and terminology, particularly as they are used in studies presented in the professional literature.

G 540 Higher Education Finance 3 cr. Offered intermittently. Prereq., EDLD 550 and consent of department. Overview of how colleges and universities make financial and budgetary decisions; current trends in state and federal policy related to finance; contemporary problems in finance of education.

G 542 The College Student 3 cr. Offered autumn. Prereq., EDLD 550 and consent of department. Survey of today's college student including discussion of demographics, student development theories, learning theories, and contemporary issues on college campuses related to college students.


G 546 Federal and State Higher Education Policy 3 cr. Offered intermittently. Prereq., EDLD 550 and consent of department. Overview of policies at the local, state, and national levels that affect the conduct of higher education; current trends in higher education policy; changes in educational policy; how policies affect different institutional types.

G 550 Foundations of Educational Leadership 3 cr. Offered autumn and summer. Prereq., C&I 551 or consent of instr. Basic functions of K-12 administration and supervision and how contemporary views have evolved; models of leadership style and practice compared; responsibilities and relationships of school boards and chief school officers.

G 551 Foundations of Curriculum Leadership 3 cr. Offered autumn and summer. Prereq., elementary or secondary teaching experience or consent of instr. The history and theoretical bases of current K-12 curriculum and instructional leadership.

G 552 The Supervision and Evaluation of Public School Educators 3 cr. Offered spring and summer. Prereq., EDLD 550. Conflicting views and models of supervision; development of instruments for the formative and summative evaluation of teaching and their use in simulated cases.

G 554 School Law 3 cr. Offered autumn and summer. Prereq., EDLD 550. Key Montana and national legislation regarding public education. Landmark cases of the U.S. Supreme Court and other federal, regional, and state courts as they affect the operation of public schools and the rights of school board members, administrators, teachers, students, and parents.

G 556 The Finance of Public Education 3 cr. Offered spring and summer. Prereq., EDLD 550. Revenue sources for K-12 public schools; proper expenditures; Montana's foundation program and related legislation; major court cases and how they have affected ways of funding schools; developing effective school and district budgets.

G 559 School Public Relations for the Principal 3 cr. Offered spring and summer. Investigation of the appropriate leadership and management roles of the modern school principal as they relate to public relations. Understanding of political theory as it relates to developing and maintaining relationships with internal and external publics.

G 567 K-12 Leadership 3 cr. Offered autumn, spring, and summer. Examination of the roles responsibilities, and relationships of educators relative to management and leadership considerations at all levels of the educational organization (elementary, middle, secondary, and central office).

G 568 K-12 Curriculum 3 cr. Offered spring and summer both fact-to-face and online. Major aspects of curriculum related to the duties and responsibilities of school administrators. Issues related to the development, review and evaluation of curriculum. Exploration of issues related to selected instructional models and practices; school improvement.

G 570 Instructional Technology Foundations 3 cr. Offered autumn even-numbered years and summer odd-numbered years. Same as C&I 570. General introduction to the field, theory, and profession of instructional technology. Definition of instructional technology; history of the field.

G 571 Planning, Preparing, and Assessing Educational Technology Media 3 cr. Offered intermittently. Same as C&I 571. Principles and practices of instructional design for integration of educational technology. Emphasis on role of technology in contemporary teaching/learning/assessing theory and practice, including learning styles and multiple intelligences.

G 580 Distance Learning Theory and Implementation 3 cr. Offered summer odd-numbered years. Same as C&I 580. Introduction to distance learning models and exploration of satellite and computer-mediated course development, implementation, and evaluation.

G 581 Planning and Management for Technology in Education 3 cr. Offered autumn odd-numbered years. Same as C&I 581. Creating, implementing, maintaining, and evaluating technology plans for educational institutions, including budgets, facilities, and hardware planning.

G 582 Educational Technology: Trends and Issues 3 cr. Offered spring even-numbered years. Same as C&I 582. Exploration of trends and issues in the use of educational technology in a variety of settings.

G 583 Strategic Planning for Technology 3 cr. Offered spring even-numbered years. Same as C&I 583. Leadership and strategic planning processes for technology integration within schools.

G 584 Authentic Application in Instructional Design for Technology 3 cr. Offered summer even-numbered years. Development of practical competencies in such components of instructional technology as development, production, materials evaluation, and project management and implementation.

G 585 Fieldwork in Educational Administration and Supervision 2-3 cr. Offered intermittently. Prereq., EDLD 560 or 565. Fieldwork at the school level (when the student is not completing an internship), with the cooperation of the principal and under the guidance of a University of Montana professor.

G 594 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Group analysis of problems in specific areas of education.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

G 597 Research Variable cr. (R-10) Offered autumn and spring. Prereq., consent of instr.
G 598 Internship in Educational Administration and Supervision Variable cr. (R-10) Offered autumn and spring. Prereq., consent of instr.

G 599 Professional Paper Variable cr. (R-9) Offered intermittently.

G 618 Educational Statistics 3 cr. Offered spring. Prereq., C&I or HHP 486 or equiv. or consent of instr. Same as C&I 618. Advanced statistical methods and use of the mainframe computer and microcomputer for data analysis. Use of a recognized statistical package (e.g., SPPS-X) for research applications.

G 620 Qualitative Research 3 cr. Offered autumn. Prereq., EDLD 520 or 618 or equiv. Same as C&I 620. In-depth review of descriptive, experimental historiographic, ethnographic, and other qualitative research methods, designs, and approaches. The development of a research proposal.

G 625 Quantitative Research 3 cr. Offered spring. Prereq., EDLD 520 and C&I 486 or equiv. and coreq., EDLD 618. Same as C&I 625. Principles and technique of quantitative research in educational settings. Students prepare a draft of a research proposal and experience an abbreviated dissertation proposal defense.

G 653 School Personnel Administration 3 cr. Offered intermittently. Prereq., EDLD 550. Administration of classified and certificated school employees; personnel-related laws, functions, and decisions; unions, bargaining contracts, grievances, etc.

G 656 The Economics of Public Education 3 cr. Offered intermittently. Prereq., EDLD 556. School finance from a national perspective; alternative budgeting and school-revenue models; equity considerations.

G 657 Facilities Planning and Other School Business Functions 3 cr. Offered intermittently. Prereq., EDLD 550. Working with architects, school personnel, and others on educationally and financially sound plans for new and remodeled facilities; the school business official's responsibilities regarding buildings and grounds, maintenance and custodial services, transportation, food services, and the administration of classified personnel.

G 658 School Public Relations–Superintendents 3 cr. Offered intermittently. Enhancing site- and district-level internal and external relations; conducting needs assessments, inservice workshops, and funding campaigns; improving administrators' writing, listening, and speaking skills; composing press releases and newsletters; working with the media.

G 660 Adult and Continuing Education 3 cr. Offered intermittently. Adult learning theory and the special needs and motivations of adult learners in postsecondary institutions; principles and practices of administering postsecondary continuing education programs.

G 662 History of Higher Education 3 cr. Offered intermittently. Survey of the historical roots of higher education from world and comparative perspectives; examination of the historic and contemporary missions, organizational structures, governance, and administration of various types of postsecondary and higher education institutions in America and abroad.

G 664 The Community College 3 cr. Offered intermittently. The organization and administration of American postsecondary education in two-year collegiate institutions; current trends in governance, finance, curriculum, faculty and students.
Department of Health and Human Performance

Arthur Miller, Chair

Within the liberal arts tradition of The University of Montana and the mission of the School of Education, the Department of Health and Human Performance engages in professional, therapeutic exercise activity, and meaningful public service. The department emphasizes all dimensions of health and human movement to enhance the longevity and quality of life.

The undergraduate curriculum in health and human performance at The University of Montana prepares graduates to be competent entry-level professionals in health and human performance-related occupations or candidates for advanced study in related disciplines. Development of the following is considered essential in achieving those outcomes: 1) knowledge of the scope of the profession, 2) basic and professional skills germane to effective practice as a health and human performance professional or successful pursuit of advanced studies, 3) higher order thinking skills which increase the students' involvement in their own learning and promote a lifelong quest for knowledge, 4) knowledge of the multiple dimensions of health, and possession of health promotion skills applicable in a variety of settings, 5) understanding of the role played by health and human performance professionals, a sense of responsibility, personal attributes, and professional behaviors requisite for effective functioning within that role, and 6) respect for the uniqueness and dignity of self and others.

HHP majors choose from one of the following options in the undergraduate curriculum: Athletic Training; Exercise Science; Applied Health Science; and Health Enhancement. Students complete requirements for one or more of the options consistent with their professional aspirations.

The goal of the Athletic Training option is to prepare competent entry-level athletic trainers for employment in educational and clinical settings or post-graduate study. The Athletic Training curriculum is designed to help students develop proficiency in the acute care of injuries/illnesses, risk management and injury prevention, psychosocial intervention and restorative, therapeutic exercise activity, and meaningful public service. The department emphasizes all dimensions of health and human movement to enhance the longevity and quality of life.

The Exercise Science option is designed to provide students with an in-depth biological and social science background and prepares students for post-baccalaureate study in exercise physiology and related sciences.

The Applied Health Science option prepares students for professional certification and employment in two areas—exercise and fitness and/or community health education. Successful graduates of this option should possess the knowledge and skills to qualify for: 1) American College of Sports Medicine Health/Fitness Instructor’s Certification; 2) National Strength and Conditioning Association Certified Strength and Conditioning Specialist certification, or equivalent; and/or 3) Certification as a Health Education Specialist. Students should be prepared to assess health needs, plan, implement and evaluate health promotion activities in a variety of settings.

The Health Enhancement option prepares students to teach health behaviors and to facilitate their adoption in the school or community. Students successfully completing the Health Enhancement emphasis should meet state certification standards for teaching Health Enhancement in K-12 environments.

The graduate curriculum in Health and Human Performance at The University of Montana prepares post-graduates to become effective health and human performance professionals or competitive candidates for advanced study in related disciplines through a comprehensive program of study and guided research. Development of the following is considered essential in achieving a graduate degree: 1) oral and written communication, 2) understanding of current research, 3) familiarity with the literature in one’s chosen specialization, 4) appropriate technological skills, 5) ability to design, conduct, and report research in a scholarly fashion, 6) investigative skills to promote independent pursuit of learning beyond the confines of curricular requirements, and 7) personal characteristics, sense of responsibility, and professional behaviors requisite for effective functioning as an advanced health and human performance professional. Graduate options include Exercise and Performance Psychology, Exercise Science, and Health Promotion. For more information regarding the department’s graduate program, refer to The University of Montana Graduate Programs and Admissions catalog.

The department also provides a large activity program (HHP 100-179) which includes instruction in a wide variety of individual, team, recreational, and fitness activities. Goals of this program include helping students: 1) develop and maintain long-term health-related fitness, 2) develop motor performance skills that facilitate regular and continuous participation in physical activity, and 3) develop the adult "inner athlete" who continually strives to reach optimal potential through involvement in challenging endeavors. Students may elect to apply up to four credits from HHP 100-179 toward a baccalaureate degree. For descriptions of the activity classes offered, refer to the website at http://www.soe.umt.edu/hhp/ and select Health & Human Performance Activity Classes (H2PAC).

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Students must fulfill the requirements listed below. Students must maintain a cumulative grade point average of 2.25 to continue as majors in the department. Failure to maintain the minimum grade point average will result in probation for the first semester below, and suspension from enrolling in 300-400-level courses after the probationary semester until the cumulative grade point average is raised to or above the 2.25 minimum. All HHP majors and minors must earn a minimum grade of a C (2.00) in all required courses, including prerequisites. Courses specifically listed in this catalog as requirements for Health and Human Performance majors must be taken for a traditional letter grade. This includes courses in HHP and out-of-department courses.
Athletic training students must earn a grade of C (2.00) in all required courses, including prerequisite courses. Courses specifically listed in the catalog, as requirements for the athletic training option (Athletic Training Education Program) must be taken for a traditional letter grade. This includes in-department and out-of-department courses. Student in the athletic training option who receive less than a C (2.00) on any required courses will be placed on program suspension and will not be allowed to continue any sequential courses until they retake the course and receive at least a C. If a student receives less than a C (2.00) after repeating a course, the student will be dismissed from the program.

**Admission Policies for Health Enhancement Emphasis**

The Health Enhancement emphasis is designed for individuals who wish to teach in the public school system. Application for admission to the School of Education must be made. The number of students admitted into the program is limited. Application is made no sooner than after the completion of 30 hours of course work. A cumulative GPA of 2.75 is necessary for application.

To successfully complete the program in Health Enhancement, a student must receive a grade of C (2.00) or above in every course in the following areas: teaching major and minor, professional education courses, a drug abuse course, PSYC 100S, ENEX 101, and C&I 427 or ENT 440. None of these courses may be taken as pass/not pass except where that is the only grade available.

**Admission Policies for the Athletic Training Option**

**Athletic Training Education Program (ATEP)**

The University of Montana offers a Bachelor of Science in Health and Human Performance (HHP) with an option in Athletic Training. The Athletic Training Education Program (ATEP) is the only undergraduate curriculum in the State of Montana accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP). The ATEP is a demanding curriculum which requires dedication and commitment. It is a rewarding program that may present a variety of professional career opportunities upon graduation.

Following are the requirements and various options available with respect to students’ professional goals. Academic advisors are available to assist students in this interesting and challenging professional program.

**Admission.** Students who desire admission into the ATEP must submit a formal application to the program director. The application deadline is February 1. The application form is available from the HHP department with the approval of the ATEP director.

Each application for admission to the professional ATEP is reviewed by a Review Board consisting of the ATEP director and clinical instructors as well as other professionals. Formal notification of admission to the professional ATEP is made in writing and sent to the candidate prior to the preregistration period for autumn semester.

Candidates who are not admitted to the ATEP receive written notification of this decision. All qualified candidates might not be admitted to the professional ATEP due to the limited number of clinical openings.

**Interview Requirements.** The following selection criteria must be met to be considered for an interview:

1. Minimum overall GPA of 2.75. All pre-professional ATEP course requirements must have no grade lower than "C".
2. A written "Statement of Purpose" attached to the application form. Applicants must address the following:
   - reason for applying to this professional concentration
   - perception of the profession
   - future expectations upon completion of the professional ATEP
   - past experience in athletic training
   - any other areas or comments considered appropriate

3. Three professional letters of recommendation.
4. Completion of 140 hours of clinical observation in athletic training and Level 1 modules and clinical proficiencies. See the Pre-ATEP Policy & Procedure Manual. (http://www.soe.umont.edu/hhp/prpro.htm) or contact the program director for this information.
5. See blood-borne pathogen requirements on the above website or contact the program director.
6. Complete or will complete the prerequisite courses (see above website or contact the program director prior to application to the Professional ATEP).
7. Meet established technical standards (see above website or contact the program director).

Note: Transfer students will be required to complete all the pre-professional requirements and also submit an application as required in the admissions policies.

**Professional ATEP.**

The ATEP is divided into a pre-professional program lasting approximately two to three years and a professional program during the final two years. The professional program requires 4 semesters of clinical education and sequential courses; therefore, students must enter the program during autumn semester.

Upon admission into the professional program, the following requirements must be met:

1. Become a student member of the National Athletic Trainers’ Association, Inc.
2. Purchase student liability insurance prior to initiating clinical education.
3. Accumulate a minimum of 1,000 hours of clinical practicum within a two year period. No more than one-half (500) of this minimum (1,000) can be credited per academic year; the hours must be equally distributed each semester (250 per semester).
4. Demonstrate progressive improvement as an athletic training student throughout the practicum, per CAAHEP guidelines and The University of Montana-Missoula’s ATEP expectation.
5. Complete the required curriculum sequentially.
6. Send for NATA-BOC Application at least three months prior to the expiration date.
7. Maintain current appropriate First Aid and CPR cards (see the HHP First Aid Requirements http://www.soe.umont.edu/hhp/ath3.htm#gen).
8. Maintain a 2.75 overall GPA and receive no lower than a "C" in any professional course.
9. Hepatitis B immunization must be completed before initiating clinical education.

**General Program Requirements**

**First Aid Exit Competency**

All Health and Human Performance students are required to demonstrate competency and appropriate certification in first aid/emergency care and CPR upon submission of their application for degrees. The following certifications will meet this competency:

Any one of the following current first aid/emergency care certifications:

Emergency Response from the American Red Cross
**Suggested Course of Study**

### Athletic Training Option:

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 106N</td>
<td>Elementary Medical Microbiology</td>
<td>3</td>
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<tr>
<td>CHEM 151N-152N</td>
<td>General and Inorganic Chemistry and Biological Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A</td>
<td>Introduction to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>CS 171 Communication Via Computers (or out of department elective if competency is met)</td>
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<td>ENEX 101 Composition</td>
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<td>3</td>
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<tr>
<td>HHP 181 Foundations of Health and Human Performance</td>
<td>3</td>
<td></td>
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<tr>
<td>HHP 184 Personal Health and Wellness</td>
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<td>MATH 117 Probability and Linear Math</td>
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<td>HHP 226 Basic Exercise Prescription</td>
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<tr>
<td>BIOL312N-313N</td>
<td>Anatomy and Physiology I, II</td>
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<tr>
<td>FOR 220 Technical Writing</td>
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<tr>
<td>PSYC 100S Introduction to Psychology</td>
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<td>HHP 240 Prevention and Care of Athletic Injuries</td>
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<td>HHP 241 Prevention and Care of Athletic Injuries Laboratory</td>
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<td>HHP 242 Directed Clinical Observations</td>
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<td>HHP 288-289 First Aid and CPR (or in department elective if competency is met)</td>
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<td>PHAR 110N Use and Abuse of Drugs</td>
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<tr>
<td>General Education</td>
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### Third Year

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<tr>
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<td>HHP 361 Assessment in Physical Education and Health</td>
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<td>HHP 365 Management in Health and Human Performance Professions</td>
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<td>HHP 385 Advanced Athletic Training Laboratory</td>
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<td>HHP 387 Biomechanics and Rehabilitation of Athletic Injuries Laboratory</td>
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<td>HHP 389 Advanced Athletic Training</td>
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<td>HHP 464 Applied Clinical Anatomy and Physiology</td>
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<td>HHP 478 Measurement and Modalities Laboratory</td>
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### Fourth Year

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>HHP 377 Physiology of Exercise</td>
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<tr>
<td>HHP 378 Physiology of Exercise Laboratory</td>
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<tr>
<td>HHP 384 Motor Control and Learning</td>
<td>3</td>
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<tr>
<td>HHP 411-412 Advanced Practicum in Athletic Training I, II</td>
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<tr>
<td>HHP 446 Nutrition for Sport</td>
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<tr>
<td>HHP 475E Legal and Ethical Issues in Exercise Professions</td>
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<tr>
<td>HHP 479 Sports Medicine</td>
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<tr>
<td>HHP 485 Theories of Health Behavior and Counseling</td>
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<tr>
<td>HHP 488 Evaluation of Athletic Injuries Laboratory</td>
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<td>HHP 489 Evaluation of Athletic Injuries</td>
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### Exercise Science Option:

**First Year**

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<tr>
<td>BIOL 312N-313N Anatomy and Physiology I, II</td>
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<tr>
<td>CHEM 152N Organic and Biological Chemistry</td>
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<tr>
<td>CS 171 Communication Via Computers or competency</td>
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<tr>
<td>FOR 220 Technical Writing</td>
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<tr>
<td>HHP 236N Nutrition</td>
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<tr>
<td>MATH 241 Statistics</td>
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**Second Year**

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<td>BIOL 312N-313N Anatomy and Physiology I, II</td>
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<td>CS 171 Communication Via Computers</td>
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**Third Year**

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<tbody>
<tr>
<td>CHEM 154N Organic and Biological Chemistry</td>
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<tr>
<td>HHP 377 Physiology of Exercise</td>
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<tr>
<td>HHP 384 Motor Control and Learning</td>
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<tr>
<td>HHP 386 Applied Anatomy, Kinesiology and Biomechanics</td>
<td>3</td>
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<tr>
<td>HHP electives 300-400-level</td>
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<tr>
<td>PHYS 121N General Physics I</td>
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**Fourth Year**

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<tbody>
<tr>
<td>HHP 288 First Aid/Emergency Care/CPR</td>
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<tr>
<td>HHP 289 First Aid/Emergency Care/CPR</td>
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<tr>
<td>HHP 446 Nutrition for Sport</td>
<td>3</td>
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<tr>
<td>HHP 475E Legal and Ethical Issues in the Exercise</td>
<td>2</td>
</tr>
<tr>
<td>HHP 483 Exercise and Disease</td>
<td>3</td>
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<tr>
<td>HHP 484 Exercise and Disease Laboratory</td>
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<tr>
<td>HHP 450 Analytical and Communication Techniques</td>
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<tr>
<td>HHP 499 Senior Project and Research Design</td>
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*Not necessary if competency met.

### Health Enhancement Option:

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BIOL 106N Elementary Medical Microbiology</td>
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<tr>
<td>BIOL 121N Introductory Ecology or</td>
<td>2-3</td>
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<tr>
<td>SCI 350 Environmental Perspectives</td>
<td>3</td>
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<tr>
<td>CHEM 151N General and Inorganic Chemistry</td>
<td>3</td>
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<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>3</td>
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<td>CS 171 Communicating Via Computers or competency</td>
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<tr>
<td>ENEX 101 Composition</td>
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<tr>
<td>HHP 181 Foundations of Health and Human Performance</td>
<td>3</td>
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<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
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<tr>
<td>PSYC 100S Introduction to Psychology</td>
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**Second Year**

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<th>Course</th>
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<tr>
<td>BIOL 312N-313N Anatomy and Physiology I, II</td>
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<tr>
<td>CS 171 Communicating Via Computers or competency</td>
<td>(3)</td>
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<tr>
<td>FOR 220 Technical Writing</td>
<td>2</td>
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<tr>
<td>HHP 236N Nutrition</td>
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<td>HHP 350 Overview of Health Education and Health Promotion</td>
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<td>Elective courses</td>
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**Third Year**

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<tbody>
<tr>
<td>HHP 365 Management in the Health and Human</td>
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<tr>
<td>Performance Professions</td>
<td>3</td>
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<tr>
<td>HHP 377 Physiology of Exercise</td>
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<td>HHP 378 Physiology of Exercise Laboratory</td>
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<tr>
<td>HHP 450 Analytical and Communication Techniques</td>
<td>3</td>
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<tr>
<td>HHP 475E Legal and Ethical Issues in Exercise Professions</td>
<td>3</td>
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<tr>
<td>Elective courses</td>
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<td>General Education</td>
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<td><strong>Total</strong></td>
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### Applied Health Science Option:

**First Year**

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<tbody>
<tr>
<td>BIOL 106N Elementary Medical Microbiology</td>
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<tr>
<td>CHEM 151N General and Inorganic Chemistry</td>
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<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>3</td>
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<tr>
<td>ENEX 101 Composition</td>
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</tr>
<tr>
<td>HHP 181 Foundations of Health and Human</td>
<td>3</td>
</tr>
<tr>
<td>HHP 184 Personal Health and Wellness</td>
<td>3</td>
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<tr>
<td>HHP 226 Basic Exercise Prescription</td>
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<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
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<tr>
<td>PSYC 100S Introduction to Psychology</td>
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<td>General Education</td>
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<tbody>
<tr>
<td>BIOL 312N-313N Anatomy and Physiology I, II</td>
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<tr>
<td>CS 171 Communicating Via Computers or competency</td>
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<tr>
<td>FOR 220 Technical Writing</td>
<td>2</td>
</tr>
<tr>
<td>HHP 236N Nutrition</td>
<td>3</td>
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<tr>
<td>HHP 350 Overview of Health Education and Health Promotion</td>
<td>3</td>
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<tr>
<td>General Education</td>
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<td>Elective courses</td>
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<td><strong>Total</strong></td>
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</table>
ENT 440 Teaching Reading and Writing Across the Curriculum or C&I 427 Literacy Strategies in Content Areas ................................................................. 3
HHP 236N Nutrition ................................................................. 3
HHP 301 Instructional Strategies in Secondary School Physical Education .................................................................................................................. 3
HHP 339 Instructional Strategies in Elementary Physical Education .................................................................................................................. 3
HHP 377 Physiology of Exercise .................................................... 3
HHP 378 Physiology of Exercise Laboratory ..................................... 1
HHP 384 Motor Control and Learning ............................................ 3
HHP 386 Applied Anatomy, Kinesiology, and Biomechanics .......... 3
HHP 466 Strategies in K-12 Health Education ................................ 3
HHP 475E Legal and Ethical Issues in Exercise Professions ........... 3
NAS see special requirements ..................................................... (3)
Total 16 15-18

Fourth Year
C&I 303 Education Psychology and Measurement .......................... 3
C&I 407E Ethics and Policy Issues ................................................. 3
C&I 410 Exceptionality/Classroom Management ............................. 3
C&I 481 Student Teaching Elementary .......................................... 6
C&I 482 Student Teaching Secondary ........................................... 6
HHP 288 First Aid/Emergency Care/CPR ..................................... 2
HHP 289 First Aid/Emergency Care/CPR Lecture 2 cr. ........................ 2
HHP 365 Management in Health and Human Performance Professions .................................................. 3
HHP 450 Analytical and Communication Techniques ....................... 3
Total 18 12

Courses

U = undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Health and Human Performance (HHP)

U 100-179 Physical Education Activities 1 cr. Offered every term. Students may include up to but not more than 4 credits earned in HHP 100-179 activity courses in the total number of credits required for graduation. Students graded Credit/No Credit.

U 181 Foundations of Health and Human Performance 3 cr. Offered autumn and spring. An overview of the foundational principles comprising the field of HHP with special emphasis on history and the evolution of the unity of mind/body concept. Includes an overview of program options, analysis of future directions, and career choices.

U 184 Personal Health and Wellness 3 cr. Offered autumn. Focus on health principles and their relevance in contemporary society, the evaluation and application of scientific advances to hypothetical lifestyles, and on contemporary problems in life.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 200-223 Professional Activities for Majors and Minors 1 cr. Offered every term. All students required to meet proficiency entrance standards set by instructor. (200) Swim Skills/Aquatic Fitness, (209) Soccer, (215) Tennis, (223) Special Activities.

U 224 Professional Activities: Outdoor Recreation 2 cr. Offered autumn. The instruction of basic skills for selected outdoor and recreational type activities. Technical procedures, drills, and approaches to the teaching.

Demonstration and instruction skills developed. HHP majors and minors only. Active participation required.

U 225 Professional Activities: Traditional Individual/Dual/Team Sports 2 cr. Offered spring. The instruction of basic skills for selected individual, dual, and team sports and activities. Technical procedures, drills, and approaches to the teaching. Demonstration and instruction skills developed. HHP majors and minors only. Active participation required.


U 233 Health Issues of Children and Adolescents 3 cr. Offered every term. Overview of current health issues affecting children and adolescents. Focus is on educational and preventive measures that can be implemented by teachers and schools through comprehensive school health education programs.

U 236N Nutrition 3 cr. Offered autumn and spring. The principles of science as applied to current concepts and controversies in the field of human nutrition.

U 237 Basic Clinical Nutrition 1 cr. Offered spring. Prereq., or coreq., HHP 236N. Overview of the impact of illness and disease on nutritional status, common therapeutic diets, modes of feeding for individuals with special needs, drug-nutrient interactions, and the roles and responsibilities of health care team members relative to nutritional care.

U 238 Lifeguarding New Method 2 cr. Offered autumn and spring. Prereq., Swim II or equiv. skills. Skill development needed for the safe participation in various aquatic activities including the ability of self-recovered rescue of others.

Provides the necessary knowledge and skills to serve as a pool lifeguard.


U 246 Fitness, Nutrition and Weight Control 3 cr. Offered intermittently. Basic principles of nutrition as related to fitness and health; special emphasis on weight control.

U 250 Ski Instructor's Qualification Program 2 cr. Offered spring. Prereq., consent of instr. Offered alternate years. Open to all students with above average skiing ability. Techniques of teaching skiing including finished technical forms, teaching methods, ski school progression, and ski mechanics. Prepares the potential ski instructor for certification by the Professional Ski Instructors of America.


U 289 First Aid/Emergency Care and CPR Laboratory 1 cr. Offered every term. Coreq., HHP 288. Development of practical skills of emergency care and CPR techniques. In conjunction with HHP 288 provides certification by the National Safety Council and the American Heart Association upon successful completion.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Offerings of visiting professors, new courses, or current topics.

U 296 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of advisor and instr.

U 301 Instructional Strategies in Secondary School Physical Education 3 cr. Offered spring. Coreq., C&I 301 or 302. Application of educational theory in planning, analyzing, and presenting learning experiences to typical and atypical populations in secondary school physical education for students in grades 7-12. Active participation required.

U 310 Coaching Track and Field 2 cr. Offered autumn. Prereq., consent of instr. Coaching theories of track and field. Organization and administration of programs and competitive coaching strategies, instructional skills, training methods and techniques. A maximum of 2 credits is allowed for coaching courses, HHP 310-317. Students graded pass/not pass.


U 312 Advanced Coaching Football 2 cr. Offered spring. Prereq., HHP 311 or consent of instr. Advanced theory and technology of football. Specific attention given to drill work, game plans and analysis, strategies, motivation and psychology. A maximum of 2 credits is allowed for coaching courses, HHP 310-317. Students graded pass/not pass.

U 313 Coaching Basketball 2 cr. Offered spring. Prereq., HHP 217 or consent of instr. Coaching theories of basketball. Organization and administration of programs and competitive coaching strategies, instructional skills, offensive and defensive strategies and training methods and techniques. A maximum of 2 credits is allowed for coaching courses, HHP 310-317. Students graded pass/not pass.

U 314 Coaching Soccer 2 cr. Offered spring. Prereq., HHP 209 or consent of instr. Coaching theories of soccer. Organization and administration of programs and competitive coaching strategies, instructional skills, offensive and defensive strategies and training methods and techniques. A maximum of 2 credits is allowed for coaching courses, HHP 310-317. Students graded pass/not pass.

UG 317 Coaching Clinic 1-2 cr. (R-4) Offered intermittently. Clinics in a variety of activities to include coaching theories, competitive coaching strategies, training methods and techniques. Credit for this course may not be used toward a graduate degree at The University of Montana. A maximum of 2 credits is allowed for coaching courses, HHP 310-317. Students graded pass/not pass.

U 330 Overview of Health Education and Health Promotion 3 cr. Offered spring. Prereq., HHP 181. History, philosophy, and theory related to health education and health promotion. Includes the application of health promotion strategies to wellness programs and community health programs.

U 337 Aquatic Certifications 1-2 cr. (R-4) Offered spring. Prereq., HHP 238 or equivalent certifications. Offered on a rotating basis. Training for Water Safety Instructor, Lifeguard Training Instructor, or Adapted Aquatics Instructor. Red Cross Instructor’s Certificate awarded upon successful completion of requirements.

U 339 Instructional Strategies in Elementary Physical Education 3 cr. Offered every term. Prereq., HHP 184 or 233 and junior standing; coreq., C&I 301 or 302. Application of educational theory in planning, analyzing, and presenting learning experiences to typical and atypical populations in elementary school physical education for children in grades K-6. Active participation required.

U 340 Practicum in Athletic Training I 3 cr. Offered autumn. Prereq., admission into the athletic training education program. Introduction to basic clinical experience working in a CAAHEP approved setting.

U 341 Practicum in Athletic Training II 3 cr. Offered spring. Prereq., HHP 340. Basic clinical experience working in a CAAHEP approved setting.

UG 361 Assessment in Physical and Health Education 3 cr. Offered autumn. Prereq., math course numbered above 100. Orientation to testing and measuring, the administrative use of tests, elementary statistical techniques and procedures.

U 365 Management in Health and Human Performance Professions 3 cr. Offered every term. Prereq., HHP 181 and junior standing. Organization, leadership, human relations, personnel management, budget and finance as they relate to health and human performance settings.

U 370 Peer Health Education 3 cr. Offered spring. Introduction to peer health education strategies and techniques. Instruction in the areas of wellness, drug and alcohol abuse prevention, and sexual assault prevention. Students develop and implement a peer health program focused on prevention of major health problems among college students.

U 371 Peer Health Education Practicum 1-3 cr. (R-6) Offered autumn and spring. Prereq., HHP 370. Practical experience in planning, coordinating, and implementing health education activities for the campus community. Students address topics related to wellness, drug and alcohol prevention, or sexual assault awareness.

UG 377 Physiology of Exercise 3 cr. Offered autumn and spring. Prereq., BIOL 213; coreq., HHP 378. A study of the physiological changes and the significance of these changes which occur during physical work, activity and exercise. Credit not allowed toward graduate degree in the exercise science option in Health and Human Performance.

UG 378 Physiology of Exercise Laboratory 1 cr. Offered autumn and spring. Prereq., BIOL 213; coreq., HHP 377. Laboratory session examining the physiological effect of the physical work, activity and exercise on the functions of the human body. Credit not allowed toward graduate degree in the exercise science option in Health and Human Performance.

U 384 Motor Control and Learning 3 cr. Offered spring. Application of research in motor learning with emphasis on developmental and psychological factors related to motor skill acquisition and autonomous motor performance.

U 385 Advanced Techniques of Athletic Training Laboratory 1 cr. Offered spring. Prereq., HHP 240, PT 464, 465. Laboratory sessions examining practical applications of current techniques for the prevention and treatment of athletic injuries used by certified athletic trainers.

U 386 Applied Anatomy, Kinesiology and Biomechanics 3 cr. Offered spring. Prereq., BIOL 312N, 313N. Neuromusculoskeletal system as it relates to motion and function. Basic kinesiological and biomechanical principles.
with specific applications to physical activity. Use of applied
anatomical, kinestisologi and biomechznical principles to
analysis of motion.

UG 387 Biomechanics and Rehabilitation of Athletic
Injuries Laboratory 1 cr. Offered spring. Prereq., PT 464,
465, 482, 483. Laboratory sessions examining principles of
biomechanics and their application to athletic injury.
Utilization of various practical applications of rehabilitation
techniques and equipment used for reconditioning of
incapacitating athletic injury.

UG 388 Biomechanics and Rehabilitation of Athletic
Injuries 2 cr. Offered spring. Prereq., PT 464, 465, 482,
483. Principles of biomechanics and their application to
athletic injury. Utilization of various rehabilitation
techniques and equipment used for reconditioning of
incapacitating athletic injury.

UG 389 Advanced Techniques of Athletic Training 3 cr.
Offered spring. Prereq., HHP 240, PT 464, 465. Current
techniques for the prevention and treatment of athletic injuries
used by certified athletic trainers.

UG 390 Special Topics Variable cr. (R-6) Offered
intermittently. Experimental offerings of visiting professors,
experimental offerings of new courses, or one-time offerings
of current topics.

UG 411 Advanced Practicum in Athletic Training I 3 cr.
Offered autumn. Prereq., HHP 341. Advanced clinical
experience in CAAHEP approved setting. Each student man-
jages injuries of a specific sport and performs administrative
duties.

UG 412 Advanced Practicum in Athletic Training II 3 cr.
Offered spring. Prereq., HHP 411. Advanced clinical
experience in CAAHEP approved setting. Each student man-
jages injuries of a specific sport and performs administrative
duties.

UG 415 Advanced Principles of Health Education and
Health Promotion 3 cr. Offered spring even-numbered
years. Prereq., HHP 233, 339, 301. In-depth exploration of
curriculum trends, instructional methods, and research related
to teaching health education in grades K-12. Emphasis on
prevention and educational strategies in the areas of emotional
and mental health, human sexuality, disease prevention,
consumer health, nutrition and weight control, community
and environmental health, and alcohol and other drug abuse.

UG 425 Relaxation and Self Enhancement 3 cr. Offered
autumn and spring. Prereq., PSYC 100S or equiv. The use
of psychosomatic and somatopsychic relaxation techniques,
with emphasis on exercise for relaxation and self enhancing
techniques.

UG 446 Nutrition for Sport 3 cr. Offered autumn.
Prereq., HHP 236N, BIOL 213 and junior standing.
Nutritional parameters of athletic performance including
intervention planning, energy production, the energy
nutrients, vitamins and minerals, principles of balanced diets,
timing and composition of intakes, hydration, weight
management strategies, and nutritional needs for special
situations.

UG 450 Analytical and Communication Techniques 3 cr.
Offered every term. Prereq., ENEX 101 or equiv. Analysis
and communicative critique of literature, cinema, and other
forms of popular media with “sport is life in miniature” as a
predominant theme. Substantial reading, speaking and
writing component. Emphasis on maintaining or improving
communication skills.

UG 455 Workshop Variable cr. (R-6) Offered
intermittently. Special courses experimental in nature dealing
with a relatively narrow, specialized topic of particular
current interest. Credit not allowed toward a graduate degree.

UG 464 Applied Clinical Anatomy and Kinesiology 4 cr.
Offered autumn. Prereq., course in human anatomy and
consent of instr. Anatomy of the neuromusculoskeletal system
and body cavities in relation to movement, function and
clinical correlates.

UG 465 Applied Clinical Anatomy and Kinesiology
Laboratory 1 cr. Offered autumn. Prereq., course in human
anatomy and consent of instr.; coreq., HHP 464.
Anatomy of the neuromusculoskeletal system and body
cavities in relation to movement, function and clinical
correlates.

UG 466 Strategies in K-12 Health Education 3 cr.
Offered autumn even-numbered years. Prereq., admission to
the teacher education program. Focus on developing and
implementing strategies to teach K-12 health education.

UG 470 Foundations in Sport and Exercise Psychology 3 cr.
Offered autumn. Prereq., upper-division or graduate
status or consent of instr. Presentation of research in goal
setting, imagery, attentional control, personality, and
motivation specific to human performance in a variety of sport
and exercise settings. Emphasis on a thorough analysis of
current research findings.

UG 475E Legal and Ethical Issues in the Health and
Exercise Professions 3 cr. Offered autumn and spring.
Prereq., lower-division course in Perspective 5,
upper-division or graduate status, or consent of instr. Legal
and ethical bases for litigation in the health and exercise
professions, with emphasis on tort, contract, and civil rights
issues.

UG 477 Measurement and Modalities 3 cr. Offered
autumn. Coreq., HHP 464, 465 or consent of instr.
Physiology, indications, contraindications, and application of
physical agents; manual muscle testing, and goniometry.

UG 478 Measurement and Modalities Laboratory 1 cr.
Offered autumn. Prereq., HHP 464, 465 or consent of instr.;
coreq., HHP 477. Clinical application of physical agents;
manual muscle testing and goniometry.

UG 479 Sports Medicine 2 cr. Offered spring. Prereq.,
HHP 377 and HHP 464. The etiology and management of
sports related injuries/illnesses. Includes: therapeutic use of
drugs, pre-participation screening techniques, ergogenic aids,
the aging athlete, the sports medicine team concept and
current orthopedic treatments for sports injuries.

UG 482 Electrocardiogram Assessment 1 cr. Offered
autumn. Laboratory sessions combined with class sessions to
understand electrocardiography and the assessment of
electrocardiograms, both at rest and during exercise.

UG 483 Exercise, Disease and Aging 3 cr. Offered spring.
Prereq., HHP 377. Focus on guidelines for exercise testing
and prescription for individuals with chronic disease including
heart disease, diabetes, hypertension, arthritis, osteoporosis,
elderly and pulmonary disease. Covers material necessary for
ACSM clinical certification exam when combined with HHP
482 and 484.

UG 484 Exercise, Disease and Aging Laboratory 1 cr.
Offered spring. Prereq., HHP 377; coreq., HHP 483.
Laboratory sessions focus on practical exercise testing and
prescription for individuals with chronic disease including
Coronary heart disease, diabetes, hypertension, arthritis,
osteoporosis, elderly and pulmonary disease; basic ECG
testing and analysis. Covers material necessary for ACSM
clinical certification exam when combined with HHP 482 and
484.

UG 485 Theories of Health Behavior and Counseling 3 cr.
Offered autumn. Exploration of the helping role as it
relates to health behavior, health assessment, problem-solving
and referral skills. Application of theories to facilitation of
healthy behavior changes.
UG 486 Statistical Procedures in Education 3 cr. Offered autumn and spring. Prereq., MATH 117 or equiv. or consent of instr. Same as C&I 486. Concepts and procedures characterizing both descriptive and inferential statistics. Awareness of common statistical errors.

UG 488 Evaluation of Athletic Injuries Laboratory 1 cr. Offered autumn. Prereq., HHP 388, 389 or consent of instr. Laboratory sessions to develop recognition and assessment techniques for the identification of sport and activity related injuries.


U 493 Omnibus 1-3 cr. (R-6) Offered every term. Prereq., consent of instr. Independent work under the University omnibus option. See index.

UG 494 Seminar 1-3 cr. (R-6) Prereq., consent of instr. Offered intermittently.

UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-3 cr. (R-6) Offered every term. Prereq., consent of instr.

U 497 Research 1-3 cr. (R-6) Offered every term. Prereq., consent of instr.

U 498 Internship 1-4 cr. (R-4) Offered every term. Prereq., consent of instr. Must demonstrate competency in First Aid/Emergency Care and CPR.

U 499 Senior Project 3 cr. Offered spring. Prereq., HHP senior standing. Theory and practical experience in research design, data collection, results analysis and report writing. Students will generally assist with ongoing research as well as attend formal classroom presentations and discussions. Students with a well developed research idea may be allowed to undertake independent research in addition to the formal classroom sessions.

G 520 Educational Research 3 cr. Offered every term. Same as C&I and EDLD 520. An understanding of basic quantitative and qualitative research methodology and terminology, particularly as they are used in studies presented in the professional literature.

G 522 Cognitive-Behavioral Interventions in Performance Psychology 3 cr. Offered spring even-numbered years. Prereq., HHP 470 or equiv. Focus is on cognitive-behavioral interventions specific to enhancing human performance in a variety of individual and group settings. Strategies introduced based on research from health psychology, sport psychology, exercise psychology, clinical and counseling psychology.

G 523 Case Studies in Performance Psychology 2 cr. Offered autumn even-numbered years. Prereq., consent of instr. Cognitive-behavioral performance psychology interventions in actual and hypothetical case study applications. Successful and unsuccessful approaches from sport psychology and sport counseling are reviewed as cases in progress; alternative outcomes discussed.

G 524 Ethics and Human Performance 3 cr. Offered spring even-numbered years. A critical examination of ethical issues as they relate to physical education, sport, fitness, and other areas of human performance.


G 530 Advanced Physiology of Exercise II 3 cr. Offered autumn even-numbered years. Prereq., HHP 529. Advanced study of system physiology (circulatory, respiratory and renal function) and environmental factors applied to physical work, activity and exercise.

G 531 Laboratory Procedures in Exercise Science 2 cr. Offered autumn. Prereq., HHP 521. Introduction to common laboratory tools associated with clinical and health assessment techniques, research measures, and data collection.

G 540 Health Promotion Strategies 3 cr. Offered autumn even-numbered years. Exploration of the role of the health professional in the development and implementation of educational, organizational, economic, and/or environmental strategies that promote individual and community health.

G 541 Program Development in the Health Professions 3 cr. Offered spring odd-numbered years. Overview of the issues, approaches, and techniques professionals utilize in the planning and development of health education and health promotion programs.

G 594 Seminar 1-3 cr. (R-6) Offered spring. Prereq., consent of instr.

G 595 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of instr.

G 597 Research Variable cr. (R-6) Offered every term. Prereq., HHP 486, 520.

G 598 Internship Variable cr. (R-4) Offered every term. Prereq., HHP 520, consent of instr. Supervised field work in public and private agencies and institutions. Must demonstrate competency in First Aid/Emergency Care and CPR.

G 599 Professional Paper Variable cr. (R-3) Offered every term. Prereq., HHP 486, 520.

G 699 Thesis Variable cr. (R-6) Offered every term.

Faculty

Professors
Gene Burns, Ed.D., The University of Montana, 1988
Lew Curry, Ph.D., University of Kansas, 1993
Arthur W. Miller, Ph.D., University of New Mexico, 1981
(Chair)
Scott Richter, Ed.M., Oregon State University, 1982
(Program Director, Athletic Training)
Brent Ruby, Ph.D., University of New Mexico, 1994
K. Anne Sondag, Ph.D., Southern Illinois, Carbondale, 1988
Thomas R. Whidden, Ed.D., The University of Montana, 1975
Sharon Dinkel Uhlig, Ed.D., University of Utah, 1982

Associate Professors
Laura Dybdal, Ph.D., University of New Mexico, 1996
Steven Gaskill, Ph.D., University of Minnesota, 1998

Assistant Professors
Blakely Brown, Ph.D., R.D., University of Minnesota, 2000
Dennis T. Murphy, M.S., University of Arizona, 1976
(Head Athletic Trainer)

Instructors
Adrienne M. Corti, M.S., The University of Montana, 1989
Karla Judge, M.S., Idaho State University 1991
Sarah Mart, M.P.H., University of Northern Colorado, 1999
Sarah Shelley, M.S., The University of Montana, 2000
J. C. Weida, M.S., The University of Montana, 1995

Emeritus Professors
Kathleen Miller, Ph.D., University of Iowa, 1971
Gary Nygaard, EdD., University of Oregon, 1971

Walter C. Schwank, Ph.D., State University of Iowa, 1955
Brian J. Sharkey, Ph.D., University of Maryland, 1965

Emeritus Associate Professors
George Cross, M.S., Indiana University, 1956
Mavis M. Lorenz, M.S., University of Washington, Seattle, 1954
School of Fine Arts
School of Fine Arts

Shirley Howell, Dean

The School of Fine Arts has a dual responsibility. As the only School of Fine Arts in Montana, it has a primary responsibility through its faculty to provide the finest professional training in Art, Dance, Drama and Music. In addition, it trains serious young people who wish to teach in the fine arts. These two goals are part of a strong professional program, for the faculty of the school feels that the best practitioners make the best teachers and that an honest regard for excellence is best developed through a true involvement in creative experience.

Department of Art

Cathryn Mallory, Co-Chair
Bobby Tilton, Co-Chair

The department seeks to present an integrated and comprehensive introduction to studio art, including art history, criticism, and theory. Programs provide intensive professional training for students interested in careers in the field of art.

Students may choose any of several areas and, with faculty guidance, construct an individual program fitted to particular objectives. Degree options for the B.A., B.F.A., M.A., and M.F.A. degrees are in Sculpture, Ceramics, Printmaking, Photography, Painting and Drawing, and Art History (M.A. only). Courses in art criticism are included in the program. The curriculum also includes courses that prepare students for certification in teaching art K-12.

Advanced Placement Policy

Undergraduate students wishing to challenge foundations courses for advanced placement must adhere to the following.

Students can only try to challenge the foundations courses (Art 123A, Drawing; 125A, 2-D Foundations; 135A, 3-D Foundations).

Students who have taken AP exams must still submit a portfolio to challenge art classes.

Portfolios are reviewed the two weeks prior to registration for each semester by a committee of representative faculty from the 2-D and 3-D areas.

Two weeks prior to the semester students may submit a portfolio of eight to ten slides or pieces of actual work to the department office. If challenging more than one course, students need eight to ten works in each area, for example: 8-10 drawing samples for 123A, 8-10 color works for 125A, and 8-10 3-D pieces for 135A.

Submission of work does not guarantee advanced placement.

Students with transfer credits from another institution must contact the chair of the department for review of transfer transcripts to make an advanced placement assessment.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Students pursuing Bachelor of Fine Arts or Bachelor of Arts degrees with options in the Art Department must earn a “C” (2.00) grade or better in all Art courses fulfilling requirements in order to graduate.

Bachelor of Fine Arts Review Process

Initially, all students enter as Bachelor of Arts (B.A.) candidates. To qualify to apply for the Bachelor of Fine Arts (B.F.A.) program, a student must have and maintain a 3.0 grade point average in Art and a 2.4 overall GPA, having earned 33 credits in Art including the following: ART 150L, 151L, 123A, 125A, 135A, four courses out of of six studio areas, and two 300-level studio courses. Should a student not be admitted to the B.F.A. program with his or her first application, a second application may be made before the senior year (90 total credits). A student may apply only twice.

Applications must include: the application form with the student’s signature, statement of purpose, and portfolio. Applications are reviewed each semester prior to preregistration.

Bachelor of Fine Arts with a major in Fine Arts, options in Ceramics, Painting and Drawing, Photography, Printmaking or Sculpture

The Bachelor of Fine Arts, major in Fine Arts, options in Ceramics, Painting and Drawing, Photography, Printmaking, or Sculpture is a professional degree requiring 75 credits in art distributed as follows: art fundamentals, 9; beginning art history, 6; photography, 3; ceramics, 3; printmaking, 3; sculpture, 3; painting, 3; drawing, 3: introductory art criticism, 3; upper-division art history, 6; upper-division art criticism, 3; upper-division studio courses outside your area of concentration (to include Drawing II), 12; upper-division studio courses in the area of concentration, 12; professional practices/thesis, 6. The Upper-division Writing Expectation must be met by taking an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. University General Education requirements must be fulfilled as listed previously in the catalog. See index.

ART 123A is a prerequisite for all 200-level two-dimensional studio art courses. ART 125A is a prerequisite for all 200-level painting and drawing courses. ART 135A is a prerequisite for all 200-level ceramic and sculpture courses.

Bachelor of Arts with a major in Fine Arts, option in Art

Fine Arts majors seeking the Bachelor of Arts degree with an Art option must complete 57 credits in art: art fundamentals, 9; beginning art history, 6; upper-division art history, 6; photography, 3; ceramics, 3; printmaking 3; sculpture, 3; painting, 3; drawing, 3; introductory art criticism, 3; upper-division art history, 6; upper-division studio courses (to include Drawing II), 12; upper-division art criticism, 3. The Upper-division Writing Expectation must be met by taking an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

University general requirements must be fulfilled as listed previously in the catalog.
Bachelor of Arts with a major in Fine Arts, option in Art Education

The art education option is designed for the student seeking an endorsement (K-12) in the extended major teaching field of art.


For an endorsement to teach Art K-12, a student must gain admission to Teacher Education and Student Teaching and meet the requirements for teacher certification (see the School of Education section in this catalog).

The Upper-division Writing Expectation must be met by taking an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

University general requirements must be fulfilled as listed previously in the catalog.

Suggested Course of Study

Programs for the B.A./B.F.A. Degree.

Credits in parentheses are additional requirements for the B.F.A.

First Year

- Art 123A.-125A Art Fundamentals: 3 credits
- Art 150L-151L Art of World Civilization: 3 credits
- Art 135A Three-Dimensional Fundamentals: 3 credits
- Art 215A Photography I: 3 credits
- Art 235A Beginning Printmaking: 3 credits
- ENEX 101 English Composition: 3 credits
- Other General Education courses: 3 credits

Second Year

- Art 203 Introduction to Art Criticism: 3 credits
- Art 229A Ceramics I: 3 credits
- Art 235 Sculpture I: 3 credits
- Art 240A Painting I: 3 credits
- General Education: 6 credits

Third Year

- Art History (300-level): 3 credits
- Studio II courses: 3 credits
- Studio courses (B.F.A. option courses): 3 credits
- Art 303H or 403L Art Criticism: 3 credits
- Art 323 Drawing II: 3 credits
- General Education: 3 credits

Fourth Year

- Studio courses (B.F.A., courses in option): 3 credits
- Studio art courses (300-400-level): 3 credits
- Art 494 Professional Practices (B.F.A.): 3 credits
- Art 499 Senior Thesis (B.F.A.): 3 credits
- Elective & General Education: 6-12 credits

Requirements for a Minor

Art History/Criticism

To earn a minor in art history/criticism the student must complete at least 24 credits to include the following: ART 123A; ART 150L, 151L, 203; 9 credits from 300-level art history courses; 3 credits from ART 303H, or 400-level art history and criticism courses.

Art Studio

To earn a minor in art studio the student must complete at least 27 credits to include the following: ART 123A, 125A, 135A; ART 150L, 151L; 9 credits from ART 215A, 229A, 233A, 234A, 235, 240A, or 223; and 3 credits in 300-level studio courses.

Courses

U=for undergraduate credit only, UG-for undergraduate or graduate credit, G=for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Art (ART)

Studio Courses

U 123A Drawing Fundamentals 3 cr. Offered every term. An introduction to visual language, concepts, and studio practicum. Focus on basic skills development in rendering volume, pictorial depth, and figure/ground relationships. Research in historical and contemporary approaches to drawing.

U 125A Color and Design 3 cr. Offered autumn and spring. Prereq. or coreq., ART 123A. An introduction to the formal elements and principles of design, color theory, and predominant western and non-western historical styles. Emphasis on solving specific design problems.

U 129A Ceramics for Non-Majors 3 cr. Offered intermittently. A general introduction to art using ceramics. Less specialized than Ceramics I for fine arts majors. Credit not allowed toward a B.A., B.F.A., or minor in art.

U 135A Three-Dimensional Fundamentals 3 cr. Offered autumn and spring. Basic three-dimensional course for both general education and beginning art students. Prerequisite to beginning sculpture and beginning ceramics. Emphasis placed on conceptualization and formal development of the 3-D object in the areas of form, mass, scale, texture, space and color.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 215A Photography I 3 cr. Offered every term. Prereq., ART 123A. Introduction to photography as an art form. Exposure, camera basics, composition, developing, printing, print finishing techniques. Focus on technical expertise and issues of content and personal expression.

U 223 Drawing I: Figure Drawing 3 cr. Offered autumn and spring. Prereq., ART 123, 125. Study of human anatomy with an emphasis on rendering and interpreting the figure. Research in historical and contemporary figuration as a basis for developing a portfolio.

U 229A Ceramics I 3 cr. Offered autumn and spring. Prereq., ART 135A. Introduction to clay as a historical and contemporary art-making medium. Basic methods of building with clay, with emphasis on handbuilding; elementary solutions to problems of glazing and surface treatment.
U 233A Printmaking I: Lithography 3 cr. (R-9) Offered autumn and spring. Introduction to various printmaking media.

U 235 Sculpture I 3 cr. Offered autumn and spring. Prereq., ART 135A. Introduction to basic technical skills in the areas of woodworking, welding, and casting. Problem-solving in the areas of concept, aesthetics, materials and process; studio safety. Issues of content and formal criticism as it relates to personal expression.

U 240A Painting I 3 cr. Offered autumn and spring. Prereq., ART 123A, 125A and 223A. Acrylic and oil painting emphasizing composition and application of color theory. Research in historical and contemporary strategies.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 295 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.


UG 316 Photography III 3 cr. (R-9) Offered autumn or spring. Prereq., ART 123A, 215A, 315. Further exploration of photography, criticism, and practical experience. Students work independently and assist with beginning courses; serve as lab monitors.

UG 323 Drawing II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A and 223A. Exploration and production of drawings with emphasis on individual expression. Studio practicum, lectures, critiques, reading and writing.

UG 329 Ceramics II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 135A and 229. Further exploration of the ceramic process introducing more complex ways of handbuilding and developing the art of throwing. Examination of the technology and chemistry of clay, glazes and high temperature oxidation and reduction firing.

UG 330 Clay and Glaze 3 cr. Offered autumn. Prereq., ART 135A, 229A. In depth study of the physical and chemical properties of clays and glazes. Hands on testing of various clay and glaze formulas and an introduction to kiln firing.

UG 331 Printmaking II: Photo-Printmaking 3 cr. (R-9) Offered spring. Prereq., 3 credits from ART 233A. Continued work in various printmaking media with an emphasis on photographic and digital processes.

UG 333 Printmaking II 3 cr. (R-12) Offered autumn and spring. Prereq., 3 credits from ART 233A. Continued work in various printmaking media.

UG 335 Sculpture II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 135A and 235. Focus on contemporary issues and techniques of sculpture.

UG 340 Painting II: The Figure 3 cr. Offered autumn and spring. Prereq., ART 240A. Exploration of painting with emphasis on the human figure and classical compositions and techniques, studio practicum, lectures, critiques, reading and writing.

UG 341 Painting II 3 cr. (R-9) Offered autumn and spring. Prereq., ART 340. Exploration and production of paintings with emphasis on individual expression. Studio practicum, lectures, critiques, reading and writing.

UG 390 Supervised Internship Variable cr. (R-12) Offered every term. Special internships under direction of department faculty allowing students practical experience in a chosen area.

UG 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

UG 395 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 415 Independent Study in Photography 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 215A, 315, consent of instr. Advanced photographic techniques.

UG 416 Advanced Research in Photography 3 cr. (R-9) Offered intermittently. Investigation of photography with emphasis on student proposals, including specific technical and conceptual aspects.

UG 423 Independent Study in Drawing 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A, 223, 323, and consent of instructor. Advanced drawing techniques.

UG 424 Advanced Research in Drawing 3 cr. (R-9) Offered intermittently. Investigation of drawing with emphasis on student proposals, including specific technical and conceptual aspects.

UG 429 Independent Study in Ceramics 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 135A, 229A, 6 credits from ART 329, ART 330 and consent of instructor. Continued exploration of ceramic art. Individualized approach with student initiative in determining projects.

UG 430 Advanced Research in Ceramics 3 cr. (R-9) Offered intermittently. Investigation of ceramics with emphasis on student proposals, including specific technical and conceptual aspects.

UG 433 Independent Study in Printmaking 2-6 cr. (R-12) Offered autumn and spring. Prereq., 6 credits in ART 333, consent of instructor. Independent projects in printmaking.

UG 434 Advanced Research in Printmaking 3 cr. (R-9) Offered intermittently. Investigation of printmaking with emphasis on student proposals, including specific technical and conceptual aspects.

UG 435 Independent Study in Sculpture 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 135A, 235, 335, consent of instructor. Advanced techniques in sculpture.

UG 436 Advanced Research in Sculpture 3 cr. (R-9) Offered intermittently. Investigation of sculpture with emphasis on student proposals, including specific technical and conceptual aspects.

UG 440 Independent Study in Painting 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A, 240A, 340 and consent of instructor. Independent projects in painting.

UG 442 Advanced Research in Painting 3 cr. (R-9) Offered intermittently. Investigation of painting with emphasis on student proposals, including specific technical and conceptual aspects.

UG 490 Supervised Internship Variable cr. (R-12) Offered intermittently. Prereq., consent of instructor. Special internships under direction of department faculty allowing students practical experience in a chosen area.

UG 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

UG 494 Professional Practices Seminar 3 cr. Offered autumn. Prereq., senior or graduate status. Professional practices and exhibition preparation, includes portfolio and
resume preparation, career and grant opportunities, establishment of gallery affiliation. Required of all graduating B.F.A. students.

UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.


G 515 Graduate Studio in Photography 2-6 cr. (R-18) Offered autumn and spring. Students work on projects of specific interest in the field with a faculty member.

G 523 Graduate Studio/Drawing 2-12 cr. (R-24) Offered autumn and spring. Prereq., consent of instructor. Advanced research in drawing.

G 525 Graduate Studio/Design 2-6 cr. (R-12) Offered autumn and spring. Prereq., consent of instructor. Advanced research in design.

G 529 Graduate Studio/Ceramics 3-6 cr. (R-18) Offered autumn and spring. Prereq. consent of instructor. Advanced research in ceramics.

G 533 Graduate Studio/Printmaking 2-12 cr. (R-24) Offered autumn and spring. Prereq., consent of instr. Advanced research in printmaking.

G 535 Graduate Studio/Sculpture 2-6 cr. (R-18) Offered autumn and spring. Prereq., consent of instructor. Advanced research in sculpture.

G 540 Graduate Studio/Painting 3-6 cr. (R-18) Offered autumn and spring. Prereq., consent of instructor. Advanced research in painting.

G 580 Graduate Teaching Assistant Practicum 2 cr. Offered autumn. Prereq., graduate standing. Preparation to teach ART 123A.

G 594 Seminar Variable cr. (R-6) Offered intermittently...

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study 2-6 cr. (R-18) Prereq., consent of instr. Offered intermittently.

G 598 Internship 2-6 cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 699 Thesis and Terminal Project Variable cr. (R-12) Offered autumn and spring.

Art History

U 100L Art Appreciation 3 cr. Offered autumn. An introduction to the visual arts exploring various approaches to understanding art, art history and terminology, techniques and media, motivating factors behind the creative act.

U 150L Art of World Civilization: Ancient to Medieval Art 3 cr. Offered autumn. Survey of history of visual art from pre-history to 1400.

U 151L Art of World Civilization: Early Modern to Contemporary Art 3 cr. Offered spring. Survey of history of visual art from 1400 to the Present.

UG 367H Art of the Ancient Americas 3 cr. Offered spring. Prereq., consent of instr. Same as NAS 367H. Development of major ceremonial and urban centers throughout the Americas before the coming of Europeans. Analysis of how the visual arts articulate ancient world views or cosmologies in relation to nature. Focus on various strategies of reading the structure and meaning encoded in the layout of cities, stone sculpture, wall murals, ceramics, precious metals, and textiles.

UG 368H Latin American Art 3 cr. Offered autumn. Prereq., consent of instr. Same as NAS 368H. Exploration of themes in the development of Latin American art from the colonial period to the present including Renaissance ideals in the “New World”, syncretism of European, African, and indigenous roots, the Black Legend, and the advent of such movements as Academism, Modernism, Social Realism, Magic Realism and Post-Modernism.

UG 380H Ancient Greek Civilization and Culture 3 cr. Offered autumn. Same as LS 340H and MCLG 360H. Slide/lecture course. Ancient Greek works of art and architecture, related to and explained by contemporary ideas and values of Greek society.

UG 381L Roman, Early Christian and Byzantine Art 3 cr. Offered spring. Same as LS 341L and MCLG 361L. A survey of developing styles in painting, mosaic and building, with attention to philosophic and religious content and its influence of later ages.

UG 384H Art of the Renaissance 3 cr. Offered spring. Prereq., ART 150L or 151L or consent of instr. Exploration of the arts of 1450-1600 in western Europe. Focus on themes such as the recovery of the classical past, development of scientific naturalism and linear perspective, and the evolution of major art forms architecture, urbanism, religious altarpieces and devotional images, fresco and oil paintings, monumental sculpture, etc.

UG 389H American Art 1860 to the Present 3 cr. Offered intermittently. Prereq., consent of instr. American painting, sculpture and architecture from the Civil War to the present.

UG 450 Advanced Research in Art History 2-6 cr. (R-6) Offered autumn and spring. Prereq., ART 150L-151L, a 300-level art history course and/or consent of instr. Advanced research in art history topics agreed upon by student and instructor.

UG 451 Seminar in Art History and Criticism 3 cr. (R-9) Offered intermittently. Prereq., ART 150L-151L, a 300-level art history course and/or consent of instr. Upper-division seminar in varying topics of art history and criticism.

UG 480H Women Artists and Art History 3 cr. Offered intermittently. Prereq., consent of instr. A survey of major women artists in context of social history and aesthetics from ancient to modern times. Analysis of feminism and works by contemporary women artists in film and video.

UG 484H African Art 3 cr. Offered spring. Broad investigation of the visual arts of Africa; historical civilizations, including Egypt, and colonial and post-colonial societies. Methodologies for study of non-western societies, “Primitivism”, and the importance of African Art for the development of western art.

UG 485H Spanish Art 3 cr. Offered spring even-numbered years. Exploration of the history of Spanish art from the cave paintings to the 21st century. Focus on Spanish art and aesthetics and Spain’s cultural identity through the visual arts.

UG 486H Art of the 19th Century 3 cr. Offered autumn. Prereq., ART 150L or 151L or consent of instr. Exploration of major themes in European art from 1800 to 1900. Focus on major cultural and intellectual trends such as Neoclassicism, Romanticism, Realism, Impressionism and Modernism.

UG 487H Art of the 20th Century 3 cr. Offered spring. Prereq., ART 150L or 151L or consent of instr. Exploration of major themes in the development of art of the 20th century. Focus on major cultural and intellectual trends of the Modern and Post-Modern age.
Summer Arts Education Institute
(Offered through School of Fine Arts)
G 582 Arts Education Seminar I 2 cr. (R-4) Prereq., ART 581. Same as DRAM, MUS 582. Offered summers. Topics vary.
G 583 Arts Education Seminar II 1-2 cr. (R-4) Prereq., ART 582. Same as DRAM, MUS 583. Continuation of ART 582.
G 584 Arts Education Seminar III 1-2 cr. (R-4) Prereq., ART 583. Same as DRAM, MUS 584. Continuation of ART 583.
G 585 Arts Education Seminar IV 1-2 cr. (R-4) Prereq., ART 584. Same as DRAM, MUS 585. Continuation of ART 584
G 586 Arts Education Seminar V 1-2 cr. (R-4) Same as DRAM, MUS 586. Continuation and synthesis of preceding seminars.
G 587 Arts Education Practicum I cr. (R-4) Same as DRAM, MUS 587. Offered summers. The active application of concepts and theories presented during the Arts Education Institute and the arts education seminars within a small group setting.
G 588 Arts Education Apprenticeship I cr. (R-4) Same as DRAM, MUS 588. Exploration of art forms to develop new artistic and communicative perceptions and awareness.
G 589 Arts Education Field Project 1 cr. (R-4) Same as DRAM, MUS 589, creative/research activities.

Faculty

Professors
James Bailey, M.F.A., University of Wisconsin-Madison, 1989
Marilyn Bruya, M.F.A., Bard College, 1986
Martin Fromm, M.F.A., University of Idaho, 1992
David James, M.F.A., University of Arizona, 1984
Elizabeth Lo, M.F.A., The University of Montana, 1974
Thomas Rippon, M.F.A., School of the Art institute of Chicago, 1979
Barbara Tilton, M.F.A., Vermont College of Norwich, 1996 (Co-Chair)

Associate Professors
Mary Ann Bonjorni, M.F.A., University of California, Santa Barbara, 1986
Hipolito Rafael Chacon, Ph.D., University of Chicago, 1995
Stephen T. Connell, M.A. California State University, Long Beach, 1969
Elizabeth Dove, M.F.A., Vermont College of Norwich, 1999
Cathryn Mallory, M.F.A., University of Oklahoma, 1985 (Co-Chair)
Department of Drama/Dance

Mark Dean, Chair

The Department of Drama/Dance is housed in a fine, multi-million dollar performing arts complex which includes three theatre/dance performance spaces and television/radio studios. The program is production-oriented with approximately ten major productions presented each year including contemporary, historical, period, musical, and experimental plays, as well as dance concerts. The Montana Repertory Theatre, a professional touring company based at UM, often involves students both on and off stage. The faculty is strong, possessing a diversity of educational and professional theatre and dance backgrounds.

The Bachelor of Arts with a major in Fine Arts and an option in Dance allows the student who plans to enter a dance career to select another major to complement that objective. The Bachelor of Arts with a major in Fine Arts and an option in Drama provides the student with a broad liberal arts education and a general focus in drama. The degree allows the student to complete an additional major and may form the basis for further training on the graduate level. The Bachelor of Arts with a major in Fine Arts and an option in Acting, Design/Technology, Choreography and Performance, or Studio Teaching is a professionally oriented degree designed for the student who plans to pursue a career in theatre, dance, or a related field. Graduate programs lead to the Master of Arts and the Master of Fine Arts with options in Acting, Design/Technology, Directing, Integrated Arts and Education, or Media Arts.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Advisement

Each fine arts major must have a faculty advisor who is assigned by the department and who is usually from the student’s option. The department, through its advisement program, often recommends non-drama electives and specific General Education courses to the student depending on the student’s option. Majors may not take core or area required courses on a pass/not pass basis.

Auditions and Portfolio Reviews

Actors, dancers, designers and technicians undergo periodic review in the form of auditions or portfolio presentations. These on-going evaluations provide each student with the opportunity and challenge of individualized critiques from faculty and staff professionals.

Upper-division Writing Expectation

The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Bachelor of Arts with a major in Fine Arts, option in Dance

The following courses constitute the complete Dance requirements for the Bachelor of Arts degree:

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>201A Beginning Composition (offered spring)</td>
<td>2</td>
</tr>
<tr>
<td>202 Rehearsal and Performance</td>
<td>2</td>
</tr>
<tr>
<td>300 Modern III</td>
<td>6</td>
</tr>
<tr>
<td>301 Intermediate Composition (offered autumn, odd-numbered years)</td>
<td>2</td>
</tr>
<tr>
<td>304 Ballet III (or higher level)</td>
<td>8</td>
</tr>
<tr>
<td>307A Jazz Dance III (or appropriate level)</td>
<td>2</td>
</tr>
<tr>
<td>334H 20th Century Dance (offered spring, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>337 Stage Management Practicum</td>
<td>1</td>
</tr>
<tr>
<td>397 Junior Creative or Research Project (students must complete projects for graduation)</td>
<td>3</td>
</tr>
<tr>
<td>400 Modern IV</td>
<td>6</td>
</tr>
<tr>
<td>425 Dance Pedagogy (offered autumn, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>428 Internship in Children’s Dance</td>
<td>2</td>
</tr>
<tr>
<td>429 Advanced Techniques of Modern Dance</td>
<td>3</td>
</tr>
<tr>
<td>434L World Dance</td>
<td>3</td>
</tr>
<tr>
<td>494 Junior/Senior Dance Seminar (offered autumn, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>497 Senior Creative or Research Project</td>
<td>3</td>
</tr>
<tr>
<td>427 Teaching Movement in the Schools (offered autumn odd-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>320 Improvisation and</td>
<td></td>
</tr>
<tr>
<td>420 Contact Improvisation</td>
<td>2</td>
</tr>
</tbody>
</table>

Drama

Total 57-58

There is an Admission Audition which a prospective major must pass at the end of the first year to continue in the program.

Bachelor of Arts with a major in Fine Arts, option in Drama

The following courses constitute the complete Drama requirements for the Bachelor of Arts degree:

<table>
<thead>
<tr>
<th>Drama</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>103A Introduction to Theatre Design</td>
<td>3</td>
</tr>
<tr>
<td>107A Theatre Production I: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>203 Stagecraft II</td>
<td>3</td>
</tr>
<tr>
<td>207 Theatre Production II: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>214 Acting  I</td>
<td>3</td>
</tr>
<tr>
<td>220L Dramatic Literature I (Script Analysis)</td>
<td>3</td>
</tr>
<tr>
<td>302 Theatre History I</td>
<td>3</td>
</tr>
<tr>
<td>301 Theatre History II</td>
<td>3</td>
</tr>
<tr>
<td>379 Introduction to Directing</td>
<td>2</td>
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<tr>
<td>Senior project</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
</tr>
</tbody>
</table>
Bachelor of Arts with a major in Fine Arts, option in Drama Education

The Drama Education option is designed for the student seeking an endorsement in the major teaching field of Drama.

Drama Credits
103A Introduction to Theatre Design .......................... 3
106A-107A Theatre Production (Running and Production Crews) ........................................... 4
203 Stagecraft II ................................................. 3
210-211 Voice and Speech I, II ................................ 4
214-215 Acting I, II ............................................. 4
220L Dramatic Literature I (Script Analysis) ............ 3
244 Stage Makeup .............................................. 2
320-321 Theatre History I, II .................................. 6
379 Introduction to Directing .................................. 3
402 Methods of Teaching Theatre ......................... 2

Total 36

For endorsement to teach Drama, a student also must gain admission to Teacher Education and Student Teaching and meet all the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

The demand in Montana high schools for teaching of courses in this field is limited. Students should complete the required second endorsement (major or minor) in a field other than Economics, Geography, Journalism, Psychology or Sociology.

Minor Teaching Field of Drama: For an endorsement in the minor teaching field of Drama, see the School of Education section of this catalog.

Bachelor of Fine Arts with a major in Fine Arts, option in Acting or Design/Technology

 Normally, a student should declare intent to pursue the B.F.A. degree no later than the beginning of the second year of a four-year program. The student must declare an option, either acting or design/technology. Requirements for these areas are specified below.

Students wishing to pursue a B.F.A. with an option in design/technology must:
1. Complete a one year residency at the UM-Missoula campus which includes a minimum of 12 credits in design/technology.
2. Attain a cumulative 2.5 overall GPA and a 3.0 GPA in design/technology coursework.
3. Present a theatre resume and portfolio consisting of class and production work.
4. Prepare a written statement explaining their educational and professional goals.

Students who intend to pursue the design/technology option will normally enter the University as Bachelor of Arts with an option in Drama candidates.

A student may elect a special concentration in directing, music theatre, or another discipline in addition to the B.F.A. core and area-option requirements. The program is designed in consultation with the student's advisor and must be approved by the faculty. The special concentration may require five years to complete.

The following courses are required of all B.F.A. Fine Arts students with options in Acting or Design/Technology:

Core Courses

Drama Credits
103A Introduction to Theatre Design .......................... 3
106A Theatre Production I: Running Crew ..................... 3
107A Theatre Production I: Construction Crew .............. 3
202 Stagecraft I ................................................. 2
203 Stagecraft II ............................................... 3

Total 75

Design/Technology Option

To be taken in addition to core requirement:

Drama Credits
206 Theatre Production II: Running Crew ................. 1
214 Acting I (or DRAM 111A) ................................ 3
220L Dramatic Literature (Script Analysis) ............... 3
320-321 Theatre History I, II ................................ 6
379 Introduction to Directing ................................ 3

Total 29

Acting Option

To be taken in addition to core requirement:

Drama Credits
210 Voice and Speech I ...................................... 2
211 Voice and Speech II .................................... 2
215 Acting II .................................................... 3
216A Production Acting I ................................... 1
244 Stage Makeup ............................................ 2
310 Voice and Speech III ................................... 2
311 Voice and Speech IV ................................... 2
312 Physical Performance Skills I ......................... 2
313 Physical Performance Skills II ......................... 2
314 Acting III ................................................... 3
315 Acting IV .................................................... 3
316A Production Acting II ................................ 1
410 Singing for the Actor (by audition) ................... 2
411 Physical Performance Skills III ......................... 2
412 Physical Performance Skills IV ......................... 2
414 Acting V ....................................................... 5
415 Acting VI ..................................................... 3
416 Senior Project Acting ................................... 1

At least 6 credits from two of the following:
435 Advanced Acting: Personal Performance ........... 3
436 Advanced Acting: Solo Performance .................... 3
437 Advanced Acting: Acting for the Camera I ........... 3
438 Advanced Acting: Acting for the Camera II ........... 3
439 Advanced Acting: Professional Skills ................. 3
440 Advanced Acting: Contemporary Theatre ............ 6

Sub-Total: 46

Core Courses .................................................. 29

Total: 75

Junior Projects

A junior project is required of all B.F.A. design/technology option students. The junior project is usually production-related and has both practical and written components. Requirements for the project are outlined in the Department of Drama/Dance Handbook.
Senior Projects
A senior project is required of all B.A. and B.F.A. students completing the acting or design/technology options. The senior project is usually production-related and has both practical and written components. Degree and area requirements for the project vary and are outlined in the Department of Drama/Dance Handbook.

Bachelor of Fine Arts with a major in Fine Arts, options in Choreography and Performance or Studio Teaching
The department offers two options, one in studio teaching and the other in choreography and performance. Each requires the same sixty-eight credits in core courses, plus additional specified credits in an option. All majors are required to do a junior and a senior creative or research project and a production project. If not qualified for advanced placement in Modern III, the student must take Modern II as a prerequisite.

Core Courses

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>201A Beginning Composition (offered spring)</td>
<td>2</td>
</tr>
<tr>
<td>202A Rehearsal and Performance</td>
<td>2</td>
</tr>
<tr>
<td>300 Modern III</td>
<td>6</td>
</tr>
<tr>
<td>304 Ballet III (or a higher level)</td>
<td>12</td>
</tr>
<tr>
<td>320 Improvisation (offered autumn, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>334H 20th Century Dance (offered spring, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>340 The Science of Dance Movement (offered autumn, odd-numbered years)</td>
<td>1</td>
</tr>
<tr>
<td>397 Junior Creative or Research Project (students must complete project for graduation)</td>
<td>3</td>
</tr>
<tr>
<td>400 Modern IV</td>
<td>6</td>
</tr>
<tr>
<td>420 Contact Improvisation (offered autumn, odd-numbered years)</td>
<td>1</td>
</tr>
<tr>
<td>425 Dance Pedagogy (offered autumn, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>426 Dance as a Healing Art (offered spring)</td>
<td>2</td>
</tr>
<tr>
<td>428 Internship in Children’s Dance</td>
<td>2</td>
</tr>
<tr>
<td>429 Advanced Techniques of Modern Dance</td>
<td>6</td>
</tr>
<tr>
<td>434L World Dance (offered spring, odd-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>494 Jr/Sr Dance Seminar (offered autumn, odd-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>497 Senior Creative or Research Project (students must complete project for graduation)</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Drama</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>103A Introduction to Theatre Design (offered autumn)</td>
<td>3</td>
</tr>
<tr>
<td>106A Theatre Production: Running Crew</td>
<td>1</td>
</tr>
<tr>
<td>107A Theatre Production (Sec. 5, Costume Construction) (autumn)</td>
<td>3</td>
</tr>
<tr>
<td>107A Theatre Production (Sec. 6, Lighting) (spring)</td>
<td>3</td>
</tr>
<tr>
<td>378 Stage Management Practicum</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>70</td>
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</tbody>
</table>

Studio Teaching Option

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>328 Teaching Creative Movement for People with Disabilities</td>
<td>1</td>
</tr>
<tr>
<td>427 Teaching Movement in the Schools (offered autumn odd-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>491 Teaching Projects (assisting in a technique class for one semester)</td>
<td>2</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>6</td>
</tr>
<tr>
<td>Core Courses</td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
</tr>
</tbody>
</table>

Choreography and Performance Option

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>202A Rehearsal and Performance (performing in one piece equals one credit)</td>
<td>2</td>
</tr>
<tr>
<td>301 Intermediate Composition (offered autumn, odd-numbered years)</td>
<td>2</td>
</tr>
<tr>
<td>329 Dance Conditioning (two semesters)</td>
<td>2</td>
</tr>
<tr>
<td>Choose two:</td>
<td></td>
</tr>
<tr>
<td>HHP 101, 141, 159, 162, 171, 172, 173, 177, 179</td>
<td>2</td>
</tr>
<tr>
<td>Sub-Total</td>
<td>8</td>
</tr>
<tr>
<td>Core Courses</td>
<td>70</td>
</tr>
<tr>
<td>Total</td>
<td>78</td>
</tr>
</tbody>
</table>

Drama 214, Acting I, is optional. There is an admission audition which a prospective major must pass at the end of the first year to continue in this program.

Special Projects
Junior and Senior projects must be planned with the student’s project advisor and all journals and papers will be submitted to that advisor. All choreography/performance B.F.A. candidates are required to choreograph for both projects, but the senior project must be a piece of choreography produced off-campus in the Missoula community. Teaching B.F.A. candidates must choreograph for the junior project and complete a teaching project in the Missoula community for the senior project.

Students also are required to meet the campus-wide General Education requirements. Students are urged to consult with their advisors before General Education courses are selected.

Suggested Course of Study
The recommended curriculum for the B.A., option in Dance is:

**First Year**

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAN 204A Ballet II</td>
<td>8</td>
</tr>
<tr>
<td>DAN 207A Jazz Dance II</td>
<td>2</td>
</tr>
<tr>
<td>DAN 200A Modern II (or DAN 100A, if needed)</td>
<td>6</td>
</tr>
<tr>
<td>DAN 201A Beginning Composition</td>
<td>2</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAN 204A Ballet II</td>
<td>4</td>
</tr>
<tr>
<td>DAN 307A Jazz Dance III</td>
<td>2</td>
</tr>
<tr>
<td>DAN 300 Modern III (or 200A, if needed)</td>
<td>6</td>
</tr>
<tr>
<td>DAN 301 Intermediate Composition</td>
<td>2</td>
</tr>
<tr>
<td>DAN 434L World Dance</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 378 Stage Management Practicum</td>
<td>1</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>30</td>
</tr>
</tbody>
</table>

The recommended curriculum for the B.A., option in Drama is:

**First Year**

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAM 103A Introduction to Theatre Design</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 107A Theatre Production I: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 202 Stagecraft I</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 203 Stagecraft II</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 214 Acting I</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAM 207 Theater Production II: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 220L Dramatic Literature I (Script Analysis)</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>32</td>
</tr>
</tbody>
</table>
The recommended curriculum for the B.F.A., Acting Option, is:

**First Year**
- DRAM 103A Introduction to Theatre Design ........................................ 3
- DRAM 106A Theatre Production I: Running Crew ..................................... 1
- DRAM 107A Theatre Production I: Construction Crew ............................... 3
- DRAM 202 Stagecraft I ............................................................................. 3
- DRAM 203 Stagecraft II ........................................................................... 3
- DRAM 214-215 Acting I, II, ................................................................. 6
- Electives and General Education ............................................................ 13

Total ........................................................................................................ 32

**Second Year**
- DRAM 206 Theatre Production II: Running Crew ................................... 1
- DRAM 220L Dramatic Literature .............................................................. 2
- DRAM 244 Stage Make-up ..................................................................... 2
- DRAM 314-315 Acting III, IV ................................................................. 6
- Electives and General Education ............................................................ 19

Total ........................................................................................................ 32

The recommended curriculum for the B.F.A., Design/Technology Option is:

**First Year**
- DRAM 103A Introduction to Theatre Design ............................................ 3
- DRAM 106A Theatre Production I: Running Crew .................................... 2
- DRAM 107A Theatre Production I: Construction Crew ............................ 3
- DRAM 202 Stagecraft I ............................................................................ 3
- DRAM 203 Stagecraft II ......................................................................... 3
- DRAM 207 Theatre Production II: Construction Crew ............................. 3
- DRAM 231 Drafting for the Theatre ......................................................... 3
- Electives and General Education ............................................................ 12

Total ........................................................................................................ 32

**Second Year**
- DRAM 206 Theatre Production II: Running Crew ................................ 2
- DRAM 220L Dramatic Literature .............................................................. 2
- DRAM 307 Production Construction I (two semesters) ......................... 6
- DRAM 331 Drafting for the Theatre or DRAM 341 Flat Design and Drafting . 3
- Electives and General Education ............................................................ 18

Total ........................................................................................................ 32

The recommended curriculum for the B.F.A., option in Studio Teaching or Choreography and Performance is:

**First Year**
- DAN 304 Ballet II or III ........................................................................... 6
- DRAM 103A Introduction to Theatre Design ............................................ 3
- DRAM 106A Theatre Production: Running Crew ................................. 1
- DRAM 107A Theatre Production: Sec. 5, Costume Construction ............. 3
- DRAM 107A Theatre Production: Sec. 6, Lighting ............................... 3
- Electives and General Education ............................................................ 10

Total ........................................................................................................ 30

**Second Year**
- DAN 201A Beginning Composition ........................................................ 2
- DRAM 202A Rehearsal and Performance .............................................. 2
- DRAM 300 Modern III (or DAN 200A) .................................................... 6
- DRAM 304 Ballet III (or Dan 204A) .......................................................... 4
- DRAM 320 Improvisation ..................................................................... 1
- DRAM 329 Dance Conditioning ............................................................. 2
- DRAM 340 Science of Dance ................................................................. 1
- DRAM 378 Stage Management Practicum ............................................. 1
- Electives and General Education ............................................................ 12

Total ........................................................................................................ 31

### Requirements for a Minor

#### Minor in Drama
The department provides the student the opportunity to focus the minor in a particular area such as acting, costume, etc. Twenty-seven credits, including a common core of sixteen credits are required for the minor. A department advisor should be consulted for guidelines regarding the specific focus.

<table>
<thead>
<tr>
<th>Drama</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>103A Introduction to Theatre Design</td>
<td>3</td>
</tr>
<tr>
<td>106A Theatre Production I: Running Crew</td>
<td>1</td>
</tr>
<tr>
<td>107A Theatre Production I: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>202 or 203 Stagecraft I or II</td>
<td>3</td>
</tr>
<tr>
<td>220L Dramatic Literature I</td>
<td>3</td>
</tr>
<tr>
<td>320 or 321 Theatre History I or II</td>
<td>3</td>
</tr>
<tr>
<td>Focused area</td>
<td>11</td>
</tr>
</tbody>
</table>

Total ........................................................................................................ 27

#### Minor in Dance
Twenty-nine credits are required.

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>100A Modern Dance I</td>
<td>4</td>
</tr>
<tr>
<td>104A Ballet I (or appropriate level)</td>
<td>4</td>
</tr>
<tr>
<td>107A Jazz Dance I (or appropriate level)</td>
<td>2</td>
</tr>
<tr>
<td>200A Modern II</td>
<td>6</td>
</tr>
<tr>
<td>201A Beginning Composition</td>
<td>2</td>
</tr>
<tr>
<td>202A Rehearsal and Performance</td>
<td>4</td>
</tr>
<tr>
<td>204A Ballet II (or appropriate level)</td>
<td>2</td>
</tr>
<tr>
<td>334H 20th Century Dance</td>
<td>3</td>
</tr>
<tr>
<td>320 Improvisation and 420 Contact Improvisation</td>
<td>2</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>329 Pilates and 340 Science of Dance</td>
<td>2</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>426 Dance as a Healing Art</td>
<td>2</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>428 Internship in Children’s Dance</td>
<td>2</td>
</tr>
</tbody>
</table>

Total ........................................................................................................ 29

### Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

#### Dance (DAN)

**U 100A Modern Dance I** 2 cr. (R-4) Offered autumn and spring. Introduction to basic modern dance vocabulary through exercises for alignment, strength and flexibility and combinations across the floor.

**U 104A Ballet I** 2 cr. (R-4) Offered autumn and spring. Introduction to basic ballet positions and steps.

**U 107A Jazz Dance I** 2 cr. (R-4) Offered autumn and spring. Introduction to basic strengthening and stretching exercises and stylistic characteristics of jazz.

**U 194 Dance Seminar I** 1 cr. Offered autumn and spring.

**U 195 Special Topics Variable cr.** (R-6) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 200A Modern II** 3 cr. (R-12) Offered autumn and spring. Prereq., DAN 100A. Continuation of the modern dance vocabulary at an advanced-beginner level.

**U 201A Beginning Composition I** 2 cr. (R-4) Offered spring. Basic use of space, time and energy in dance. Movement composition studies assigned each week.
U 202A Rehearsal and Performance 1-4 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Open to students who are choreographing a dance for a concert or to those who have been selected through audition to perform.

U 204A Ballet II 2 cr. (R-12) Offered autumn and spring. Prereq., DAN 104A. Continuation of the ballet vocabulary at an advanced-beginner level.

U 207A Jazz Dance II 2 cr. (R-12) Offered autumn. Prereq., DAN 107A. Continuation of the jazz vocabulary at an advanced-beginner level.

U 294 Dance Seminar 1 cr. Offered autumn and spring. One-time offerings of current topics.

UG 300 Modern III 3 cr. (R-12) Offered autumn and spring. Prereq., DAN 200A. Extension of the modern dance vocabulary through lengthier combinations of movement.

UG 301 Intermediate Composition 2 cr. (R-6) Offered autumn odd-numbered years. Prereq., DAN 201A and 6 credits of dance technique. Explores ways to manipulate several dancers in space, through repetition of shapes, through related rhythms. May include choreography for videotape.

U 302 Dance Touring 1-4 cr. (R-24) Offered autumn and spring. Prereq., audition. Rehearsal and touring with the semi-professional modern dance company, Mo-Trans which rehearses during fall, learning the repertoire by many different choreographers and tours in the spring.

UG 304 Ballet III 2 cr. (R-8) Offered autumn and spring. Prereq., consent of instr. Development of ability to combine steps; carriage of head and arms. 

U 307A Jazz III 2 cr. (R-12) Offered autumn. Prereq., DAN 204 or equiv. skill and consent of instr. Continuation of 207A.

U 320 Improvisation 1 cr. (R-3) Offered autumn even-numbered years. Exploration of stimulus, structure and performance of improvised movement. Elements such as space, shape, motion, time, quality, form and awareness emphasized. Instructor-designed structures, transitioning to student-designed scores, culminating in improvised performance.

U 327A Dance in Elementary Education 2 cr. (R-4) Offered autumn and spring. Open to majors in elementary education. Techniques and applications for using movement in the public school setting. Focus on movement elements, lesson design and planning, standards for dance, multiple intelligence theory, assessment, classroom management techniques and multi-culturalism.

U 328 Teaching Creative Movement for People with Disabilities 1 cr. (R-4) Offered autumn and spring. Students interact with adults with developmental disabilities in an adaptive dance class where movement is used as a therapeutic modality for people with cognitive and physical impairments. Students interact with the participants, engage as role models and gain beginning teaching experience.

UG 329 Conditioning: Pilates Mat 1 cr. (R-8) Offered autumn and spring. Pilates mat (floor) exercises to build core control, strength and flexibility.

UG 334H 20th Century Dance 3 cr. Offered spring even-numbered years. Discussion of primary movements and major figures in American modern dance, including multi-cultural influences and some parallel movements in the visual art world.

U 340 The Science of Dance Movement 1 cr. Offered autumn odd-numbered years. Study of the skeletal system and how it relates to dance movement. Basic kinesthetic principles, conditioning for dancers, and injury recognition and prevention.

U 394 Dance Seminar 1 cr. (R-2) Offered autumn and spring. One-time offerings of current topics.

U 395 Special Topics Variable cr. (R-24) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study: Dance Projects 1-3 cr. (R-24) Offered autumn and spring. Prereq., consent of instr.

UG 329 Advanced Techniques of Modern Dance 3 cr. (R-12) Offered autumn and spring. Prereq., DAN 300. Performance of exercises and combinations that are technically demanding in strength, balance, weight, agility and line.

UG 404 Ballet IV 2 cr. (R-8) Offered autumn and spring. Prereq., DAN 304, 4 cr., or equiv. skill and consent of instr. Develops petite and grand allegro.

UG 420 Contact Improvisation 1 cr. (R-3) Offered autumn odd-numbered years. The art of moving with one or more partners while using a shifting point of contact and supporting each other's weight. Skills such as rolling, suspending, falling and recovering together explored through physical sensations that use weight, counter-balance and yielding.

UG 425 Dance Pedagogy 3 cr. (R-9) Offered autumn even-numbered years. Methods and experiences in teaching modern dance, ballet and jazz.

UG 426 Dance As a Healing Art 2 cr. (R-6) Offered spring. Study of body movement as a reflection of inner emotional states. How changes in movement lead to changes in the psyche, promoting health and growth. Exploration of techniques for experiencing the inter-connection between movement and emotional expression.

UG 427 Teaching Movement in the Schools 3 cr. Offered autumn odd-numbered years. Prereq., consent of instr. Experience in planning, observing and directing creative movement as a teaching tool in K-5.

UG 428 Internship in Children's Dance 2 cr. (R-8) Offered autumn and spring. Students participate and gain beginning level teaching experience in two of four dance classes for children ranging in ages from 3 1/2 to 12 years old.

UG 429 Advanced Techniques of Modern Dance 3 cr. (R-12) Offered autumn and spring. Prereq., DAN 400, 6 cr., or equiv. skill and consent of instr. Continuation of DAN 400.

UG 434L World Dance 3 cr. (R-6) Offered spring odd-numbered years. Investigation of dances of diverse cultures. Study of dance as: an emblem of cultural identity, social order, power and gender-specific behavior; an expression of religion and/or ritual; a classical art form; and as a medium for personal expression in western and non-western world cultures.

UG 435L The Arts and Culture of Bali 3 cr. Three-week study abroad during intersession. Overview lectures on Balinese culture, hands on lessons in art forms, field trips to observe religious ceremonies and arts performances.

UG 491 Teaching Projects 1-6 cr. (R-24) Offered autumn and spring. Prereq., consent of instr. Independent study that may involve either assisting in the teaching of a dance technique class or actually planning and teaching it.
U 494 Junior/Senior Dance Seminar 3 cr. (R-6) Offered autumn even-numbered years. Seminar to discuss both practical and philosophical issues confronting dance students about to enter the "real" world.

UG 495 Special Topics Variable cr. (R-24) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study: Dance Projects 1-6 cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

U 497 Senior Creative or Research Projects 3 cr. (R-6) Offered autumn and spring. Prereq., fine arts major, option in dance (B.A.); choreography and performance; or studio teaching (B.F.A.). Independent study in choreography or teaching. If the student is a B.F.A. candidate the project must take place off-campus in the Missoula community. The student is responsible for setting up the project. An initial proposal, a journal, and a paper are required.

Drama (DRAM)

U 101L Theatre Appreciation 3 cr. Offered autumn and spring. The various elements of play production and dance. The basic artistic principles underlying dance, theatre and all of the arts.

U 103A Introduction to Theatre Design 3 cr. Offered autumn. Basic understanding of the principles of design for the theatre and television, including the production elements of scenery, costumes and lighting.

U 106A Theatre Production I: Running Crew 1 cr. (R-4) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major departmental production.

U 107A Theatre Production I: Construction Crew 3 cr. (R-6) Offered autumn and spring. The construction and completion of scenery, costumes and props under supervision. Most assignments involve very basic construction techniques. Involves two 4-hour labs a week.

U 111A Acting for Non-Majors I 3 cr. Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.

U 112A Acting for Non-Majors II 3 cr. Offered autumn and spring. Prereq., DRAM 111A. Continuation of 111A.

U 166L History of Musical Theatre 3 cr. Offered autumn and spring. Same as MUS 166L. Exploration of origins, developing trends, and cultural/historical contexts of musical theatre through films, lectures, and discussion.

U 195 Special Topics Variable cr. (R-6) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 200A Beginning Theatre Workshop Variable cr. (R-8) Offered autumn and spring. Credit for students engaged in any aspect of production including acting, directing, lighting, stagecraft, makeup, costumes, properties, business and publicity.

U 202 Stagecraft I 3 cr. Offered autumn. Fundamental theories and hands-on application in the areas of costuming, stage properties and dyeing/painting.

U 203 Stagecraft II 3 cr. Offered spring. Fundamental theories and hands-on application in the areas of scenery, lighting, sound and rigging.

U 206 Theatre Production II: Running Crew 1 cr. (R-4) Offered autumn and spring. Prereq., DRAM 106A. Operation and running a show backstage, as in scenery, costumes, or props for a major departmental production.

U 207 Theatre Production II: Construction Crew 3 cr. (R-6) Offered autumn and spring. Prereq., DRAM 107A. The construction and completion of scenery, costumes and props. Advanced construction assignments; supervision of a small construction crew.

U 210 Voice and Speech I 2 cr. Offered autumn. Voice production, phonetics and speech for the stage.


U 214 Acting I 3 cr. Offered autumn. Intensive development of basic acting skills through psycho-physical technique: dramatic action, image-making and improvisation.


U 216A Production Acting I 1 cr. (R-4) Offered autumn and spring. Credit for acting in approved Drama/Dance productions.

U 220L Dramatic Literature I 3 cr. Offered spring odd-numbered years. The study of representative texts in dramatic literature as a foundation for play analysis.

U 231 Drafting for the Theatre I 3 cr. Offered spring. Drawing techniques for the theatre with an emphasis on drafting as utilized by technicians, designers, stage managers and directors.

U 244 Stage Makeup 2 cr. Offered spring. Principles of and practice in theatrical makeup. Students will work on makeup for major productions.

U 296 Independent Study: Theatre Projects Variable cr. (R-12) Offered autumn and spring. Independent study in all the arts of the theatre.

U 300 Theatre Workshop Variable cr. (R-20) Offered autumn and spring. Prereq., previous work in drama or theatre courses. Advanced laboratory production in all the arts of the theatre.

U 301 Playwriting 3 cr. (R-6) Offered intermittently. Prereq., consent of instr. Techniques and practice in writing short and full-length plays.

U 307 Production Construction I Variable cr. (R-12) Offered autumn and spring. Students serve as the construction crew in either the sound, light, costume, or scene shop for departmental productions.

U 308 Production Team I Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Students function as part of the production team in a role of responsibility (i.e., master electrician, cutter, first hand, master carpenter, etc.) for a departmental production. These assignments and duties may serve also as part of the required junior project.

U 309 Production Design I Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Students function as a member of the production team in a role of responsibility (i.e., scenic designer, costume designer, lighting designer, etc.) for a departmental production. These assignments and duties may serve also as part of the required junior project.

U 310 Voice and Speech III 2 cr. Offered autumn. Prereq., DRAM 211. Dialects, accents, and continued development of good voice and speech skills.

U 311 Voice and Speech IV 2 cr. Offered spring. Prereq., DRAM 310. Integration of voice and speech skills, vocal character.

U 312 Physical Performance Skills I 2 cr. Offered autumn. Concentration, centering, balance, agility and movement skills through ancient martial arts and stage movement techniques.
UG 313 Physical Performance Skills II 2 cr. Offered spring. Specialized physical skills for acting such as stage combat, mime, and circus skills.


UG 315 Acting IV 3 cr. Offered spring. Prereq., DRAM 314. Selected scenes and projects from European and American realistic texts such as Chekhov, Ibsen, Strindberg, Shaw, O'Neill, Williams and Miller.

UG 316A Production Acting II 1 cr. (R-4) Offered autumn and spring. Prereq., DRAM 216A. Credit for acting in approved Drama/Dance productions.

UG 320 Theatre History I 3 cr. Offered autumn odd-numbered years. A survey of the major developments of the theatre from primitive beginnings to the 19th century, including various cultures and their representative plays and performances throughout the world.

UG 321 Theatre History II 3 cr. Offered spring even-numbered years. Prereq., DRAM 320. Continuation of 320. The many and varied periods of the 19th and 20th centuries as reflected in the theatre of the times.

U 327A Drama in Elementary Education 2 cr. (R-4) Offered autumn and spring. Exploration, implementation, and experience in teaching strategies for using drama in elementary education. Focus on techniques and applications for teaching drama and for utilizing drama as a tool for teaching other subject matter.

UG 331 Drafting for the Theatre II 3 cr. Offered autumn. Prereq., DRAM 231 or consent of instr. Scene design including elevations, drop-point perspective, measured drawings for furniture, and other techniques used by scene designers.

UG 332 Computer-Aided Drafting and Computer Applications for the Theatre 3 cr. Offered autumn. Prereq., DRAM 231. Computer drafting for scenery, costumes, lighting, and sound design drawings, including 2-D and 3-D plans, layouts and renderings. Work with CAD, photo manipulation, spreadsheet, database, and word processing programs.

UG 333 Scenic Painting I-3 cr. (R-6) Offered spring. Introduction to the basic skills needed as a scenic artist. Emphasis on the varied materials and techniques used in the scenic studio, color mixing, and interpretation of the designer's work.

UG 334 Scene Design I 3 cr. Offered autumn. Prereq., DRAM 103A, 202, 203. Introduction to the problems encountered in designing scenery, analyzing of script, research and practical demands of theatre conventions. Projects include those for theatre, musicals, opera, dance and television.

UG 335 Scene Design II 3 cr. Offered spring. Prereq., DRAM 334. A continuation of the techniques and projects in DRAM 334.

U 340 Intermediate Costume Construction 3 cr. Offered spring. Intermediate costume construction focusing on the development of skills needed to function as a stitcher.

UG 341 Flat Pattern Design and Drafting 3 cr. Offered spring even-numbered years. Analysis of fibers, yarns, structures and finishes, as related to selection and use for the theatre. Basic dyeing, distressing and painting.

UG 342 Costume History 3 cr. Offered intermittently. History of Western costume from ancient Egypt to the present day.

UG 346 Costume Design I 3 cr. Offered autumn. Prereq., DRAM 103A, 202, 203. Introduction to principles and practices of stage costume design.

UG 351 Theatre Lighting I 3 cr. Offered autumn. Prereq., DRAM 103A, 202, 203. Introduction to principles and practices of theatre lighting design. Training for position of lighting designer for theatre. Design requirements and decisions, color, development of stage picture; concentration on prosценium theatre design concepts.

UG 356 Theatre Sound I 3 cr. Offered autumn. Prereq., DRAM 103A, 202, 203 or consent of instr. Introduction to principles and practices of theatre sound design. Training for position of sound designer for theatre. Principles, practices, and equipment used to create finished sound designs for theatre, dance and related areas.


UG 374 Technical Direction 3 cr. Offered intermittently. Prereq., DRAM 213, 331 or consent of instr. Training for position of technical director. The role and scope of technical direction, production scheduling, design analysis, budgets and bookkeeping, and methods of construction.

UG 377 Technical Direction Practicum 3 cr. (R-12) Offered autumn and spring. Prereq., DRAM 374. Technical direction on a major show in the drama season in the Montana or Masquer Theatres.

UG 378 Stage Management Practicum I 1-3 cr. (R-6) Offered autumn and spring. Prereq., DRAM 371 or consent of instr. Stage management practicum involving stage managing a showcase production or assistant stage managing a major show. Involves evening work.

UG 379 Introduction to Directing 3 cr. Offered spring. Prereq., DRAM 103A, 214, 220L. Introduction to the analytical skills, staging and conceptual techniques of the director; includes some practical application in scene work.

UG 385 Dance Team 2 cr. (R-4) Offered autumn and spring. UM cheer and dance team selected during audition process each spring; students perform routines at the intermediate jazz level. Development of current dance performance, leadership, communication and organizational skills. (Only four credits of DRAM 385, HHP 100-179, MS 203 and MS 315 may count toward a degree.)

UG 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

UG 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 396 Independent Study: Theatre Projects Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

UG 398 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

UG 400 Professional Theatre 9 cr. (R-18) Offered spring. Prereq., consent of instr. Laboratory experience in total play production through participation in state, regional, national and international touring production programs.

UG 402 Methods of Teaching Theatre 2 cr. (R-6) Offered autumn. Prereq., consent of instr. Building and addressing specific curriculum in theatre arts.
UG 407 Production Construction II Variable cr. (R-12)
Offered autumn and spring. Prereq., consent of instr. Students serve as construction crew in one of the shops for productions.

UG 408 Production Team II Variable cr. (R-12)
Offered autumn and spring. Prereq., consent of instr. Students serve as a member of the production team in a role of responsibility (i.e., master electrician, sound board operator, cutter, first hand, etc.) for major productions. These assignments and duties may serve also as part of the required senior project.

UG 409 Production Design II Variable cr. (R-12)
Offered autumn and spring. Prereq., consent of instr. Students serve as a member of the production team in a role of designer (i.e., set designer, costume designer, light designer, etc.) for major productions. These assignments and duties may serve also as part of the required senior project.

U 410 Singing for Actors 2 cr. (R-4) Offered autumn.
Prereq., audition, acting/directing option, or consent of instr. Development and presentation of musical numbers in a dramatic context. A broad-based acquaintance with music theatre literature is acquired and techniques for approaching songs are explored with an eye toward developing competency in music/theatre forms.

UG 411 Physical Performance Skills III 2 cr. Offered autumn.

UG 412 Physical Performance Skills IV 2 cr. Offered spring.
Prereq., DRAM 411. Physical characterization: expressive mask, animal studies, clowning.

UG 414 Acting V 5 cr. Offered autumn.
Prereq., DRAM 315. Selected speeches, scenes and projects from verse drama, especially Shakespeare.

UG 415 Acting VI 3 cr. Offered spring.
Prereq., DRAM 414. Selected scenes and projects from various historical and stylistic periods.

U 416 Senior Project Acting 1 cr. Offered autumn and spring.
Performance of an approved role in a departmental production accompanied by written self-assessment.

UG 435 Advanced Acting: Personal Performance 3 cr.
Offered autumn.
Prereq., DRAM 415 or graduate standing.

UG 436 Advanced Acting: Solo Performance 3 cr.
Offered spring.
Prereq., DRAM 435 or graduate standing.

UG 437 Advanced Acting: Acting for the Camera I 3 cr.
Offered autumn.
Prereq., DRAM 415 or graduate standing.

UG 438 Advanced Acting: Acting for the Camera II 3 cr.
Offered spring.
Prereq., DRAM 415 or graduate standing. Extended work in techniques in acting for the camera. Work in different areas of film and video acting such as: commercials, soap opera, and comic scripts.

UG 439 Advanced Acting: Professional Skills 3 cr.
Offered autumn odd-numbered years.
Prereq., DRAM 415 or graduate standing. Developing professional skills, material for the actor, professional portfolio, resume audition material, commercial acting, performance market research.

UG 440 Advanced Acting: Contemporary Theatre 3 cr.
Offered spring even-numbered years.
Prereq., DRAM 415 or graduate standing. Performance and scene work in contemporary practice and theory. Texts drawn from twentieth century playwrights such as Beckett, Pinter, Churchill and performance theory such as Viewpoints.

UG 441 Draping 3 cr.
Offered spring.
Prereq., DRAM 341. Garment design based on manipulation of fabric on a body form; emphasis on creative solutions to design problems and the interrelationships between fabric, design, and form.

UG 442 Tailoring 3 cr.
Offered spring odd-numbered years.
Prereq., consent of instr. Principles used in the construction of tailored garments.

UG 444 Advanced Makeup 2 cr. (R-6) Offered autumn and spring.
Prereq., DRAM 244 or consent of instr. Character-ization, prosthesis, wigs, masks and special problems. Students will work on makeup for major productions.

UG 446 Costume Design II 3 cr. (R-9) Offered spring.
Prereq., DRAM 346. Advanced techniques in costume design; possible topics include design for dance, opera, large scale drama and musicals.

UG 451 Theatre Lighting II 3 cr. Offered spring.
Prereq., DRAM 351 or consent of instr. Advanced study of principles and practices of theatre lighting design. Training for position of light designer for theatre. Design requirements and decisions, color, development of stage picture; thrust and arena theatre.

UG 461 Theatre Sound II 3 cr. Offered spring.
Prereq., DRAM 361 or consent of instr. Advanced study of principles and practices of theatre sound design. Training for position of theatre sound designer. Principles, practices and equipment used to create sound and music designs for the theatre, dance and related areas.

UG 471 Stage Management II 2 cr.
Offered intermittently.
Prereq., DRAM 371 or consent of instr. Additional study of stage management concentrating on pre-rehearsal duties, aspects of maintaining a show's integrity as established by the director, inter-production relationships, supervision of crews and union contracts. Understanding a stage manager's need for paperwork and writing skills. Students encouraged to enroll in DRAM 478 to use skills in a living situation.

UG 478 Stage Management Practicum II 3 cr. (R-9) Offered autumn and spring.
Prereq., DRAM 471 or consent of instr. Stage managing a major show in the drama season in the Montana or Masquer Theatres or assistant stage managing for an Equity stage manager on a Montana Repertory Theatre production.

UG 479 Directing I 4 cr. (R-12) Offered autumn.
Prereq., DRAM 379 or consent of instr. Directing skills for the advanced student; extensive scene work.

UG 480 Directing II 4 cr. (R-12) Offered spring.
Prereq., DRAM 479. Continuation of 479. Course material coordinated with laboratory projects.

UG 493 Omnibus Variable cr. (R-24) Offered intermittently.
Prereq., consent of department chair. Independent work under the University omnibus option. See index.

UG 494 Seminar 2 cr. (R-6) Offered intermittently.
Prereq., 10 credits in drama or in English dramatic literature and consent of instr. Intensive study of dramatic theory relating to acting, directing, design and dramaturgy.

UG 495 Special Topics Variable cr. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study: Theatre Projects Variable cr. (R-12) Offered autumn and spring.
Prereq., consent of instr.

UG 497 Research Variable cr. (R-12) Offered autumn and spring.
Prereq., consent of instr.

UG 498 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off
campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 500 Professional Theatre 9 cr. (R-18) Offered spring. Prereq., consent of instr. Laboratory experience in total play production through participation in state, regional, national and international touring production programs.

G 501 Problems in Playwriting 1-3 cr. (R-12) Offered intermittently.

G 507 Technical Production Assignment 2-4 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Production assignment made by the faculty. Student assigned a responsible technical position such as technical director, master electrician, sound engineer, cutter/driver or scenic artist. Credit variable and will be assigned by faculty.

G 508 Design Production Assignment 2-4 cr. (R-24) Offered autumn and spring. Prereq., consent of instr. Production design assignment made by the faculty. Student designs an element of a Drama/Dance production with the supervision of a faculty designer.

G 510 Problems in Voice/Speech 1-2 cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 512 Problems in Movement/Dance 1-2 cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 514 Studio Training for the Actor 1-3 cr. (R-18) Offered autumn and spring. Prereq., consent of instr. Intensive rehearsal and project work with emphasis on integration of advanced skills.

G 516 Problems in Acting 1-3 cr. (R-18) Offered autumn and spring. Prereq., consent of instr.

G 517 Graduate Acting I 3 cr. Offered intermittently. Prereq., consent of instr. Work in such areas as combat and movement training, improvisation for performance, experimental theatre and various genre and period styles in performance.

G 520 Introduction to Graduate Study 2 cr. Offered autumn. Introduction to basic research and writing skills.

UG 521 Performance Theory and Criticism 3 cr. Offered spring. Survey of the theories, elements and ingredients of multi-cultural live performance forms, including theatre, popular entertainment, ceremonies, and other public events. Includes instruction in and application of various approaches to the criticism of live performance.

G 522 Graduate Seminar in Theatre History 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Selected topics and issues with individual research projects presented in seminar concerning various genres, periods, themes, and cultural contexts in theatre history.

G 523 Graduate Seminar in Dramatic Literature 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Selected topics with individual research projects presented in seminar concerning various genres, periods, and themes in dramatic literature.

G 530 Graduate Scene Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific design skills in scenery.

G 535 Problems in Scene Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in scene design.

G 540 Graduate Costume Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific design skills in costuming.

G 545 Problems in Costume Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in costume design.

G 550 Graduate Light Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific design skills in light design.

G 555 Problems in Light Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in light design.

G 560 Graduate Sound Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific design skills in sound design.

G 565 Problems in Sound Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in sound design.

G 571 Graduate Stage Management 3 cr. Offered autumn. Prereq., consent of instr. Study of duties of stage manager in rehearsal and performance process. Includes stage managing a production for a faculty or guest artist director.

G 574 Technical Direction 3 cr. Offered autumn and spring. Prereq., consent of instr. Role and scope of technical direction, production scheduling, design analysis, budgets and bookkeeping and methods of construction.

G 575 Problems in Theatre Management 1-6 cr. (R-18) Offered intermittently. Prereq., consent of instr.

G 577 Technical Direction Practicum 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Technical direction of a major show in the drama season in the Montana or Masquer Theatres.

G 578 Stage Management Practicum 1-6 cr. (R-18) Offered autumn and spring. Prereq., consent of instr. Practical work in stage management projects.

G 579 Directing III 3 cr. Offered autumn odd-numbered years. Prereq., DRAM 480 or consent of instr. Formalist styles of dramatic material. Through a variety of tools, textual and linguistic analysis, metrical and rhetorical analysis, archetypes, and musical structures, students analyze, interpret and stage projects drawn from opera and pre-modern drama, especially Shakespeare.

G 580 Directing IV 3 cr. Offered spring. Prereq., DRAM 579. Exploration of image; time manipulation; construction, delineation and manipulation of space; multi-media and non-linear storytelling.

G 581 Arts Education Institute I 1 cr. (R-4) Offered summer. Same as ART, MUS 581. Open forum with national and regional speakers, panels, and symposia to promote discussion, understanding, and direction on significant national issues in the arts and arts education.

G 582 Arts Education Seminar I 2 cr. (R-4) Offered summer. Prereq., DRAM 581. Same as ART, MUS 582. Topics vary.

G 583 Arts Education Seminar II 1-2 cr. (R-4) Offered summer. Prereq., DRAM 582. Same as ART, MUS 583. Continuation of 582.

G 584 Arts Education Seminar III 1-2 cr. (R-4) Offered summer. Prereq., DRAM 583. Same as ART, MUS 584. Continuation of 583.

G 585 Arts Education Seminar IV 1-2 cr. (R-4) Offered summer. Prereq., DRAM 584. Same as ART, MUS 585. Continuation of 584.


G 587 Arts Education Practicum I 1 cr. (R-4) Offered summer. Same as ART, MUS 587. The active application of concepts and theories presented during the Arts Education Institute and the arts education seminars within a small group setting.

G 588 Arts Education Apprenticeship 1 cr. (R-4) Offered summer. Same as ART, MUS 588. Exploration of art forms
to develop new artistic and communicative perceptions and awareness.

G 589 Arts Education Field Project 1 cr. (R-4) Offered summer. Same as ART, MUS 589. Creative/research activities.

G 594 Seminar 1-3 cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 595 Special Topics Variable cr. (R-18) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study 1-6 cr. (R-24) Offered autumn and spring. Prereq., consent of instr. G 597 Research 1-6 cr. (R-24) Offered autumn and spring. Prereq., consent of instr.

G 598 Cooperative Education Experience 2-6 cr. (R-24) Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.


Faculty

Professors

Randy Bolton, Ph.D., Florida State University, 1981
Mark Dean, M.F.A., Wayne State University, 1991 (Chair)
Greg Johnson, M.F.A., New York University, 1974
James D. Kriley, Ph.D., University of Utah, 1971
Christine Milodragovich, M.A., Washington State University, 1973
Joe Proctor, M.F.A., Brandeis University, 1971
Amy Ragsdale, M.A., Wesleyan University, 1992

Associate Professors

Michele Antonioli, M.F.A., Texas Christian University, 1988
Karen Kaufmann, M.A., Antioch University, 1993
William D. Watson, M.F.A., University of Washington, 1983

Assistant Professors

Nicole Bradley Browning, M.F.A., Arizona State University, 2000
Jillian Campana, M.A., New York University, 1999
Alessia Carpoca, M.F.A., Northwestern University, 2003

Emeritus Professors

Juliette Crump, M.A., George Washington University, 1975
Bill Raoul, M.A., University of Washington, 1969

Requirements for a Minor

The Media Arts minor is meant to supplement the work of those undergraduate students whose major area of study can be enhanced through the application of media arts principles and technologies.

To earn a minor in Media Arts a student must complete 21 credits as follows: MAR 101L, 111A, 210, 311, 316; and six credits of electives outside the department. See the Media Arts Office for a current list.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Media Arts (MAR)

U 101L Introduction to Media Arts 3 cr. Offered autumn and spring. Overview of the media arts and their interaction, integration and development in the creation of story beginning with early year of photography and movie-making through the introduction of radio and television up to the digital revolution.

U 111A Fundamentals of Media Arts Production 3 cr. Offered autumn and spring. A project oriented course that focuses on basic training in the process of digital editing and
its relationship to artistic expression and story. Students will develop the dramatic action of their narrative by making creative selection in audio/visual design and composition.

U 195 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 210 Creation of Media Story 3 cr. Offered autumn and spring. Prereq., MAR 101L, 111A. An introduction to writing and visualization for media story. The critical elements of story will be explained through written projects in screenplay form, collaborative interactions with other students and in the creation of simple storyboards. Development of skills in feedback and critique in a positive manner are emphasized.

U 295 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study 1-6 cr. (R-6) Offered intermittently. Prereq., consent of instr.

U 311 Integrated Media Production 3 cr. Offered autumn and spring. Prereq., MAR 101L, 111A, 210. A project oriented application of narrative structures used in the creation of complex story. Through the use of digital toolsets introduced in MAR 111A, students will create short nonlinear and layered audio/visual projects using a compositing software program.

U 316 Final Media Project 3 cr. Offered autumn and spring. Prereq., completion of MAR 111A, 210 and 311 with a 3.0 grade average. Creation of a project which integrates principles of narrative structure and media writing covered in MAR 101L and 210 with the audio/visual principles of design and composition covered in MAR 111A and 113. A paper proposal will be submitted before the project begins.

U 396 Independent Study 1-6 cr. (R-6) Offered intermittently. Prereq., consent of instr.

UG 495 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study 1-12 cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 508 Media Production 3 cr. (R-12) Offered autumn and spring. Application of narrative work to specific technology tool sets through exercises and projects, including work in multimedia, photographic capture and manipulation, soundscape design, digital effects work and motion graphic design.

G 510 Media Sound Design 3 cr. Offered spring. Prereq., graduate standing in media arts. Beginning work in sound and music capturing, manipulation and design. Work in field locations and in studio.

G 515 Editing Dramatic Action 3 cr. Offered autumn. Prereq., graduate standing in the Media Arts program. Function of editing in the moment to moment unfolding of dramatic action including history of editing, analysis of outstanding directors/editors. Basic techniques in editing, capture and output to tape.

G 577 Media Directing I 3 cr. Offered autumn. Study of dramatic action, human psychology, and the patterns of story as applied to script analysis and directing for stage and video. Students will analyze and stage scenes from existing dramatic works and adapt them for use in video and film format.

G 578 Media Directing II 3 cr. Offered spring. Production process and direction for one-camera video/film. Technical elements of camera operation, lighting and principles of shot selection are studied. Scenes are staged and shot, both in studio and on location.

G 579 Media Directing III 3 cr. Offered autumn. Prereq., MAR 577 and 578. Continuation of video/film directing techniques at a more advanced level, including location shooting work, as well as development of a production team. A script, developed in Writing I is shot on location during this semester.

G 586 Media Writing I 3 cr. Offered spring. Prereq., MAR 577. Narrative structures and their applications in writing for media, with an emphasis on screenplay and the artistic expression of personal story. The student will create short written works, one of which will be shot as a project in Directing III.

G 587 Media Writing II 3 cr. Offered autumn. Prereq., MAR 577, 578, 586. Continued work in media writing at an advanced level.

G 595 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, and one-time offerings of current topics.

G 596 Independent Study 1-6 cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 597 Research 1-12 cr. (R-12) Offered intermittently. Prereq., graduate standing in media arts. Beginning analysis and articulation of story structures in classic film. Application of qualitative research techniques, with a research portfolio due at the end of the semester.

G 609 Media Arts Seminar 1 cr. (R-6) Offered autumn and spring. Discussion of issues including ethics, group and personal creative process, production theory, articulation and development of project proposals. Seminar also includes workshops, presentations by visiting professionals in pertinent fields.

G 680 Media Directing IV 3 cr. Offered spring. Prereq., MAR 508 (3 credits), 587, 680. In depth analysis of significant works in film and media story with emphasis on genre, question of narrative voice and style. Several short projects are completed, based on this area of research.

G 686 Final Portfolio Development 3 cr. Offered spring. Prereq., MAR 508 (3 credits), 587, 680. Research and preparation for thesis project(s). Includes paper presentations of all stages of development in both content and technical production aspects.

G 687 Final Portfolio Production 3 cr. Offered autumn. Prereq., MAR 508 (3 credits), 587, 680, 686. Ongoing production and content work relating to thesis projects.

G 688 Media Production Lab 3 cr. Offered autumn and spring. Participation as support/design team member for another student's thesis work.

G 690 Media Apprenticeship 3 cr. Offered autumn and spring. Prereq., graduate standing in Media Arts program.

G 699 Final Portfolio Post-Production 6 cr. Offered spring. Final work on thesis portfolio. Approval by the student's thesis committee is required for graduation.

Faculty

Richard Paul Hughes, M.F.A., The University of Montana, 1999
James D. Kriley, Ph.D., University of Utah, 1971
Michael R. Murphy, M.F.A., The University of Montana, 1994 (Director)
Department of Music

Stephen Kalm, Chair

The Department of Music offers students who have demonstrated talent in music the opportunity to continue further study either for a profession or an avocation and to acquire at the same time a broad general education. Complete sequences of courses are given to prepare a student for a career as a teacher or supervisor of music in the elementary/secondary schools; for a career directed toward composition, the music technology industry, private teaching, or concert work; or, for a thorough training in music within the structure of a broad liberal arts curriculum.

Degree programs at the undergraduate level include the Bachelor of Music Education; Bachelor of Music with majors in performance or composition and music technology; and Bachelor of Arts with a major in fine arts and an option in music. Graduate degree programs are Master of Music with a major in music and options in music education, performance, or composition/technology; and musical theater.

The University of Montana-Missoula is an accredited institutional member of the National Association of Schools of Music.

In general, admission as a major in the Music Department is by certificate from the high school from which the student graduates. The faculty of the Music Department is more concerned with evidence of talent, conspicuous achievement in music, promise of development, and scholarship in general than it is in the precise content of the program which the prospective music student has followed prior to admission to the University.

The Music Department welcomes the opportunity for prospective students and parents to consult with faculty and administration by paper and electronic correspondence and/or by appointment interviews on the campus. Every student wishing to become a music major or minor must take the Music Theory Assessment Examination and a Piano Proficiency Assessment during orientation and also must audition and be accepted officially into the applied studio of a music faculty member prior to confirmation as a fully-admitted major or minor in music.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

1. For the Bachelor of Music Education degree, course requirements in Curriculum A must be completed.
2. For the Bachelor of Music degree, course requirements in Curriculum B must be completed.
3. For the Bachelor of Arts degree, course requirements in Curriculum C must be completed.
4. All students majoring in music are required to attend and/or participate in a minimum of 154 approved recitals/concerts prior to graduation.
5. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.)

Majors whose principal performance area is wind/percussion must register for:
- Music 110A/310A, section 1, Symphonic Wind Ensemble (or Music 110A/310A, section 2, University Concert Band, or Music 108A/308A, section 1, University Orchestra, if designated) every semester.
- String majors must register for:
  - Music 108A/308A, section 1, University Orchestra, every semester.
  - B.M., Vocal Performance, and B.A., voice, majors must register for:
    - a minimum of 4 credits in Music 107A, section 1 (University Choir).

Upon completion of the upper-division recital performance, B.M., Vocal Performance, and B.A., voice, majors may enroll in:
- Music 307A, section 1 (University Choir),
- Music 307A, section 2 (Chamber Chorale),
- Music 307A, section 3 (Men's Chorus),
- Music 307A, section 4 (Women's Chorus),
- Music 313A (Opera Theater), or
- Music 350A, section 11 (Jubes)

B.M.E. voice majors must take a minimum of:
- 6 credits in 107A/307A, section 1 (University Choir) and
- 1 cr. of 104A (Marching Band).

Ensemble requirements for piano and organ are listed separately for each curriculum.

7. Seniors pursuing the B.M.E. or B.A. degrees and deemed outstanding in performance ability by their applied music teacher may perform a one-half recital only. Students in the B.M. program must present a full recital, a requirement which may be satisfied at the discretion of the area faculty by giving two half recitals.

8. Candidates for all undergraduate degrees in music enrolled in performance study above the Music 100A level shall take divisional juries as scheduled by area faculties. Students may be excused from divisional juries if graduating in that semester, or if they have performed a half or full recital that term, or have successfully completed an upper-division recital performance during that semester.

9. All majors seeking upper-division standing in applied music will appear in an upper-division recital performance. In order to qualify for this performance the student must be recommended by the divisional jury on the basis of performance ability, repertoire studied and sight reading on his/her performing instrument. The recital must be approved by a 2/3 majority of the music faculty in attendance. Failure in the upper-division recital performance bars students from admission to music courses numbered 300 or above with the exception of 324H-325H (History of Music I, II).

10. Successful completion of all lower-division music core requirements is necessary for admission to upper-division academic study in music and for students pursuing the B.M.E. degree, student teaching in music. Transfer students shall be admitted to 300 or above courses with the stipulation that lower-division requirements be completed within their first two semesters of residence.

The required lower-division core includes:
- Music 135L (Introduction to Music Literature) 3 crs.
- Music 111-112 (Theory I, II), 4 crs.
- Music 211-212 (Theory III, IV), 4 crs.
- Music 237-238 (Aural Perception III, IV), 4 crs.
(B.M.E. and B.M. only)

-successful completion of the upper-division recital performance
- and for those pursuing the B.M.E. and B.M. degrees, successful completion of all sections of the Piano Functional Examination.

11. All candidates for undergraduate music degrees must complete 39 music and/or non-music credits numbered 300 or above to meet graduation requirements for the first baccalaureate degree. Upper-division credits transferred from other four-year institutions will count toward the 39-credit requirement. Upper-division large and chamber ensembles and non-required applied study may not count as upper-division music electives within the minimum degree requirements except as designated for a particular degree program.

12. Upon successful completion of the Upper-Division Writing Proficiency Assessment, students will complete the Upper-Division Writing Expectations. Candidates for Curriculum A may satisfy this requirement with one course from the MUS 420-425 series or an upper-division writing course which will also satisfy teacher certification requirements. Candidates for Curriculum B and Curriculum C will satisfy this requirement with one course from the Music 420-425 series.

13. All lower-division music courses, as well as MUS 324L-325L, counted toward the major must be passed with a grade of C (2.0) or better.

Requests for exceptions to any published music degree requirements require written approval by the music faculty executive committee and in the case of general university requirements, the Graduation Appeals Subcommittee.

**Curriculum A- Bachelor of Music Education Degree**

For students who feel the challenge and vital service opportunity in the teaching profession and whose high school background includes experience in musical organizations, the University offers the Bachelor of Music Education degree. Included in this curriculum are state requirements for certification for public school teaching (see School of Education for special certification requirements) and training and background for instructing instrumental and choral groups and teaching general music (K-12).

Music course requirements total 68 credits:

-151 (Major Performance Area I), 2 crs.
-251 (Major Performance Area II), 2 crs.
-351 (Major Performance Area III), 1 cr.
-100A (Performance Study), 2 crs.;
-107A/307A, section 1 (University Choir), 108A/308A (Orchestras), 104A (Marching Band), 110A/310A (Concert Bands), 150A/350A (Piano Ensembles) or 196/496 (Independent Studies/Piano Accompanying) 7 crs. of which 2 crs. must be 104A for music education majors with brass, percussion or woodwind principal and 1 cr. must be 104A for music education majors with keyboard, voice or string principal. Only students with keyboard as their principal performance area may include Music 150A/350A and/or 196/496 to a maximum of 3 crs.
-111-112 (Theory I, II), 4 crs.
-211-212 (Theory III, IV), 4 crs.
-135L (Introduction to Music Literature), 3 crs.
-137-138 (Aural Perception I, II), 4 crs.

-237-238 (Aural Perception III, IV), 4 crs.
-115A-116A (Piano in Class I, II), 2 crs. (except keyboard principals)
-215-216 (Intermediate Piano in Class I, II), 2 crs. (except keyboard principals)
-117A (Voice in Class), 1 cr. (except voice principals)
-124-125 (String Instruments in Class I, II), 2 crs.
-126 (Double Reed Class), 1 cr.
-127 (Flute and Single Reed Class), 1 cr.
-128 (Upper Brass Class), 1 cr.
-129 (Lower Brass Class), 1 cr.
-130-131 (Percussion Instruments I, II), 2 crs.
-324H-325H (History of Music I, II), 6 crs.
-302 (Instrumental Conducting), 2 cr.
-303 (Choral Conducting), 2 crs.
-305 (Instrumental Methods and Materials), 2 crs.
-306 (Choral Methods and Materials), 2 crs.
-322-323 (General Music Methods and Materials I, II) 6 crs.

-428 (Orchestration), 2 crs.

-upper-division music electives for keyboard principals 4 crs.; for voice principals, 4 crs.; and for orchestral instrument principals, 3 crs.

Students taking keyboard as principal performance area must complete Music 346 (Advanced Functional Piano) 1 cr. and 430 (Piano Methods and Materials I) 2 crs. in addition to upper-division music electives.

At least 39 credits, music or non-music, numbered 300 or above is required.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double degree program requires a minimum of 150 credits.

**Curriculum B-Bachelor of Music Degree**

The serious instrumentalist or vocalist may enroll for training leading to the Bachelor of Music degree with a major in performance while students with a strong interest in composition and music technology may select the B.M. track designed to challenge and prepare them for a career in this field. Prior to full acceptance, all candidates for the Bachelor of Music in performance degree must successfully pass a special entrance audition in an applied area. Composition and music technology majors also must obtain approval of the appropriate faculty. This degree does not qualify a student for public school teaching in Montana.

**Major in Performance with option in Piano or Organ (B-1)**

Music course requirements for an option in piano or organ total 82 credits:

-151 (Major Performance Area I), 6 crs.
-251 (Major Performance Area II), 8 crs.
-351 (Major Performance Area III), 8 crs.
-451 (Major Performance Area IV), 8 crs.
-107A/307A (Choral Ensembles), 108A/308A (Orchestras), 104A (Marching Band), 110A/310A (Concert Bands), 150A/350A (Piano Ensembles) or 196/496 (Independent Studies/Piano Accompanying), 8 crs. of which at least 4 must be in 150A/350A or 196/496 and at least 2 in 107A/307A, 108A/308A, or 110A/310A

-111-112 (Theory I, II), 4 crs.
-211-212 (Theory III, IV), 4 crs.
-135L (Introduction to Music Literature), 3 crs.
-137-138 (Aural Perception I, II), 4 crs.
-237-238 (Aural Perception III, IV), 4 crs.
-324H-325H (Music History I, II), 6 crs.
-346 (Advanced Functional Piano), 1 cr.
-361-362 (Form and Analysis I, II), 4 crs.
-430-431 (Vocal Repertoire I, H), 4 crs.
-445 (Senior Recital), 2 crs.

-major divided music electives 11 crs., toward which piano majors must complete 432 (Keyboard Literature), 2 crs., 302 or 303 (Instrumental Conducting or Choral Conducting), 2 crs., and toward which organ majors must complete 303 (Choral Conducting), 2 crs., and 2 crs. of independent study in organ construction, design and pedagogy.

Students interested in piano pedagogy may select as an elective Music 333 (Practicum in Piano Pedagogy).

A minimum of 24 non-music credits is required for piano majors, and 28 for organ majors to include 8-10 credits in French or German. At least 39 credits, music or non-music, numbered 300 or above is required.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double-degree program requires a minimum of 150 credits.

Major in Performance with option in Voice (B-2)

Music course requirements for an option in voice total 81 credits:
-151 (Major Performance Area I), 4 crs.
-251 (Major Performance Area II), 4 crs.
-351 (Major Performance Area III), 4 crs.
-451 (Major Performance Area IV), 4 crs.

-a minimum of 4 credits in 107A, section 1 (University Choir) and, upon completion of the upper-division recital performance, 107A/307A, section 1 (University Choir), 107A/307A, section 2 (Chamber Chorale), 307A, section 3 (Men's Chorus), 307A, section 4 (Women's Chorus), 113A/313A (Opera Theater), or 150A/350A, section 11 (Jubes) for an additional 4 credits
-131A/313A (Opera Theater), 2 crs.
-111-112 (Theory I, II), 4 crs.
-211-212 (Theory III, IV), 4 crs.
-135L (Introduction to Music Literature), 3 crs.
-137-138 (Aural Perception I, II), 4 crs.
-237-238 (Aural Perception III, IV), 4 crs.
-324H-325H (Music History I, II), 6 crs.
-181-182 (Diction), 4 crs.
-303 (Choral Conducting), 2 crs.
-361-362 (Form and Analysis I, II), 4 crs.
-342-343 (Vocal Repertoire I, II), 4 crs.
-441 (Vocal Pedagogy), 2 crs.
-445 (Senior Recital), 2 crs.

-major divided music electives, 11 crs.

A minimum of 31 non-music credits is required to include Drama 111A (Acting for Non-Majors I), 3 crs., and 8-10 credits of foreign language chosen from French or German. At least 39 credits, music or non-music, numbered 300 or above is required.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double degree program requires a minimum of 150 credits.

Major in Performance with option in Orchestral Instruments (B-3)

Music course requirements for an option in an orchestral instrument (strings, winds, percussion) total 85 credits:
-151 (Major Performance Area I), 6 crs.
-251 (Major Performance Area II), 6 crs.
-351 (Major Performance Area III), 8 crs.
-451 (Major Performance Area IV), 8 crs.
-108A/308A (Orchestras) or 110A/310A (Concert Bands), 8 crs.

-150A/350A (Chamber Ensembles), 4 crs.
-211-212 (Theory III, IV), 4 crs.
-135L (Introduction to Music Literature), 3 crs.
-237-238 (Aural Perception I, II), 4 crs.
-237-238 (Aural Perception III, IV), 4 crs.
-324H-325H (Music History I, II), 6 crs.
-302 (Instrumental Conducting), 2 crs.

-361-362 (Form and Analysis I, II), 4 crs.
-445 (Senior Recital), 2 crs.

-major divided music electives, 8 crs. to include (for string majors only) 409 (Pedagogy of Strings).

A minimum of 24 non-music credits is required. At least 39 credits, music or non-music, numbered 300 or above is required.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double degree program requires a minimum of 150 credits.

Major in Composition and Music Technology (B-4)

Music course requirements for a major in composition and music technology total 82 credits:
-151 (Major Performance Area I) 2 crs.
-251 (Major Performance Area II), 2 crs.
-351 (Major Performance Area III), 1 cr.
-107A/307A (Choral Ensembles), 108A/308A (Orchestras), 104A (Marching Band), or 110A/310A (Concert Bands), 113A/313A (Opera Theater), 114A/314A (UM Jazz Bands), 150A/350A (Chamber Ensembles) or 196/496 (Independent Study/Piano Accompanying), 8 crs. of which at least 4 must be in 107A/307A section I, 108A/308A or 110A/310A

-111-112 (Theory I, II), 4 crs.
-211-212 (Theory III, IV), 4 crs.
-137-138 (Aural Perception I, II), 4 crs.
-237-238 (Aural Perception III, IV), 4 crs.
-324H-325H (Music History I, II), 6 crs.
-181-182 (Diction), 4 crs.
-303 (Choral Conducting), 2 crs.
-361-362 (Form and Analysis I, II), 4 crs.

-342-343 (Vocal Repertoire I, II), 4 crs.
-441 (Vocal Pedagogy), 2 crs.
-445 (Senior Recital), 2 crs.

-major divided music electives, 11 crs.

A minimum of 31 non-music credits is required to include Drama 111A (Acting for Non-Majors I), 3 crs., and 8-10 credits of foreign language chosen from French or German. At least 39 credits, music or non-music, numbered 300 or above is required.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double degree program requires a minimum of 150 credits.
-359 (Composition I), 3 crs.
-459 (Composition II), 3 crs.
-428 (Orchestration) 2 crs.
-429 (Interactivity and Digital Signal Processing), 2 crs.
-466 (Computer Music Programming), 2 crs.
-424 (Music of the 20th Century), 2 crs.
-499 (Professional Projects), 2 crs.
- and 9 credits of upper-division music electives.

Maximum credits applicable toward music requirements for this degree: Large and Chamber Ensembles, 8 crs.; Music 151, 2 crs.; 251, 2 crs.; 351, 2 crs. (1 cr. as upper-division music elective); 451, 2 crs. (as upper-division electives).

A minimum of 24 non-music credits is required. At least 39 credits, music or non-music, numbered 300 or above, is required.

Students taking voice or an instrument in the Music 151-451 series must take 100A, Piano, until a jury examination demonstrates adequate proficiency.

Composition/Technology students must pass a faculty jury examination of representative work in composition at the end of their sophomore year. Seniors present a full recital or two half recitals of original music for solo voice and/or instruments (Music 499, Professional Projects). This recital must include MIDI and/or other technology and a composition for small vocal or instrumental ensemble, and may include a composition for large ensemble. This recital may include works studied in the applied area, provided the student is concurrently enrolled in Music 451.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double degree program requires a minimum of 150 credits.

**Curriculum C-Bachelor of Arts Degree with a Major in Fine Arts and option in Music**

Students with a pre-college background in performance may elect curriculum C, a course of study designed to develop musicianship, to gain scholarly insight into the art of music, and to develop substantial background in the arts. This degree does not qualify a student for public school teaching in Montana but does provide groundwork for graduate study in musical performance and scholarship and in preparation for teaching careers in private schools.

The elective portion of the program provides opportunities for further study in music, and/or a concentration of courses in a particular field outside music, either in the College of Arts and Sciences or in one of the Professional Schools. At least 39 music and/or non-music credits must be numbered 300 or above.

Minimum credit requirements for this degree are 48 credits in music and 51 credits of non-music courses. At least 36 of the non-music credits must be in the College of Arts and Sciences, to include foreign language, 18-20 crs. (with a minimum of two semesters in one language) and Liberal Studies 151L-152L, 8 crs.

Maximum music credits applicable toward this degree: Performance, 16 crs.; Large Ensemble Music, 8 crs. (maximum upper-division Large Ensemble Music credits: 4 crs.); Chamber Ensemble Music, 4 crs.

Students with keyboard as their principal instrument must take a minimum of 2 Large Ensemble Music credits and may take Music 150A/350A (Piano Ensembles) and/or Music 196/496 (Independent Studies/Piano Accompanying) to a maximum of 12 credits Large and Chamber Ensemble Music.

Those with voice as their principal must take a minimum of 4 credits in 107A, section 1 (University Choir) and, upon completion of the upper-division recital performance, 107A/307A, section 1 (University Choir), 107A/307A, section 2 (Chamber Chorale), 307A, section 3 (Men’s Chorus), 307A, section 4 (Women’s Chorus), 113A/313A (Opera Theater), or 150A/350A, section 11 (Jubes) for an additional 4 credits.

Other music course requirements for Curriculum C include:
- 151 (Major Performance Area I), 2-4 crs.
- 251 (Major Performance Area II), 2-4 crs.
- 351 (Major Performance Area III), 2-4 crs.
- 451 (Major Performance Area IV), 2-4 crs.
- 108A/308A (Orchestras), 104A (Marching Band), or 110A/310A (Concert Bands), 8 crs. (Keyboard and Voice principals see above)
- Large and Chamber Ensemble Music 113A/313A, 114A/314A, 150A/350A, 0-4 crs. (Keyboard principals see above)
- 111-112 (Theory I, II), 4 crs.
- 211-212 (Theory III, IV), 4 crs.
- 135L (Introduction to Music Literature), 3 crs.
- 137-138 (Aural Perception I, II), 4 crs.
- 237-238 (Aural Perception III, IV), 4 crs.
- 115A-116A (Piano in Class), 2 cr.
- 324H-325H (Music History I, II), 6 crs.
- 361-362 (Form and Analysis I, II), 4 crs.
- upper-division academic music electives, 4 crs.

**Suggested Course of Study**

**Bachelor of Music Education (A)**

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<td>MUS 100A Performance Study</td>
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<tr>
<td>MUS 126-131 Woodwinds, Brass or Percussion in Class</td>
<td>2</td>
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<tr>
<td>MUS 302 Instrumental Conducting</td>
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<tr>
<td>MUS 303 Choral Conducting</td>
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<tr>
<td>MUS 305 Instrumental Methods and Materials</td>
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<tr>
<td>MUS 306 Choral Methods and Materials</td>
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<td>2</td>
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<tr>
<td>MUS 307A-310A, 350A, 496 Ensembles</td>
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<tr>
<td>MUS 322-323 General Music Methods &amp; Materials I, II</td>
<td>3</td>
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</tbody>
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## Bachelor of Music, Major in Performance, Option in Piano or Organ (B-1)

**First Year**
- MUS 107A-110A, 150A, 196 Ensembles
- MUS 111-112 Theory I, II
- MUS 135L Introduction to Music Literature
- MUS 151 Major Performance I
- Electives and General Education (English 101)

**Second Year**
- MUS 107A-110A, 150A, 196 Ensembles
- MUS 211-212 Theory III, IV
- MUS 237-238 Aural Perception III, IV
- MUS 251 Major Performance II
- MUS 324H-325H Music History I, II
- Electives and General Education

**Third Year**
- MUS 307A-310A, 350A, 496 Ensembles
- MUS 346 Advanced Functional Piano
- MUS 351 Major Performance III
- MUS 430-431 Piano Methods and Materials I, II
- *Upper-division music electives
- Electives and General Education

**Fourth Year**
- MUS 307A-310A, 350A, 496 Ensembles
- MUS 361-362 Form and Analysis I, II
- MUS 445 Senior Recital
- MUS 451 Major Performance IV
- MUS 324H-325H Music History I, II
- Electives and General Education

*Piano majors must include Music 432-433 (Keyboard Literature I, II), 4 crs., and 302 or 303 (Instrumental Conducting or Choral Conducting), 2 crs. Organ majors must include Music 303 (Choral Conducting) 2 crs. and 2 crs. of independent study in organ construction, design and pedagogy.

## Bachelor of Music, Major in Performance, Option in Voice (B-2)

**First Year**
- MUS 107A Ensembles
- MUS 111-112 Theory I, II
- MUS 115A-116A Piano in Class I, II
- MUS 135L Introduction to Music Literature
- MUS 137-138 Aural Perception I, II
- MUS 151 Major Performance I
- Electives and General Education

**Second Year**
- MUS 181-182 Diction for Singers
- Electives and General Education (English 101)

**Third Year**
- MUS 107A Ensembles
- MUS 211-212 Theory III, IV
- MUS 237-238 Aural Perception III, IV
- MUS 251 Major Performance II
- MUS 324H-325H Music History I, II
- Foreign Language

**Fourth Year**
- MUS 107A Ensembles
- MUS 211-212 Theory III, IV
- MUS 251 Major Performance II
- MUS 324H-325H Music History I, II
- Electives and General Education

*Must include Drama 111A (Acting for Non-Majors I), 3 crs.

## Bachelor of Music, Major in Performance, Option in Orchestral Instruments (B-3)

**First Year**
- MUS 108A, 110A Ensembles
- MUS 111-112 Theory I, II
- MUS 115A-116A Piano in Class I, II
- MUS 135L Introduction to Music Literature
- MUS 137-138 Aural Perception I, II
- MUS 151 Major Performance I
- Electives and General Education (English 101)

**Second Year**
- MUS 108A, 110A Ensembles
- MUS 211-212 Theory III, IV
- MUS 237-238 Aural Perception III, IV
- MUS 251 Major Performance II
- MUS 324H-325H Music History I, II
- Electives and General Education

**Third Year**
- MUS 308A, 310A Ensembles
- MUS 302 Instrumental Conducting
- MUS 350A Chamber Ensembles
- MUS 351 Major Performance III
- MUS 361-362 Form and Analysis I, II
- Electives and General Education

**Fourth Year**
- MUS 308A, 310A Ensembles
- MUS 350A Chamber Ensembles
- MUS 445 Senior Recital
- MUS 451 Major Performance IV
- *Upper-division music electives
- Electives and General Education
Bachelor of Music, Major in Composition and Music Technology (B-M)

First Year
MUS 107A-110A Ensembles A 1
MUS 111-112 Theory I, II 2 2
MUS 115A-116A Piano in Class I, II 1 1
MUS 135L Introduction to Music Literature 3
MUS 137-138 Aural Perception I, II 2 2
MUS 151 Major Performance I 1 1
MUS 159 Composition I 2 2
MUS 170 Introduction to Music Technology 2
Electives and General Education (English 101) 3 6

Second Year
MUS 107A-110A Ensembles 1 1
MUS 211-212 Theory III, IV 2 2
MUS 215-216 Intermediate Piano in Class I, II 2 2
MUS 237-238 Aural Perception III, IV 2 2
MUS 251 Major Performance II 2 2
MUS 259 Composition II 2 2
MUS 271 Sequence, Synthesis, and Notation 2
MUS 324H-325H Music History I, II 3 3
Electives and General Education 3 5

Third Year
MUS 302 Instrumental Conducting OR 2
MUS 303 Choral Conducting 2
MUS 307A-310A, 313A, 314A, or 350A 1
Ensembles 1 1
MUS 351 Major Performance III 1
MUS 359 Composition III 3
MUS 379 Counterpoint 3
MUS 428 Orchestration 2
MUS 429 Interactivity and Digital Signal Processing 2
MUS 466 Computer Music Programming 2
Upper-division Music electives 1 3
Electives and General Education 14 14

Fourth Year
MUS 307A-310A, 313A, 314A, or 350A 1
Ensembles 1 1
MUS 361-362 Form and Analysis I, II 2 2
MUS 424 Music of the 20th Century 2
MUS 459 Composition IV 3
MUS 499 Professional Project 2
Upper-division music electives 3 2
Electives and General Education 7 6

Bachelor of Arts, Major in Fine Arts, Option in Music (C)

First Year
MUS 107A-110A Ensembles A 1
MUS 111-112 Theory I, II 2 2
MUS 115A-116A Piano in Class I, II 1 1
MUS 135L Introduction to Music Literature 2 2
MUS 137-138 Aural Perception I, II 2 2
MUS 151 Major Performance I 1-2 2
Elective and General Education (English 101) 6-7 4-6
13-15 13-16

Second Year
MUS 107A-110A Ensembles 1 1
MUS 211-212 Theory III, IV 2 2
MUS 237-238 Aural Perception III, IV 2 2
MUS 251 Major Performance II 1-2 1-2
MUS 324H-325H Music History I, II 3 3

Requirements for a Minor
To receive a non-teaching minor in music the student must earn at least 27 music credits to include the following:
-135L (Introduction to Music Literature) 3 crs.
-151 (Major Performance I) 2 crs.
-2 crs. chosen from Music 107A (Choral Ensembles), 108A (Orchestras), 104A (Marching Band), 110A (Concert Bands), 113A (Opera Theater), 114A (UM Jazz Bands), 150A (Chamber Ensembles), taken concurrently with 151
-111-112 (Music Theory I, II) 4 crs.
-and 12 crs. of music electives which must be approved in advance by the Music Department chair. Contact the office at the Department of Music for detailed information.

Courses
U=for undergraduate credit only, UG=for undergraduate or graduate credit, G=for graduate credit. R after the credit indicates the course may be repeated for credit for the maximum indicated after the R.

Music (MUS)
U 100A Performance Study 1-2 cr. Offered autumn and spring. Prereq., consent of instr. Individual instruction in voice, piano, organ, harpsichord, carillon, string, wind and percussion instruments. A total of 6 credits is allowed in any one performance area. All private instruction requires concurrent ensemble participation.
U 104A Marching Band 1 cr. Offered autumn. See MUS 107A for repeatability limitations. A musical organization of brass, woodwinds, percussion, and auxiliary units open to all University students with no audition required.
U 107A Choral Ensembles 1 cr. Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of 107A-110A, 113A/313A, 114A/314A, and 150A/350A toward graduation.
U 108A Orchestras 1 cr. Offered autumn and spring. See MUS 107A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.
U 110A Concert Bands 1 cr. Offered autumn and spring. See MUS 107A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.
U 113A Opera Theatre 1 cr. (R-8) Offered autumn and spring. Prereq., consent of instr. Study and performance of the standard opera repertoire.

U 114A UM Jazz Bands 1 cr. (R-8) Offered autumn and spring. Prereq., consent of instr. Study and performance of the jazz repertoire.

U 115A Piano in Class 1 cr. Offered autumn. Music reading, techniques, and harmonization skills acquired through study of solo and ensemble repertoire in a contemporary electronic piano laboratory.

U 116A Piano in Class II 1 cr. Offered spring. Prereq., MUS 115A. Continuation of 115A.


U 120 Music Fundamentals 2 cr. Offered autumn. Basic principles of notation, including clefs, scales, intervals, chords and rhythm.

U 124 String Instruments in Class I 1 cr. (R-2) Offered autumn. Group instruction for beginning students on violin, viola, cello and bass, with emphasis on teaching procedures.

U 125 String Instruments in Class II 1 cr. (R-2) Offered spring. Prereq., MUS 124. Continuation of 124.

U 126 Double Reed Class 1 cr. (R-2) Offered autumn. Basic instruction in oboe and bassoon, with emphasis on teaching procedures.

U 127 Flute and Single Reed Class 1 cr. (R-2) Offered spring. Basic instruction in flute, clarinet, and saxophone, with emphasis on teaching procedures.

U 128 Upper Brass Class 1 cr. (R-2) Offered autumn. Basic instruction in trumpet and horn, with emphasis on teaching procedures.

U 129 Lower Brass Class 1 cr. Offered spring. Basic instruction in trombone, baritone, and tuba, with emphasis on teaching procedures.

U 130 Percussion Instruments I 1 cr. (R-2) Offered autumn. Basic instruction in percussion instruments, with emphasis on teaching procedures.

U 131 Percussion Instruments II 1 cr. (R-2) Offered spring. Prereq., MUS 130. Continuation of 130. Basic instruction in percussion instruments, with emphasis on teaching procedures.

U 132L History of Jazz 3 cr. Offered autumn. The development of jazz in the 20th century with emphasis on critical listening and the recognition of important trends and people in its history.

U 133L History of Rock and Roll 3 cr. Offered spring. A study of the roots, components, and development of the musical art form "Rock and Roll". Significant performing artists and movements with the style identified and presented. Includes traditional lecture with substantial use of audio and visual aids.

U 134L Music Appreciation 3 cr. Offered autumn and spring. The development of music listening skills. Exploration of the relationship between musical materials and the expressive qualities of a musical composition or performance. Concert attendance required. No musical background is expected. For non-majors only. Credit not allowed for both MUS 134L and 135L.

U 135L Introduction to Music Literature 3 cr. Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUS 134L and 135L.

U 136H Music of the World's Peoples 3 cr. Offered autumn and spring. Introduction to the diversity of music among the world's peoples. Selected music systems throughout the world examined in their broad cultural contexts: religious, historical, and social. Introduction to ethnomusicology—a combination of musicology, anthropology and other related disciplines.

U 137 Aural Perception I 2 cr. Offered autumn. Coreq., MUS 111. A laboratory course in singing and dictation to supplement Theory I.

U 138 Aural Perception II 2 cr. Offered spring. Prereq., MUS 137; coreq., MUS 112. Continuation of 137.

U 142 Jazz Theory and Improvisation I 2 cr. Offered autumn. A performance oriented course to provide a basic understanding of jazz harmony. Application of scales and melodic patterns in improvising over various harmonic progressions.

U 143 Jazz Theory and Improvisation II 2 cr. Offered spring. Prereq., MUS 142. Continuation of 142.

U 147A Beginning Folk Guitar 2 cr. Offered autumn. A beginning course in the fundamentals of playing folk guitar. Includes introduction to the rudiments of music.

U 150A Chamber Ensembles 1 cr. Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.

U 151 Major Performance Area I 1-4 cr. (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering 151 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.

U 159 Composition I 2 cr. (R-4) Offered autumn and spring. Prereq., consent of instr. An introduction to the basic art of music composition. May be substituted for upper division electives for students not majoring in theory or composition.

U 161 Language of Music I 3 cr. Offered autumn. Music fundamentals including scales, intervals, triads, and rhythm as they are written and heard. Practical application to the voice and/or keyboard.

U 162 Language of Music II 3 cr. Offered spring. Prereq., MUS 161. Continuation of 161 with emphasis on analysis of musical examples and aural recognition of basic harmonic patterns.

U 166L History of Musical Theater 3 cr. Offered autumn and spring. Same as DRAM 166L. Exploration of origins, developing trends, and cultural/historical context of musical theater through films, lectures, and discussion.

U 170 Introduction to Music Technology: Digital Audio and Multitracking 2 cr. Offered autumn and spring. Composition of computer music through recording, editing, and processing sound with digital audio software. Study of the theory and application of digital audio recording, multitracking, and digital signal processing, and electroacoustic music history. Survey of historical and current electronic and computer music composers, pieces, and practices.

U 181 English and Italian Diction for Singers 2 cr. Offered autumn even-numbered years.

U 182 German and French Diction for Singers 2 cr. Offered spring odd-numbered years.

U 195 Special Topics Variable cr. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196 Independent Studies in Music 1-3 cr. (R-9) Offered autumn and spring.

U 211 Theory III 2 cr. Offered autumn. Prereq., MUS 112 and 118; coreq., MUS 237. Continuation of 112.
U 212 Theory IV 2 cr. Offered spring. Prereq., MUS 211; coreq., MUS 238

U 215 Intermediate Piano in Class I 1 cr. Offered autumn. Prereq., MUS 116A or equiv. Continuation of 115A.


U 218 Intermediate Piano in Class (Honors) 1 cr. Offered intermittently. Prereq., placement examination. Accelerated offering of the material covered in MUS 215 and 216.

U 237 Aural Perception III 2 cr. Offered autumn. Prereq., MUS 112 and 138; coreq., MUS 211. A lab course in singing and dictation to supplement Theory III.

U 238 Aural Perception IV 2 cr. Offered spring. Prereq., MUS 237; coreq., MUS 212. See 237.

U 251 Major performance Area II 1-4 cr. (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation.

U 259 Composition II 2 cr. (R-4) Offered autumn and spring. Prereq., 4 credits of MUS 159. Original work in composition may be substituted for upper-division electives for students not majoring in theory or composition.


U 295 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings by visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 302 Instrumental Conducting 2 cr. (R-4) Offered spring. Prereq., upper-division standing in music. Conducting methods and practice. Teaching methods and materials.


U 304A Advanced Marching Band 1 cr. (R-4) Offered autumn. Prereq., MUS 104A or consent of instr. A musical organization of woodwinds, brass, percussion, and auxiliary units open to all University students.

U 305 Instrumental Methods and Materials 2 cr. (R-4) Offered autumn. Prereq., upper-division standing in music. Coreq., C&I 302. Development of practical knowledge to effectively instruct and administer the instrumental music program in the elementary and secondary schools.

U 306 Choral Methods and Materials 2 cr. (R-4) Offered spring. Prereq., upper-division standing in music. Development of practical knowledge of effectively instruct and administer the choral program in the elementary and secondary schools.

U 307A Choral Ensembles 1 cr. Offered autumn and spring. Prereq., upper-division standing in voice. See MUS 107A for description.

U 308A Orchestras 1 cr. Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUS 108A for description.

U 310A Concert Bands 1 cr. Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUS 110A for description.

U 313A Opera Workshop I cr. (R-8) Offered autumn and spring. Prereq., consent of instr. See 113A for description.

U 314A UM Jazz Bands 1 cr. (R-8) Offered autumn and spring. Prereq., consent of instr. See 114A for description.


U 324H History of Music I 3 cr. Offered autumn. Prereq., MUS 135L. The history of music in Western civilization from its origins to 1750 and its relationship to general cultural development. Introduction to basic research skills in music. Emphasis on listening for style characteristics through representative recorded repertoire.

U 325H History of Music II 3 cr. Offered spring. Prereq., MUS 135L. The history of music in Western civilization from 1750 to modern times. See MUS 324H.

U 333 Practicum in Piano Pedagogy 1-2 cr. (R-4) Offered intermittently. Prereq. or coreq., MUS 430, 431. Student teaching of young pianists.

U 335 Music Education in the Elementary Schools 3 cr. Offered autumn and spring. Prereq., C&I 201. Integration of fundamental skills and basic rudiments of music into the various aspects of teaching music creatively in the elementary school. For non-music majors only.

U 342 Vocal Repertoire I 2 cr. Offered autumn odd-numbered years. Prereq., upper-division standing in music. Comprehensive acquaintance with styles and interpretation in British, German, and possible additional repertoire genres.

U 343 Vocal Repertoire II 2 cr. Offered spring even-numbered years. Prereq., upper-division standing in music. Comprehensive acquaintance with styles and interpretation in American, French and possible additional genres.

U 345 Junior Recital 2 cr. Coreq., MUS 301 and 351. Offered autumn and spring.


U 350A Chamber Ensembles 1 cr. Offered autumn and spring. Prereq., consent of instructor. See MUS 150A.

U 351 Major Performance Area III 1-4 cr. (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of 251. All private instruction requires concurrent ensemble participation.

U 359 Composition III 3 cr. (R-6) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of 351. All private instruction requires concurrent ensemble participation.

U 361 Form and Analysis I 2 cr. Offered autumn. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.

U 362 Form and Analysis II 2 cr. Offered spring. Prereq., upper-division standing in music and MUS 361. Continuation of 361.

U 379 Counterpoint I 3 cr. Offered intermittently. Prereq., upper-division standing in music. Writing and analysis of contrapuntal styles through the 18th century.

U 380 Counterpoint II 3 cr. Offered intermittently. Prereq., MUS 379. Continuation of 379.

U 395 Special Topics Variable cr. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 409 Pedagogy of Strings 1-2 cr. (R-4) Offered intermittently. Prereq., upper-division standing in music and consent of instr. Procedures and materials in class string instruction.


UG 425 History of American Music 2 cr. Offered intermittently. Prereq., MUS 325 and upper-division standing in music. The development of American music from its antecedents. The effect of an evolving democratic state on the arts, the development of various centers of performing arts, and the types of music performed.

UG 428 Orchestration 2 cr. Offered autumn even-numbered years. Prereq., upper-division standing in music. Orchestrating and transcribing for orchestra and band instruments.


UG 430 Piano Methods and Materials I 2 cr. Offered autumn odd-numbered years. Prereq., upper-division standing in music or consent of instr. Methods and materials for teaching piano classes in public schools and private studios. Procedures in teaching beginning, intermediate and advanced students in private studios. Practical demonstrations and supervised laboratory experience with children's classes.

UG 431 Piano Methods and Materials II 2 cr. Offered spring even-numbered years. Prereq., MUS 430. Continuation of 430.

UG 432 Keyboard Literature I 2 cr. Offered autumn even-numbered years. Prereq., upper-division standing in music. Keyboard literature from the developments of the Baroque era to the contemporary period including the suite, sonata, character pieces, etc.

UG 433 Keyboard Literature II 2 cr. Offered spring odd-numbered years. Prereq., MUS 432. Continuation of 432.

UG 441 Vocal Pedagogy 2 cr. Offered autumn odd-numbered years or offered spring even-numbered years. Prereq., upper-division standing in music. Procedures, philosophies and terminology used in the teaching of singing. Individual and group techniques.

U 445 Senior Recital 1-2 cr. Offered autumn and spring. Coreq., MUS 401 or 451.

U 451 Major Performance Area IV 1-4 cr. (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of 351. All private instruction requires concurrent ensemble participation.

U 459 Composition IV 3 cr. (R-6) Offered autumn and spring. Prereq., 6 credits in MUS 359. A continuation of composition with writing in the larger forms.

UG 466 Computer Music Programming 2 cr. Offered autumn. Prereq., MUS 429 and upper-division standing in music. Composition of computer music through programming. Study of object-oriented programming, synthesis and digital signal processing techniques, music-generating algorithms, sound spatialization, graphical user interface design, and external control.

UG 495 Special Topics Variable cr. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Studies in Music 1-3 cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

U 499 Professional Projects 1-4 cr. (R-4) Offered autumn and spring.

G 500 Secondary Performance Area 1-2 cr. (R-6) Offered every term. Prereq., audition and consent of instr. Continuation of 100.

G 511 Advanced Conducting 2 cr. (R-6) Offered intermittently. Prereq., MUS 331 and consent of instr. Class and/or individual study of the art of conducting with emphasis on performance with university performing groups.

G 512 Repertoire for Public School Music Students 2 cr. (R-4) Offered intermittently. Prereq., graduate standing in music. Concentrated study of repertoire for instrumental or vocal soloists, chamber ensembles or large ensembles.


G 522 Philosophy of Music 2 cr. Offered intermittently. Prereq., graduate standing in music. An investigation of the meaning of music, the relationship to various societies and social structures and the leading philosophical ideas which relate to music and music instruction.

G 525 Seminar in Vocal Literature 2 cr. (R-6) Offered intermittently. Prereq., graduate standing in music. Concentrated study of opera literature, song literature or choral literature.

G 526 Seminar in Instrumental Literature 2 cr. (R-4) Offered intermittently. Prereq., graduate standing in music. Concentrated study of symphonic literature or instrumental chamber music literature.

G 551 Major Performance Area 1-4 cr. (R-12) Offered every term. Prereq., audition and consent of instr. Continuation of 451.

G 554 Analytical Techniques I 3 cr. Offered autumn odd-numbered years. Prereq., graduate standing in music. A survey of the theoretical approach of leading composers from the polyphonic period to the present.

G 555 Analytical Techniques II 3 cr. Offered spring even-numbered years. Prereq., MUS 554. Continuation of 554.

G 559 Composition Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Continuation of 459.

G 581 Arts Education Institute 1 cr. (R-4) Offered summer. Same as ART, DRAM 581. Open forum with national and regional speakers, panels, and symposia to promote discussion, understanding, and direction on significant national issues in the arts and arts education.
G 582 Arts Education Seminar I 2 cr. (R-4) Offered summer. Prereq., MUS 581. Same as ART, DRAM 582. Topics vary.

G 583 Arts Education Seminar II 1-2 cr. Offered summer. Prereq., MUS 582. Same as ART, DRAM 583. Continuation of 582.

G 584 Arts Education Seminar III 1-2 cr. (R-4) Offered summer. Prereq., MUS 583. Same as ART, DRAM 584. Continuation of 583.

G 585 Arts Education Seminar IV 1-2 cr. (R-4) Offered summer. Prereq., MUS 584. Same as ART, DRAM 585. Continuation of 584.


G 587 Arts Education Practicum I 1 cr. (R-4) Offered summer. Same as ART, DRAM 587. The active application of concepts and theories presented during the Arts Education Institute and the arts education seminars within a small group setting.

G 588 Arts Education Apprenticeship 1 cr. (R-4) Offered summer. Same as ART, DRAM 588. Exploration of art forms to develop new artistic and communicative perceptions and awareness.

G 589 Arts Education Field Project 1 cr. (R-4) Offered summer. Same as ART, DRAM 589. Creative/research activities.

G 593 Professional Projects Variable cr. (R-4) Offered intermittently. Prereq., graduate standing in music.

G 595 Special Topics Variable cr. (R-8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Students must have projects approved by a music faculty member before enrolling.

G 599 Thesis Variable cr. (R-10) Offered intermittently. Prereq., graduate standing in music.

Faculty

Professors

Lance R. Boyd, M.F.A., University of Minnesota, 1968
Fern Glass, M.M., Yale University, 1978
Steven Hesla, M.M., University of Illinois, 1972
Stephen Kalm, D.M.A., The City University of New York, 2000 (Chair)
Roger Dale McDonald, M.M., Yale University, 1973
Patrick Williams, M.A., Eastern Michigan University, 1973

Associate Professors

Margaret Baldridge, D.M.A., Eastman School of Music, 1994
Anne Basinski, M.M., Indiana University, 1989
Stephen Bolstad, D.M.A., University of Texas, 2002
Gary Funk, D.M.A., Arizona State University, 1982
Margaret Schuberg, M.M., The University of Montana, 1980

Assistant Professors

Mary Jane Belz, Ph.D., University of Minnesota, 1994
David Cody, D.M.A., Indiana University, 2000
Nancy Cooper, D.M.A., Eastman School of Music, 1983
Christopher Hahn, M.M., Michigan State University, 1999
Luis Millán, D.M.A., Michigan State University, 1997
Charles Nichols, Ph.D., Stanford University, 2003

Instructors

Joseph Armetta, M.M., The University of Montana, 1995
Don Beller, M.M., VanderCook College of Music, 1975
Roger Logan, B.M., University of Idaho, 1976

Emeritus Professors

Eugene Andrie, M.A., University of Washington
Gerald H. Doty, Ed.D., Indiana University
William Manning, M.M., Drake University
Joseph Mussulman, Ph.D., Syracuse University
Florence Reynolds, D.M.A., Eastman School of Music
Donald W. Simmons, Ed.D., University of Illinois
School of Journalism
School of Journalism

Jerry E. Brown, Dean
William L. (Bill) Knowles, Chair, Department of Radio-Television
Carol Van Valkenburg, Chair, Department of Print Journalism

Courses in the School of Journalism examine the news media emphasizing their history, privileges and responsibilities and provide instruction in skills required for careers with newspapers, radio and television stations, magazines, web sites, print and online news services and related agencies. The School of Journalism offers Bachelor of Arts and Master of Arts degrees in print journalism and radio-televison. Students select options in print, photjournalism, or broadcast or may major in radio-televison if they wish to study broadcast production.

A quality education in journalism is built on a strong liberal arts foundation. Therefore, at the undergraduate level, at least 80 of the 120 credits required for graduation must be outside the School of Journalism and 65 of those credits must be in the liberal arts and sciences or be General Education courses.

For further information about the master’s degree program, contact Professor Clemens Work, Director of Graduate Studies, School of Journalism, The University of Montana, Missoula, MT 59812, or (406) 243-2160, or work@selway.umont.edu.

Pre-Professional Program

In the first two years of study students are enrolled in pre-journalism with one of the three options or pre-radio-televison and take courses primarily in the liberal arts and sciences. Journalism and radio-televison courses in the pre-professional curriculum may be taken at The University of Montana-Missoula or at another school with a program accredited by the Accrediting Council for Education in Journalism and Mass Communications. All non-journalism courses in the curriculum may be completed at any college or university.

Students in the first two years of study may enter the pre-professional program during any semester. However, requirements in the pre-professional curriculum should be completed by the end of the second year of study to enable students to apply for admission to the professional program during the spring of the sophomore year.

Students should have completed at least 45 credits before applying for the professional program. At the time of application, students should have either completed all courses listed in the pre-professional curriculum or be taking the courses needed to fulfill requirements. A grade point average of 2.5 or better is required of applicants.

Professional Program

Students apply for admission to the two-year professional programs in one of the three options in journalism or the radio-television major. Applications are accepted only in spring and granted only for autumn semester. Deadline for applications is March 1. The admissions process is designed to admit the best overall class into the professional program.

Completed applications are evaluated by the School of Journalism Admissions Committee and acceptances are made by the faculty and dean based on the committee’s recommendations. The primary admissions criteria are the students’ grade point averages, both overall and in the pre-professional program, and an evaluation of work submitted by the student. Successful applicants will have demonstrated, among other qualities, promise and professional aptitude through the quality of their course work and their overall performance in the pre-professional program, and will have demonstrated an interest in pursuing a career in journalism or broadcast production. Students with deficiencies in these requirements may on occasion be admitted provisionally. Once deficiencies are removed from the students’ record they will be given full admission status.

The curriculum of the journalism professional programs is sequential. Therefore, students will enter the professional programs in the autumn semester only. Applications for admission to the professional programs may be obtained from the Office of the Dean, School of Journalism. Applications must be received no later than March 1 preceding the autumn semester for which admission is requested. A $15 non-refundable application fee must accompany the application. Transcripts of all academic courses taken must be forwarded directly to the School of Journalism. Admission for one academic year cannot be deferred to another academic year.

Students transferring from other ACEJMC-accredited programs in journalism or radio-televison may be admitted, on a space available basis. Transfer credit for pre-professional and professional courses taken at other institutions is accepted only for those courses that are deemed equivalent and in which a letter grade of C- or better is obtained.

Academic Progression

The general University academic standing requirements are listed separately in this catalog. See index.

Students enrolled in the professional journalism program must maintain satisfactory academic progress. Admission to the professional program requires a cumulative grade average of 2.5. Students who have been admitted and whose grade average subsequently falls below a 2.5 must meet with their advisors to discuss their progress before classes resume the following semester. Students in the professional programs who have a cumulative or professional grade point average less than 2.0 will be placed on academic probation. Students on academic probation are required to complete at least a 2.0 grade average for the semester and raise their overall grade average or face suspension from the University. Because the professional programs are intensive, employment beyond minimal part-time is not recommended.

Students dismissed from the program for substandard performance will not be re-admitted, except in cases where substantiation is made to the faculty, by written petition, that the substandard performance was the result of circumstances that no longer exist, or that the student has demonstrated the capability and desire to perform satisfactory work since his or her dismissal from the program.

Students leaving the program for any reason, whether in good standing or on academic suspension, must reapply for admission.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Pre-Professional Curriculum

The following courses must be completed prior to admission to any of the School of Journalism professional programs. Students who are unsuccessful in gaining admission to the professional programs should realize that completion of the pre-professional program fulfills a significant portion of the University General Education Requirement.
School of Journalism - Journalism and Radio-Television - 297

Core requirements for all pre-professional students in the School of Journalism:
- JOUR 100S-Introduction to Mass Media
- JOUR 270-Reporting (for print or photojournalism option students)
- R-TV 280-Reporting for Broadcast (for broadcast news and radio-television production students)
- ENEX 101-Composition

- One mathematics course numbered greater than 100 (if fulfilling this requirement with transfer work, course must satisfy UM's General Education math requirement.)
- Two history courses taught in the history department, including at least one in American history
- At least one course of three credits or more which meets a University general education requirement in each of the following subjects: economics, political science, humanities, natural sciences

In addition, before graduation, students must complete two semesters of a modern foreign language.

In addition to the core, students seeking admission to the photojournalism professional program must also complete:
- JOUR 227-Photojournalism.

In addition to the core, students seeking admission to the broadcast journalism program must also complete:
- R-TV 151-Introduction to Radio-Television Production
- COMM 111A-Public Speaking

In addition to the core, students seeking admission to the Radio-Television program must complete:
- R-TV 150-Introduction to Radio Production
- R-TV 151-Introduction to Radio-Television Production
- COMM 111A-Public Speaking
- DRAM 103A-Introduction to Theatre Design

Professional Programs

Upon admission to the professional program, students majoring in journalism with a print option will take the following courses:

First Year:
- Autumn semester:
  - JOUR 331-Public Affairs Reporting
  - JOUR 380-News Editing I
- Spring semester:
  - JOUR 367-Law of Mass Communication
  - JOUR 381-News Editing II

Second Year:
- Autumn semester:
  - JOUR 481-Senior Seminar

At some point before graduation, students also must complete JOUR 333-Magazine Article Writing or JOUR 340-Feature Writing, and electives that will bring the total number of journalism credits to at least 30.

Students majoring in journalism with a photojournalism option must complete:

First Year:
- Autumn semester:
  - JOUR 327-Intermediate Photojournalism
  - JOUR 380-News Editing I
- Spring semester:
  - JOUR 328-Advanced Photojournalism
  - JOUR 367-Law of Mass Communication
  - JOUR 381-News Editing II

Second Year:
- Autumn semester:
  - JOUR 417-Picture Story/Photographic Essay

- JOUR 481-Senior Seminar

Spring semester:
- Electives that will bring the total number of journalism credits to at least 30.

Students majoring in journalism with a broadcast option must complete:

First Year:
- Autumn semester:
  - R-TV 360-Advanced Broadcast Reporting
- Spring semester:
  - R-TV 361-Newscast Reporting and Producing
  - JOUR 367-Law of Mass Communication

Second Year:
- Autumn semester:
  - R-TV 460-Broadcast Newsroom-Editorial
  - R-TV 494-Broadcast Senior Seminar

Students also must complete electives that will bring the total number of credits in journalism or radio-television upon graduation to at least 30.

Students majoring in Radio-Television must complete:

First Year:
- Autumn semester:
  - R-TV 350-Television Directing and Production
- Spring semester:
  - R-TV 351-Advanced Television Directing and Production
  - JOUR 367-Law of Mass Communication

Second Year:
- Autumn semester:
  - R-TV 450-Broadcast Newsroom-Production
  - R-TV 494-Broadcast Senior Seminar

Students also must complete electives that will bring the total number of credits in journalism or radio-television upon graduation to at least 30.

All journalism and radio-television majors must acquire practical experience through pre-approved internships or other employment approved by the faculty.

All journalism and radio-television majors must meet the Upper-division Writing Expectation by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit, R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Journalism (JOUR)

U 100S Introduction to Mass Media 3 cr. Offered autumn and spring. A survey of the history, development and current status of the mass media in society, including newspapers, magazines, radio, television, books, movies, recordings and the World Wide Web. Includes ethical, political, financial and other issues that face today's mass media industry.

U 165 Current Events/Honors 2 cr. Offered autumn and spring. Survey of world, national and local news intended to make students familiar with the context and vocabulary necessary to understand the news, what make it, and the implications that stem from it.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 227 Photojournalism 3 cr. Offered autumn and spring. An introduction to photojournalism. Students learn to use 35mm cameras, develop and print black-and-white film, shoot portraits, feature and sports assignments. Emphasis on content of photographs. Students must supply cameras, film, paper and developing reels.

U 270 Reporting 3 cr. Offered every term. Prereq., JOUR 100S. Fundamentals of reporting and writing news for print and broadcast media.

U 295 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 327 Intermediate Photojournalism 3 cr. Offered autumn. Prereq., JOUR 227. Mastery of the technical aspects of photojournalism: studio lights, portable strobes, lighting on location, color temperature. Students shoot weekly assignments on and a photo story on color slide film. Students must supply film, 35mm camera, and portable strobe. Introduction to PhotoShop.

U 328 Advanced Photojournalism 3 cr. Offered spring. Prereq., JOUR 327. Advanced black and white and color photography. Students shoot news, features, sports, illustration and picture stories.

U 331 Public Affairs Reporting 3 cr. Offered autumn. Prereq., JOUR 270. Study and practice of reporting public issues with emphases on news sources, interpretive writing and the coverage of local, state and federal governments.

U 333 Magazine Freelance Writing 3 cr. Offered autumn. Prereq., JOUR 331 or consent of instr. The techniques of reporting, writing and selling articles to regional and national magazines.

U 360 Media Management and Marketing 3 cr. Offered spring. Prereq., consent of instr. The role of marketing and management procedures and techniques in the print and electronic media.

U 367 Law of Mass Communications 3 cr. Offered spring. Prereq., JOUR 270 or consent of instr. Overview of issues related to journalism and the law. Exploration of libel, privacy, prior restraints, access and other First Amendment questions along with ethical problems peculiar to media news gathering.

U 375 Kaimin Reporting 1-3 cr. (R-3) Offered autumn and spring. Prereq., JOUR 331. Reporting for the Montana Kaimin.

U 380 News Editing 1 3 cr. Offered autumn. Prereq., JOUR 270. Fundamentals of editing and headline writing for the print media.

U 381 News Editing II 3 cr. Offered spring. Prereq., JOUR 380 or consent of instr. Introduction to layout and design techniques for newspapers, magazines and other publications. Projects in design, typography, headline writing; use of photographs, art work and informational graphics.

U 389 Literature of Journalism 3 cr. Offered intermittently. Study of literary journalism focusing on fiction and nonfiction by American journalists.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Advanced Journalism Problems Variable cr. (R-6) Offered every term. Prereq., consent of the dean. Independent study.

U 400 Online News 1-2 cr. Offered autumn and spring. Prereq., JOUR 270, 570 or 227, and consent of instr. Practical experience in reporting, writing and photographing news stories to appear on the School of Journalism Web page.

U 412 Multi-cultural and Diversity Problems in Journalism 2 cr. Offered autumn. Critical examination of the U.S. media's reporting on the growing multi-cultural movement that is transforming the country and of newsroom diversity issues related to the employment of journalists of color and women. Examination of the risks of error and insult--such as stereotyping and conveying and strengthening misconceptions--inherent in writing about minority cultures.

U 415 Feature Writing 3 cr. Offered spring. Prereq., JOUR 331 or JOUR 570. Classroom instruction and practical experience in applying feature-writing techniques to the coverage of news, entertainment and sports for print and electronic media.

U 417 Picture Story/Photographic Essay 3 cr. Offered autumn. Prereq., JOUR 328 and 381 or consent of instr. Culminating class in core curriculum in which students discuss, research, photograph, design and write several stories and essays. Study of the master storytellers.

U 420 Native News Honors Project Variable cr. (R-6) Offered spring. Prereq., consent of instr. Researching, photographing and designing stories about Montana's Native American community. Photojournalism students travel with reporters to Montana's seven Indian reservations to document in depth stories on a single topic.

U 421 Reporting for Native News Honors Project Variable cr. (R-6) Offered spring. Prereq., consent of instr. Researching, reporting and editing stories about Montana's Native American community. Reporters travel to Montana's seven Indian reservations to investigate in depth a single story topic. Editors coach reporters and edit their stories. The stories appear in a publication distributed throughout the state and nation.

U 429 Documentary Photojournalism 3 cr. Offered spring. Prereq., JOUR 328 or consent of instr. Production of an in-depth documentary project involving a social issue with intent to educate or implement change. Students write, shoot and design final project in book form.

U 430 Community News Service Variable cr. (R-6) Offered autumn and spring. Prereq., JOUR 331, 380, consent of instr. Writing and editing articles for computer bulletin-board news service serving Montana's community newspapers.

U 440 Montana Journalism Review Variable cr. (R-6) Offered spring. Prereq., consent of instr. Students assist writing, editing, designing and overall production and distribution of the Montana Journalism Review, a publication of the School of Journalism.

U 461 New Media 3 cr. Offered autumn. Prereq., JOUR 381, or R-TV 351, or R-TV 361, or consent of instr. Exploration of new media, concentrating on the Internet and the World Wide Web from a journalistic perspective. Students learn to edit, produce and design for the Web. Discussion of legal, social and cultural issues regarding new media.

U 471 Investigations 3 cr. Offered spring. Prereq., JOUR 331 for print students, R-TV 361 for broadcast students. Introduction to methods and ethics of investigative reporting, emphasizing computer-assisted research and analysis of public records and databases.

U 481 Senior Seminar 3 cr. Offered autumn. Prereq., senior standing in journalism or consent of instr. Ideas, individuals and movements shaping contemporary society and which constitute the background for today's news.


U 490 Supervised Internship 1-2 cr. (R-2) Offered every term. Prereq., consent of instr.; for print students JOUR 331; for photojournalism students JOUR 327. Practical experience working for newspapers, magazines or other approved businesses, agencies or organizations.
UG 494 Pollner Seminar 2 cr. Offered autumn. Prereq., consent of instr. or print department chair. Seminar on a topic selected by the T. Anthony Pollner Distinguished Professor. Topics will range from journalism history, ethics, practices and performance to current issues in the news media. 

UG 495 Special Topics 1-9 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 500 Teaching Journalism in Secondary Schools 3 cr. Offered intermittently. Developing a high school journalism curriculum and advising school publications.

G 501 Project/Thesis Seminar 3 cr. Offered autumn. Effective Internet, library, database and archive research for data, statistics and reliable information. Finding and evaluating topical social science research. Introduction to legal research. Writing and completing journalism professional projects and theses.

G 505 Journalism and Society Seminar 3 cr. Offered autumn. Prereq., graduate standing. Discussion and research on current journalism issues. Study of traditional and online research methodology.


G 551 Graduate Newscast Production 3 cr. Offered spring. Prereq., JOUR 560 or consent of instr. Intensive instruction and practice in reporting, writing, producing, directing and delivering television newscasts. Work on a special program for MontanaPBS in tandem with students in R-TV 351, 361 and 551.

G 567 Studies in Press and Broadcast Law 3 cr. Offered spring. Prereq., graduate standing. Examination and discussion of state and federal court cases affecting the mass media, with emphasis on First Amendment issues.

G 570 Reporting 3 cr. Offered autumn. Prereq., graduate standing. Principles of news gathering through records, documents, meetings, and observation of events, combined with interviewing. Writing news and news feature accounts for broadcast and print media. Perspectives on reporting standards and practices.

G 571 Reporting Public Affairs 3 cr. Offered spring. Prereq., JOUR 570 or consent of instr. Advanced reporting techniques for covering public affairs. Study and coverage of public affairs topics and beats.

G 580 News Editing 3 cr. Offered autumn. Prereq., JOUR 570 or consent of instr. Fundamentals of copy editing and story editing for the print news media. In addition, students perform deadline editing on actual news stories for publication.

G 594 Seminar 1-9 cr. (R-9) Offered intermittently.

G 595 Special Topics Variable cr. (R-8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 597 Methods of Journalism Research 3 cr. Prereq., consent of the dean.

G 599 Professional Project Variable cr. (R-6) Offered every term. Planning, research and execution of a major project in print, photographic or broadcast journalism.

G 620 Graduate Honors: Covering Native American Issues 3 cr. Offered spring. Researching, writing, photographing and/or editing in-depth special reports on issues that affect the Indians who reside within Montana's borders.

G 640 Montana Journalism Review 1-3 cr. (R-6) Offered spring. Prereq., consent of instr. Intensive laboratory experience in all phases of magazine publication, including writing, editing, layout, design, production and distribution of Montana Journalism Review, an annual publication for the School of Journalism.

G 650 Graduate Broadcast Newsroom-Editorial 3 cr. (R-6) Prereq., JOUR 550, 551 or consent of instr. Students direct, photograph and edit a daily Newsbrief report, regular half-hour Montana Journal magazine programs for MontanaPBS, and a weekly UMNews program for commercial stations, in tandem with student in R-TV 460, R-TV 450 and 650.

G 670 Covering the Environment 3 cr. Offered intermittently. Prereq., JOUR 570 or consent of instr. Practical opportunities to research and report on a variety of public health and natural resource issues, combined with a critical examination of how news media cover these issues.

G 690 Supervised Internship 1-2 cr. (R-2) Offered every term. Prereq., JOUR 571. Practical experience working for newspapers, magazines, wire services or other approved businesses, agencies or organizations.

G 696 Advanced Problems Variable cr. (R-6) Offered every term. Prereq., consent of the dean. Independent study.

G 697 Research in Journalism Variable cr. (R-9) Offered every term. Prereq., consent of the dean.

G 699 Thesis Variable cr. (R-6) Offered every term. Research and writing of master's thesis.

Radio-Television (R-TV)

U 150 Introduction to Radio Production 3 cr. Offered autumn and spring. Prereq., JOUR 100S or consent of instr. Introduction to the fundamentals of audio and radio production, including announcing, use of microphones, recording equipment, editing techniques and programming.

U 151 Introduction to Television Production 3 cr. Offered autumn and spring. Prereq., JOUR 100 or consent of instr. Use of cameras, microphones, and lighting gear for field production. Use of mixer and videotape editors for post production.

U 280 Reporting for Broadcast 3 cr. Offered autumn and spring. Prereq., JOUR 100S. Fundamentals of reporting and writing news for broadcast including use of digital audio recording and editing equipment.

U 295 Special Topics Variable cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 298 Internship Variable cr. (R-6) Prereq., consent of instr. Radio production work with the Broadcast Media Center, KUFM, and other radio production internships.

U 350 Television Directing and Production 3 cr. Prereq., R-TV 151. Production and direction of studio and remote television programs.

U 351 Advanced Television Directing and Production 3 cr. Offered spring. Prereq., R-TV 350. Advanced production and direction techniques in both the studio and field. Work with students in R-TV 361 on special programs for MontanaPBS.

U 360 Advanced Broadcast Reporting 3 cr. Offered autumn. Prereq., R-TV 280, R-TV 151. Radio and television reporting including writing, interviewing, news gathering and preparation of radio and television news stories.

U 361 Newscast Reporting and Producing 3 cr. Offered spring. Prereq., R-TV 360. Intensive instruction and practice in reporting, writing, producing and delivery of television newscasts. Work with student in R-TV 351 on special programs for MontanaPBS.

U 370 KBGA Reporting 1 cr. (R-3) Offered spring. Students report, write and produce stories for KBGA, the student radio station, under supervision of KBGA News Director and a faculty member.

U 395 Special Topics Variable cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
UG 396 Independent Study in Broadcasting Variable cr. (R-6) Offered every term. Prereq., consent of instr. and broadcast faculty. Independent study in broadcasting issues of interest.

UG 401 Broadcast Programming 3 cr. Offered autumn odd-numbered years. An examination of formats, distribution systems, ratings, programming strategies and the business aspects of programming in the broadcasting and cable television industries.

UG 403 Sports and Media 3 cr. Offered autumn even-numbered years. An examination of the historic marriage between the mass media and sports on both collegiate and professional levels.

UG 430 Lighting for Video 3 cr. Offered spring even-numbered years. Prereq., R-TV 350 or Dram 351 or consent of instr. Special techniques of lighting for the video camera.

UG 440 Advanced Video Editing and Storytelling 3 cr. Offered autumn. Prereq., R-TV 351 or 361 or consent of instr. Advanced non-linear video editing, photography, lighting, audio and writing for television production.

U 450 Broadcast Newsroom-Production 3 cr. Offered autumn. Prereq., R-TV 351 or consent of instr. Students direct, photograph and edit a daily Newsbrief report, regular half-hour Montana Journal magazine programs for MontanaPBS and a weekly UMNews program for commercial stations, in tandem with students in R-TV 460, 650.

U 460 Broadcast Newsroom-Editorial 3 cr. (R-6) Offered autumn. Prereq., R-TV 361. Students report, write, produce and deliver a daily Newsbrief report, regular half-hour Montana Journalism magazine programs for MontanaPBS, and a weekly UMNews program for commercial stations, in tandem with students in R-TV 450, 650.

UG 481 Documentary-Editorial 3 cr. Offered spring. Prereq., R-TV 460 or consent of instr. Students conceive, research, report and otherwise produce a one-hour documentary for MontanaPBS, in tandem with student of R-TV 482.

UG 482 Documentary-Production 3 cr. (R-6) Offered spring. Prereq., R-TV 450 or consent of instr. Students conceive, research, photograph, edit and otherwise produce a one-hour documentary for MontanaPBS, in tandem with students of R-TV 481.

UG 485 Advanced Television News Producing 3 cr. Offered spring. Prereq., R-TV 460 or 461. Techniques and strategies of daily production of a full-length newscast.

UG 490 Broadcast Internship 1-4 cr. (R-4) Offered every term. Prereq., R-TV 351 or 361. Required of all broadcast news and broadcast production students without requisite professional experience. Students perform the equivalent of six weeks' full-time work in a radio or television station or similar broadcast news or broadcast production enterprise. Internship hosts are approved by the faculty. Cannot be taken concurrently with any other University class without consent of the department chair.

UG 494 Senior Seminar 3 cr. Offered autumn. Prereq., senior standing in broadcast news or broadcast production option or consent of instr. Exploration of the current and historic broadcasting in American society, including current business, editorial, production and ethical issues in the industry. Each student completes a major research paper as part of the course.

G 550 Graduate Television Production and Direction 3 cr. Offered autumn. Prereq., consent of instr. Production and direction of studio and remote television programs.

G 560 Graduate Advanced Broadcast Reporting 3 cr. Offered autumn. Prereq., R-TV 280 or JOUR 570 or consent of instr. Radio and television reporting including writing, interviewing, news gathering and preparation of radio and television news stories.

G 650 Graduate Broadcast Newsroom-Production 3 cr. Offered spring. Students direct, photograph and edit a daily Newsbrief report, regular half-hour Montana Journal magazine programs for MontanaPBS, and a weekly UMNews program for commercial stations, in tandem with students in R-TV 460 and 450.

G 681 Graduate Documentary 3 cr. Offered spring. Prereq., JOUR 650 or consent of instr. Students conceive, research, report, photograph and edit a one-hour documentary for MontanaPBS in tandem with students in R-TV 481 and 482.

Faculty

Professors

Sharon Barrett, M.A., University of Wisconsin, 1967
Jerry E. Brown, Ph.D., Vanderbilt University, 1974 (Dean)
William L. Knowles, B.A., San Jose State College, 1959
Carol B. Van Valkenburg, M.A., The University of Montana, 1988 (Chair, Print Journalism)
Clemens P. Work, J.D., Golden Gate University School of Law, 1975

Associate Professors

Dennis McAuliffe, Jr., B.A., University of Maryland, 1976

Assistant Professor

Denise Dowling, B.A., University of Montana, 1982 (Visiting)
Michael Downs, M.F.A., University of Arkansas, 1999 (Visiting)
Raymond Ekness, M.A., The University of Montana, 1995
Keith Graham, M.A., University of Missouri, 1979
Sheri Venema, M.A., University of Minnesota, 1983

Adjunct Professors

Deni Elliott, Ed.D., Harvard University, 1984
John Talbot, A.B., Harvard University, 1951

Lecturers

Gus Chambers
Sherry Devlin
William Marcus
Sally Mauk
John Twiggs

Emeritus Professors

Nathaniel Blumberg, Ph.D., Oxford University, 1950
Charles E. Hood, Jr., Ph.D., Washington State University, 1980
Robert C. McGiffert, M.A., Ohio State University, 1965
School of Law
School of Law

E. Edwin Eck, Dean

Fritz Snyder, Associate Dean

The Law School is accredited by the American Bar Association and the Association of American Law Schools, and offers the degree of Juris Doctor (J.D.). Prerequisites for admission to the Law School are a baccalaureate degree and Law School Admission Test.

For detailed information concerning the Law School’s admission criteria, application procedures, facilities, and official course descriptions, consult the Law School Catalog, which may be obtained by calling (406)243-6169 or visiting the website www.umt.edu/law.

The Law School’s administrative regulations are contained in the Law School Student Handbook, which is on the website.

Academic Year Calendar

Autumn Semester 2004
August 23-27 (Monday-Friday) Introductory Program
August 20 (Friday) Registration Finalization
August 24 (Tuesday) Classes Begin
September 6 (Monday) Labor Day (Holiday)
November 2 (Tuesday) Election Day (Holiday)
November 11 (Thursday) Veterans’ Day (Holiday)
November 24-26 (Wednesday-Friday) Thanksgiving Holiday
Building Closed: Thursday, November 25
December 1 (Wednesday) Last day of classes
December 2-7 (Thursday–Tuesday) Reading period
December 8-18 (Wednesday–Saturday) Final exams

Spring Semester 2005
January 17 (Monday) Martin Luther King Jr. Day (Holiday)
January 21 (Friday) Registration Finalization
January 24 (Monday) Classes begin
February 21 (Monday) President’s Day (Holiday)
March 21-25 (Monday–Friday) Spring Vacation
Building Hours: Monday–Friday, 7:00am - 5:30am
Law Library Hours: Monday–Friday, 7:30am - 5:00am
May 2 (Monday) Last day of classes
May 3-8 (Tuesday–Sunday) Reading period prior to exams
May 9-20 (Monday–Friday) Final exams
May 14 (Saturday) UM Commencement
May 21 (Saturday) Law School Hooding Ceremony

Required Curriculum

First Year
500 Civil Procedure I ........................................... 3
501 Civil Procedure II ........................................... 2
502 Contracts I .................................................. 3
503 Contracts II .................................................. 2
504 Pretrial Advocacy I ......................................... 2
505 Pretrial Advocacy II ....................................... 1
506 Legal Research .............................................. 2
508 Legal Analysis .............................................. 1
509 Legal Writing I .............................................. 3
510 Criminal Law & Proc I .................................. 2
511 Criminal Law & Proc II .................................. 3
512 Torts I ........................................................ 2
513 Torts II ........................................................ 3

Second Year
550 Property I ................................................... 2
551 Property II ................................................... 3
552 Federal Tax ................................................... 3
(may be taken third year)
554 Business Organizations .................................. 3
555 Professional Responsibility ................................ 3
556 Business Transactions ..................................... 2
557 Trial Practice ............................................... 2
558 Constitutional Law ........................................... 4
560 Evidence ..................................................... 3
Electives (see below)

Elective Courses (Elective offerings vary from year to year)

Administrative Law (Law 665, 3 credits)
Advanced Criminal Procedure (Law 690, 2 credits)
Advanced Environmental Law (Law 649, 3 credits)
Advanced Legal Research (Law 615, 2 credits)
Advanced Legal Issues in Education (Law 686, 3 credits)
Advanced Legislation (Law 652, 2 credits)
Advanced Federal Indian Law (Law 617, 2 credits)
Advanced Public Land and Resources Law (Law 619, 2 credits)
Advanced Trial Advocacy (Law 685, 1 credit)
Agricultural Law (Law 656, 2 credits)
Alternative Dispute Resolution (Law 614, 3 credits)
Appellate Advocacy (Law 616, 3 credits)
Bankruptcy (Law 621, 2 credits)
Child Advocacy (Law 670, 2 credits)
Client Counseling Team (Law 638, 2 credits)
Conflict of Laws (Law 653, 2 credits)
Consumer Transactions (Law 645, 3 credits)
Copyright Law (Law 682, 3 credits)
Cyber Law (Law 676, 2 credits)
Disability Law (Law 668, 2 credits)
Elder Law (Law 620, 3 credits)
Employment Law (Law 622, 2 credits)
Estate Planning (Law 659, 3 credits)
Family Law (Law 669, 3 credits)
Family Law Mediation (Law 672, 2 credits)
Federal Courts (Law 671, 2 credits)
Federal Indian Law (Law 648, 3 credits)
First Amendment Seminar (Law 675, 2 credits)
Gender and the Law (Law 625, 3 credits)
Health Care Law (Law 637, 3 credits)
Independent Study (Law 660/1, 1-2 credits)
Insurance Law (Law 624, 3 credits)
International Business & Trade (Law 629, 2 credits)
Introduction to Environmental Law (Law 650, 3 credits)
Land Use Planning (Law 687, 3 credits)
Law & Technology (Law 693, 2 credits)
Law Practice (Law 631, 1 credit)
Law Reviews I, II, III, IV (Law 564/5, Law 602/3, 1-2 credits)
Lawyers’ Values (Law 630, 2 credits)
Legal History (Law 626, 2 credits)
Local Government (Law 646, 3 credits)
Moot Courts (Law 666, 2 credits)
Montana Constitutional Law (Law 618, 2 credits)
Natural Resource Development (Law 633, 3 credits)
Natural Resource Dispute Resolution (Law 613, 3 credits)
Negotiations (Law 641, 2 credits)
Negotiation Team (Law 642, 2 credits)
Non-profit Organizations (Law 674, 2 credits)
Oil & Gas Law (Law 651, 2 credits)
Patent Law (Law 627, 2 credits)
Philosophy of Law (Law 664, 3 credits)
Product Liability (Law 657, 2 credits)
Public Interest Lawyering (Law 673, 3 credits)
Public International Law (Law 634, 3 credits)
Public Land and Resources Law (Law 654, 3 credits)
Public Regulation of Business (Law 632, 3 credits)
Real Estate Transactions (Law 658, 2 credits)
Remedies (Law 628, 3 credits)
Sales & Leases (Law 692, 3 credits)
Secured Transactions (Law 636, 2 credits)
Special Topics in Criminal Law (Law 667, 2 credits)
Taxation of Business Organizations (Law 639, 4 credits)
Taxation of Estates & Gifts (Law 655, 3 credits)
Taxation of Property Transactions (Law 640, 2 credits)
Tribal Courts/Tribal Law (Law 688, 3 credits)
Tribal/State Relations (Law 694, 2 credits)
Water Law (Law 663, 2 credits)
White Collar Crime (Law 644, 2 credits)
Workers’ Compensation (Law 662, 3 credits)

Faculty

Professors
Bari R. Burke, J.D., University of California, Davis, 1979
J. Martin Burke, LL.M., New York University, 1982
Scott J. Burnham, LL.M., New York University, 1981
William J. Corbett, LL.M., Harvard University, 1971
Gardner Cromwell, S.J.D., University of Michigan, 1958
(Retired)
Raymond Cross, J.D., Yale University, 1973
William F. Crowley, LL.M., New York University, 1951
(Retired)
E. Edwin Eck II, LL.M., Georgetown University (Dean)
Larry M. Elison, S.J.D., University of Michigan, 1962
(Retired)
Cynthia Ford, J.D., Cornell Law School, 1978
John L. Horwich, J.D., Cornell Law School, 1975
Mark S. Kende, J.D., University of Chicago, 1986 (on leave)
Mary Helen McNeal, J.D., University of Maryland, 1986
Gregory S. Munro, J.D., The University of Montana, 1975
Robert G. Natelson, J.D., Cornell Law School, 1973
David J. Patterson, LL.M., University of Michigan, 1966
Lester R. Rusoff, LL.M., University of Michigan, 1952
(Retired)
Fritz Snyder, J.D., Washburn School of Law, 1979 (Associate
Dean)
Robert E. Sullivan, J.D., Notre Dame, 1946 (Dean Emeritus)

Associate Professors
Elaine Gagliardi, LL.M., New York University, 1990

Assistant Professors
Phillip Cousineau, MLS., University of Texas, 1993
Stacey Gordon, J.D., The University of Montana, 2000
Larry Howell, J.D., M.A., The University of Montana, 1992
Maylinn Smith, J.D., The University of Montana, 1987
Margaret A. Tonon, J.D., The University of Montana, 1974
Frances L. Wells, J.D., Southern Methodist Univ., 1973 (on
leave)

Adjunct Faculty
David Aronofsky, J.D., University of Texas, 1982
Kristen Juras, J.D., University of Georgia, 1982
John W. McDonald, J.D., The University of Montana, 1961
Jeffrey T. Renz, J.D., The University of Montana, 1979
Klaus Sitte, J.D., The University of Montana, 1972
School of Pharmacy & Allied Health Sciences
School of Pharmacy and Allied Health Sciences

David S. Forbes, Dean
Lori J. Morin, Assistant Dean for Student Affairs

The School of Pharmacy and Allied Health Sciences offers the Bachelor of Arts in Social Work, the Doctor of Pharmacy (Pharm.D.) degree; the Master of Science degrees in Neuroscience, Pharmaceutical Sciences, Physical Therapy; and Toxicology; the Master of Social Work degree, the Doctor of Physical Therapy degree, and the Doctor of Philosophy (Ph.D.) degrees in Neuroscience, Pharmacology, Pharmaceutical Sciences and Toxicology.

The focus of these programs is to provide a composite of educational experiences that will produce a well-educated person and a highly trained, professional social worker, health care practitioner or scientist.

Pharmacy

Pharmacy is the study of the physical, chemical and biological characteristics of medicinal substances and the utilization of these substances in the prevention, treatment, and control of illness and disease. It also encompasses a study of the systems of delivering health care and the function of the professional pharmacist within these systems.

The School of Pharmacy was established in 1907 at Montana State College and was transferred to the University in 1913. The pharmacy program consists of two departments, Pharmacy Practice and Biomedical and Pharmaceutical Sciences.

The School of Pharmacy is a member of the American Association of Colleges of Pharmacy. The entry-level doctor of pharmacy program is accredited by the Accreditation Council for Pharmacy Education, 20 North Clark Street, Suite 2500, Chicago IL 60602-5109, telephone (312) 664-3575, (800) 533-3606; FAX (312) 664-4652.

The curriculum offered by the School of Pharmacy consists of a six year program leading to the entry-level Pharm.D. degree. The first two years, or pre-professional portion of the curriculum, are spent in studies of the basic physical and biological sciences, and in course work necessary to satisfy the University general education requirements.

During the first three years of the professional program, students devote their time to the study of the biomedical and pharmaceutical sciences and pharmacy practice. Areas of study include biochemistry, microbiology, pharmaceutics, medicinal chemistry, pharmacology, social administrative pharmacy, and therapeutics. The final professional year is entirely experiential.

A program of selected electives allows the student to obtain further educational experience in specialized areas of pharmaceutical knowledge. Students in the professional program may choose elective courses in specific areas of interest which include community pharmacy practice, sales and management, research and teaching, or hospital and institutional pharmacy practice. All students must confer with assigned advisors prior to each registration period and receive approval of proposed courses.

In addition to their formal educational program, students, to become registered pharmacists, must complete practical experience or internship under the direction of a registered pharmacist and pass an examination given by the State Board of Pharmacy.

Career opportunities exist in the fields of community pharmacy, institutional pharmacy, federal or state government service, public health agencies, and with the pharmaceutical industry in sales positions or in manufacturing. Those with advanced degrees are in demand for research positions and in pharmaceutical education.

High School Preparation: In addition to the general University admission requirements, algebra, trigonometry, biology, chemistry, physics and a course in computers are recommended.

Admission

The general requirements for admission to the University are listed separately in this catalog.

Pre-Pharmacy Program

The pre-pharmacy curriculum, which requires a minimum of two years of full-time study, may be taken at any accredited college or university.

Students at The University of Montana-Missoula may enter the pre-pharmacy program during any semester. It is recommended that students considering pharmacy as a major declare a pre-pharmacy major as early as possible in order to receive appropriate advising. Upon designating pre-pharmacy as a major, students will be assigned an advisor within the pharmacy program.

Professional Pharmacy Program

Students must apply for admission to the professional program. Class size in the professional pharmacy program is restricted and admission to the program is competitive. The admission process is designed to admit the best overall class into professional study. Completed applications are evaluated by the School of Pharmacy Admissions Committee. Acceptances are made by the pharmacy faculty and the dean based on the recommendations of the committee.

Since very few elective credits are available in the professional pharmacy curriculum, students will be expected to have completed all General Education requirements except for the upper-division writing and ethics requirements prior to entering the professional curriculum. Students must complete all General Education requirements before entering pharmacy practice experience rotations during the final year of the program.

Applicants will be screened based on academic record (both overall and in the required pre-pharmacy course work) and Pharmacy College Admission Test scores (offered in October, November, and January). To be eligible for admission, students must have a minimum grade point average of 2.5 on a 4 point scale, both overall and in required pre-professional courses. For the past several years there have been more than three applicants for each opening, and the grade point average...
of the entering class has been about 3.4. In addition, applicants must present proof of having completed at least 60 hours of volunteer or paid service in a medical or social field, and an evaluation form filled out by someone involved with the applicant in such an experience.

As a state supported institution, the School of Pharmacy gives all applicants from the Montana University System equal consideration. Standardized tests have been dropped as a consideration for admission into the professional pharmacy program. There is no restriction on admission of out-of-state students; however, residents are given priority among students with equal qualifications. Students will be notified of their admission status in writing.

The curriculum of the professional pharmacy program is sequential. Therefore, students may enter the program in the autumn semester only. Application forms for admission to the professional curriculum may be obtained from the Office of the Dean, School of Pharmacy and Allied Health Sciences. Applications must be post marked by March 1st preceding the autumn semester of the year for which admission is requested.

An application fee must be submitted with the application. Admission for one academic year cannot be deferred to another academic year. Official transcripts of all academic courses taken must be forwarded directly to the School of Pharmacy.

The professional pharmacy curriculum must be taken in residence at the University. Students transferring from other accredited schools of pharmacy may be admitted with advanced standing, determined on the basis of credits accepted, provided they are in good academic standing. Transfer credit for courses taken at other institutions is accepted only for those courses which are deemed equivalent and in which a grade of C (2.00) or better is obtained.

**Academic Progression**

The general University academic standing requirements are listed separately in this catalog. See index. Students in the professional curriculum must maintain satisfactory academic progress. No more than 4 credits of D in PHAR required courses will be accepted toward the degree. Students in the professional program who have a pharmacy or professional grade point average of less than 2.0 or who receive a grade of D or F in any required course in the professional curriculum will be placed on academic probation. Upon receipt of more than four credits of D, a student must petition to the Academic Standards Committee. A student must petition to continue in the professional pharmacy program if he or she is on probation for a total of three terms, not necessarily consecutive, subject to review by the dean. A student will be removed from probation when a grade point average of 2.0 has been achieved. Because the program is academically intense, employment beyond minimal, part-time work is not recommended.

Students who have failed ten or more credits of required professional course work or who fail to progress in the expected manner for two consecutive terms may be dismissed from the professional pharmacy program. Students will be dismissed from the professional pharmacy program if they are on probation for a total of three terms, not necessarily consecutive, subject to review by the dean. A student will be removed from probation when a grade point average of 2.0 has been achieved. Because the program is academically intense, employment beyond minimal, part-time work is not recommended.

Students dismissed from the program for substandard performance will not be readmitted, except in cases where substantiation is made to the faculty, by written petition, that the substandard performance was the result of circumstances that no longer exist, or that the student has demonstrated the capability and desire to perform satisfactory work since his or her dismissal from the program.

Students leaving the program on their own volition are guaranteed readmission if they are in good academic standing and exit by interview with the assistant dean for student affairs. Those students leaving the program on their own volition and not in good standing must reapply for admission.

The professional pharmacy curriculum consists of an integrated sequence of required courses which is designed to be completed in four consecutive years. With appropriate justification, part-time study in the professional pharmacy program may be allowed. Students desiring to be enrolled in part-time study must make their request by petition to the Academic Standards Committee. Because the curriculum is revised periodically, students who take longer than normal number of years to complete the professional program will be required to complete curricular changes applicable to the class in which they graduate.

**Special Degree Requirements**

Refer to graduation requirements listed previously in the catalog. See index.

Degree candidates must:
1. Meet the general University requirements for graduation.
2. Earn a grade point average of 2.0 or higher in each of the following areas:
   a. all courses attempted at The University of Montana-Missoula (cumulative GPA).
   b. all courses which carry a pharmacy (PHAR) prefix (Pharmacy GPA).
   c. all required courses in the professional pharmacy curriculum (professional GPA).
3. A maximum of 4 credits of D in required PHAR courses may be counted toward the degree. All other required pharmacy course work (PHAR prefix) must be completed with a grade of C (2.00) or better and at least a C average in all PHAR courses.
4. Complete at least six full academic years, including prepharmacy instruction, and a minimum of eight semesters of professional instruction as a full-time student registered for a minimum of twelve credits per semester.
5. Complete not less than 200 credits of course work.

**Licensure in Montana**

An applicant for licensure as a registered pharmacist in Montana must pass an examination administered by the State Board of Pharmacy. The State Board Examination is usually administered by the Montana State Board of Pharmacy throughout the year. To qualify for the examination, the applicant must be of good moral character and a graduate of an accredited school of pharmacy; however, an applicant will not receive a license until an internship is completed.

**Internship Regulations**

1. The internship requirement for licensure as a registered pharmacist in Montana is regulated by the Montana State Board of Pharmacy. Students must be registered with the Board of Pharmacy as a pharmacy intern in order to accrue internship hours.
2. Only those students who have completed the first year of the professional pharmacy curriculum may begin their internship.
3. The internship requirement consists of 1,500 hours of experience in an approved pharmacy setting. The student also may acquire hours concurrently with school attendance in courses, clinical pharmacy programs, or demonstration projects which have been approved by the Board of Pharmacy.
4. Many courses and programs currently offered by the
School of Pharmacy are approved and applicable toward fulfilling the internship requirement. A complete list is available upon request.

5. Students will receive credit for internship time and/or courses taken if such experience is certified by the preceptor and/or instructor and approved by the State Board of Pharmacy.

**Pre-Pharmacy Curriculum**

The courses shown here must be completed before entering the professional pharmacy program. The sequence of courses is illustrative and, if proper prerequisites are satisfied, the student may alter the order in which the courses are taken.

In addition, applicants to the professional pharmacy program must present proof of having completed at least 60 hours of volunteer or paid service in a medical or social field, and one letter of evaluation from someone involved with the applicant in such an experience. The Pharmacy College Admission Test (PCAT) must be taken during the second pre-pharmacy year.

### Pre-Pharmacy First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>A S</td>
<td>CHEM 161N, 162N College Chemistry with Laboratory</td>
<td>5</td>
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<tr>
<td></td>
<td>MATH 150 Applied Calculus (prereq. MATH 121 or appropriate placement score)</td>
<td>4</td>
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<tr>
<td></td>
<td>ECON 111S Introduction to Microeconomics or ECON 1125 Introduction to Macroeconomics</td>
<td>3</td>
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<tr>
<td></td>
<td>ENEX 101 English Composition</td>
<td>3</td>
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<tr>
<td></td>
<td>Social science elective chosen from: PSYC 100S Introduction to Psychology or SOC 110S Principles of Sociology or COMM 110S Interpersonal Communication+</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>*Electives and General Education</td>
<td>5</td>
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</tbody>
</table>

### Pre-Pharmacy Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>A S</td>
<td>CHEM 221, 222 Organic Chemistry</td>
<td>3</td>
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<tr>
<td></td>
<td>CHEM 223 Organic Chemistry Laboratory</td>
<td>2</td>
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<tr>
<td></td>
<td>BIOL 221 Cell and Molecular Biology (prereq. BIOL 101 or equiv.)</td>
<td>4</td>
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<tr>
<td></td>
<td>MATH 241 Statistics or PSYC 2220 Psychological Statistics or SOC 202 Social Statistics (prereq. MATH 150 or 117)</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PHYS 121N General Physics</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Social science elective chosen from: COMM 110S Interpersonal Communication+ or COMM 111A Introduction to Public Speaking or DRAM 111A Acting for Nonmajors</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>*Electives and General Education</td>
<td>4</td>
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<tr>
<td></td>
<td>+ COMM 110S may not be used to fulfill both the social science and the communications electives.</td>
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</tbody>
</table>

*Students must complete the University's General Education requirements. Due to the limitation of elective credits in the professional pharmacy curriculum, students are advised to complete the General Education requirement during the pre-pharmacy curriculum.

### Professional Pharmacy Curriculum

Students must apply for admission to the professional curriculum. For requirements see the section on Admission. Students enrolled in the professional pharmacy curriculum are assessed a supplemental fee. This fee does not apply to pre-pharmacy students. Refer to the fees section of this catalog for details.

Students must demonstrate proficiency in pharmaceutical calculation by successfully completing a competency assessment prior to entering the second professional year.

Students, except those exempt, must complete the University Upper-Division Writing Proficiency Assessment prior to entering the second professional year.

The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

#### First Professional Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>A S</td>
<td>BIOC 380 Elementary Biochemistry</td>
<td>4</td>
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<tr>
<td></td>
<td>MICB 302 Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>BIOL 107N Senior Microbiology Laboratory</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>PHAR 309 Pharmacy Practice I</td>
<td>3</td>
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<tr>
<td></td>
<td>PHAR 310 Pharmacy Practice II</td>
<td>3</td>
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<td></td>
<td>PHAR 328 Antimicrobial Agents</td>
<td>3</td>
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<tr>
<td></td>
<td>PHAR 331 Pharmaceutics</td>
<td>4</td>
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<tr>
<td></td>
<td>PHAR 341, 342 Physiological Systems I, II</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PHAR 361-362 Pharmaceutical Sciences Lab</td>
<td>1</td>
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<tr>
<td></td>
<td>PHAR 371-372 Integrated Studies</td>
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</table>

#### Second Professional Year

**Autumn/Spring Intersession:**

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>A S</td>
<td>PHAR 480 Community Pharmacy Introductory Experience</td>
<td>4</td>
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<tr>
<td></td>
<td>PHAR 412 Pharmacy Practice III--Social and Behavioral Pharmacy</td>
<td>3</td>
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<tr>
<td></td>
<td>PHAR 421, 422 Medical Chemistry I, II</td>
<td>3</td>
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<tr>
<td></td>
<td>PHAR 432 Biopharmaceutics/Pharmacokinetics</td>
<td>3</td>
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<td></td>
<td>PHAR 443, 444 Pharmacology and Toxicology</td>
<td>4</td>
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<tr>
<td></td>
<td>PHAR 451, 452 Therapeutics I, II</td>
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<td></td>
<td>PHAR 471, 472 Integrated Studies</td>
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<td>Electives</td>
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#### Third Professional Year

**Autumn/Spring Intersession:**

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>A S</td>
<td>PHAR 481 Hospital Pharmacy Introductory Experience</td>
<td>4</td>
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<tr>
<td></td>
<td>PHAR 505 Pharmacy Practice IV--Pharmaceutical Care</td>
<td>4</td>
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<tr>
<td></td>
<td>PHAR 506 Pharmacy Practice V--Advanced Pharmaceutical Care</td>
<td>4</td>
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<tr>
<td></td>
<td>PHAR 513 Pharmacoeconomics and Outcomes Research</td>
<td>3</td>
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<tr>
<td></td>
<td>PHAR 514E Pharmacy Ethics</td>
<td>3</td>
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<tr>
<td></td>
<td>PHAR 550 Drug Literature Evaluation</td>
<td>3</td>
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<tr>
<td></td>
<td>PHAR 553, 554 Therapeutics III and IV</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PHAR 557 Public Health in Pharmacy</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>PHAR 571, 572 Integrated Studies</td>
<td>1</td>
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<td></td>
<td>Electives</td>
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#### Fourth Professional Year

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>A S</td>
<td>PHAR 581 Inpatient Advanced Pharmacy Practice Experience</td>
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<tr>
<td></td>
<td>PHAR 582 Ambulatory Care Advanced Pharmacy Practice Experience</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>PHAR Elective pharmacy practice experience</td>
<td>8</td>
</tr>
</tbody>
</table>

16 16
Department of Pharmacy Practice

Michael P. Rivey, Chair

The Department of Pharmacy Practice provides academic course work for the Doctor of Pharmacy and Masters degrees, conducts research in the broad area of health care, and provides service to the profession of pharmacy and other health care disciplines.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Pharmacy (PHAR)

U 110N Use and Abuse of Drugs 3 cr. Offered autumn and spring. Drug dependence and abuse.

U 195 Special Topics Variable cr. (R-16) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 309 Pharmacy Practice I: Introduction to Pharmacy 3 cr. Offered autumn. Prereq., MATH 150 and admission to the professional pharmacy program. An introduction to the prescription and pharmaceutical calculations and to the role of the pharmacist in systems involved in health care delivery.

U 310 Pharmacy Practice II: Law and Dispensing 3 cr. Offered spring. Prereq., PHAR 309. Federal and state laws and regulations pertaining to pharmacy practice. Introductory dispensing laboratory.

U 371 Integrated Studies I 1 cr. Prereq., first professional year standing in pharmacy. Small group conferences designed to develop professional skills while integrating material from other pharmacy courses.


U 380 Pharmacy Practicum 1-2 cr. (R-3) Offered autumn and spring. Prereq., PHAR 309. Supervised professional experience in the Student Health Service Pharmacy.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 397 Research 1-3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research.

U 412 Pharmacy Practice III—Social and Behavioral Pharmacy 3 cr. Offered spring. Prereq., second professional year standing and a course in communication. The social, economic, legal, ethical, and psychological factors involved in professional and patient relationships of pharmacists.

UG 451 Therapeutics I 3 cr. Offered autumn. Prereq., second professional year standing; coreq., PHAR 471; prereq. or coreq., PHAR 328, 421 and 443. Pharmacotherapeutics of common disease states emphasizing pathophysiology and the selection, monitoring, and individualization of drug therapy. Applies the basic pharmaceutical sciences to patient care.

UG 452 Therapeutics II 3 cr. Offered spring. Prereq., PHAR 451; coreq., PHAR 472; prereq. or coreq., PHAR 422, 432 and 444. Pharmacotherapeutics of common disease states emphasizing pathophysiology and the selection, monitoring, and individualization of drug therapy. Applies the basic pharmaceutical sciences to patient care.

UG 471 Integrated Studies III 1 cr. Offered autumn. Prereq., second professional year standing in pharmacy. Small group conferences designed to develop professional skills while integrating material from first and second year professional pharmacy courses.

UG 472 Integrated Studies IV 1 cr. Offered spring. Prereq., PHAR 471. Continuation of 471.

UG 480 Community Pharmacy Introductory Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of first professional year. Supervised professional experience in community pharmacy.

UG 481 Hospital Pharmacy Introductory Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of first professional year. Supervised professional experience in a hospital pharmacy.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 497 Research 1-3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research.

UG 505 Pharmacy Practice IV—Pharmaceutical Care 4 cr. Offered autumn. Prereq., third professional year standing in Pharm.D. program. Aspects of dispensing, management, communications, disease state monitoring, and legal issues related to the provision of pharmaceutical care.

UG 506 Pharmacy Practice V—Advanced Pharmaceutical Care 4 cr. Offered spring. Prereq., PHAR 505. Applications of advanced drug therapy monitoring and disease state management.

UG 513 Pharmacoeconomics and Outcomes Research 3 cr. Offered spring. Prereq., third professional year standing or consent of instr. Introduction to assessing the economic, clinical and humanistic outcomes of pharmacotherapy.

UG 514E Case Studies in Pharmacy Ethics 3 cr. Offered spring. Prereq., third professional year standing or consent of instr. A practical discussion of pharmacy ethics, as it relates to pharmacy practice.


UG 516 Advanced Pharmacy Administration 2 cr. Offered intermittently. Prereq., consent of instr. Analysis of the pharmaceutical industry.

UG 533 Clinical Pharmacokinetics 2 cr. Offered intermittently. Prereq., PHAR 432 and 452. The application of pharmacokinetic principles in drug dosage regimen design.

UG 534 Pharmacokinetic Computing 1 cr. (R-2) Offered intermittently Prereq., PHAR 432. Applications of computers in pharmacokinetics.

UG 553 Therapeutics III 4 cr. Offered autumn. Prereq., PHAR 452, 472: prereq. or coreq., PHAR 571.
Pharmacotherapeutics of common disease states emphasizing pathophysiology and the selection, monitoring, and individualization of drug therapy. Applies the basic pharmaceutical sciences to patient care.

UG 554 Therapeutics IV 4 cr. Offered spring. Prereq., PHAR 553, 571; prereq. or coreq., PHAR 572. Intended for Pharm.D. students. Pharmacotherapeutics of common disease states emphasizing pathophysiology and the selection, monitoring, and individualization of drug therapy. Applies the basic pharmaceutical sciences to patient care.

UG 556 Psychopharmacotherapeutics 2 cr. Offered autumn. Prereq., PHAR 452 or consent of instr. A discussion of the more common childhood and adult psychiatric disorders with emphasis on a pharmacoologic approach to their treatment.

UG 557 Public Health in Pharmacy 2 cr. Offered autumn. Prereq., PHAR 452, 472. Discussion of the roles and responsibilities of pharmacists in public health and the role of drugs in public health programs.

U 558 Physical Assessment 2 cr. Offered spring. Coreq., PHAR 554. Basic physical assessment skills for the pharmacist's proper interpretation of patient response to drug therapy.

UG 570 Computer Applications in Pharmacy 1-2 cr. (R-6) Offered intermittently. Prereq., consent of instr. Individual projects with an emphasis on computer applications in pharmacology, pharmacokinetics or pharmacy management.

UG 571 Integrated Studies V 1 cr. Offered autumn. Prereq., third professional year standing in Pharm.D. program. Small group conferences designed to develop the professional skills needed to practice pharmaceutical care while integrating material from the professional pharmacy curriculum.

U 572 Integrated Studies VI 1 cr. Offered spring. Prereq., third professional year standing in Pharm.D. program. Small group conferences designed to develop professional skills while integrating material from other pharmacy courses.

U 573 Institutional Pharmacy 3 cr. Offered autumn. Prereq., PHAR 309 and 331. The pharmacist's role and activities in drug distribution and control in hospitals and related institutions with an emphasis on the preparation and administration of sterile products.

U 581 Inpatient Advanced Pharmacy Practice Experience Variable cr. (R-12) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the clinical functions of the pharmacist in the inpatient hospital setting.

U 582 Ambulatory Care Advanced Pharmacy Practice Experience Variable cr. (R-16) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the clinical functions of the pharmacist in the ambulatory care setting.

U 583 Drug Information Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the provision of drug information by the pharmacist.

U 584 Specialized Services Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in specialized practice settings, such as home infusion, compounding, and nuclear pharmacies.

U 585 Geriatric Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience with geriatric patients in the long term care and/or other pharmacy setting.

U 586 Clinical Speciality Advanced Pharmacy Practice Experience 4 cr. (R-16) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the clinical functions of the pharmacist in specialty settings or with specialized groups of patients.

U 587 Administrative Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the administrative aspects of providing pharmaceutical care.

U 588 Research Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in a research setting.

U 589 Education Advanced Pharmacy Practice Experience 4 cr. Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in teaching in a pharmacy curriculum.

U 593 Current Research Literature I cr. (R-6) Offered autumn and spring. Readings and discussion of current research literature.

U 594 Seminar 1 cr. (R-6) Offered autumn and spring. Prereq., senior or graduate standing.

U 595 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., senior or graduate standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 596 Independent Study Variable cr. (R-9) Offered every term.

U 597 Research Variable cr. (R-6 for undergraduates; R-10 for graduates) Offered every term. Prereq., senior or graduate standing. Individual participation in library or laboratory research.

G 599 Thesis Variable cr. (R-10) Offered every term.

G 603 Professional Practice IV–Pharmaceutical Care 4 cr. Offered autumn. Prereq., third professional year standing in Pharm.D. program and acceptance into M.B.A. program. Aspects of dispensing, management, communications, disease state monitoring, and legal issues related to the provision of pharmaceutical care.


Faculty

Professors
Gayle A. Cochran, Pharm.D., Duquesne University, 1976
William J. Docktor, Pharm.D., University of Michigan, 1977
David S. Forbes, Ph.D., University of Wisconsin, 1973 (Dean)
Sarah Johnston Miller, Pharm.D., Mercer University, 1985
Lori J. Morin, M.B.A., The University of Montana, 1981 (Assistant Dean for Student Affairs)
Michael P. Rivey, M.S., University of Iowa, 1982 (Chair)

Associate Professors
Douglas R. Allington, Pharm.D., University of South Carolina, 1988
Donna G. Beall, Pharm.D., University of Florida, 1984

Assistant Professors
Jean T. Carter, Ph.D., University of Arizona, 1997
Amanda Patel, Pharm.D., The University of Montana, 2001
Department of Biomedical and Pharmaceutical Sciences

Vernon R. Grund, Chair

The Department of Biomedical and Pharmaceutical Sciences offers a curriculum in support of the Doctor of Pharmacy (Pharm.D) degree and graduate programs in the biomedical and pharmaceutical sciences. Degree programs include the M.S. in Neuroscience, Pharmaceutical Sciences, and Toxicology; the Ph.D. in Neuroscience, Pharmacology/Pharmaceutical Sciences, and Toxicology. These programs provide education and training in pharmacology, toxicology, neurobiology, neurochemistry, medicinal chemistry, and molecular genetics. Program graduates are well prepared for careers in academia, government, and industry.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Pharmacy (PHAR)

U 195 Special Topics Variable cr. (R-16) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 324 Medicinal Plants 2-3 cr. Offered autumn. Plants and other natural substances which nourish, heal, injure, or alter the conscious mind.

UG 328 Antimicrobial Agents 3 cr. Offered spring. Prereq., BIOC 380, MICB 302. Chemical characteristics, biochemical mechanisms, and pharmacological properties of drugs used in treating infections caused by microorganisms.

UG 331 Pharmaceutics 4 cr. Offered spring. Prereq., CHEM 222, first professional year standing. Physical pharmacy and dosage forms.

UG 341 Physiological Systems I 4 cr. Offered autumn. Prereq., CHEM 222, PHYS 121N, BIOL 221. Principles of anatomy, normal and abnormal physiology.

UG 342 Physiological Systems II 4 cr. Offered spring. Prereq., PHAR 341. Continuation of 341.

UG 361 Pharmaceutical Sciences Laboratory I 1 cr. Offered autumn. Coreq., PHAR 301, 341. Laboratory experience in the pharmaceutical sciences.

UG 362 Pharmaceutical Sciences Laboratory I 1 cr. Offered spring. Prereq., PHAR 361; coreq., PHAR 331 and 342. Continuation of 361.

UG 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 397 Research 1-3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research.

UG 421 Medicinal Chemistry I 3 cr. Offered autumn. Prereq., BIOC 380. The chemistry of organic compounds used medicinally and their biochemical mechanisms of action.

UG 422 Medicinal Chemistry II 3 cr. Offered spring. Prereq., PHAR 421. Continuation of 421.


UG 432 Biopharmaceutics and Pharmacokinetics 3 cr. Offered spring. Prereq., PHAR 331 and pharmaceutical calculation proficiency requirement, or consent of instr. Drug absorption, distribution and elimination.

UG 443 Pharmacology and Toxicology 4 cr. Offered autumn. Prereq., second professional year standing. Basic principles of pharmacology, toxicology and therapeutics.

UG 444 Pharmacology and Toxicology 4 cr. Offered spring. Prereq., PHAR 443. Continuation of 443.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 497 Research 1-3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research.

UG 545 Research Laboratory Rotations 2-3 cr. (R-6) Offered autumn and spring. Prereq., PHAR 443 or graduate standing. Experience in research methods in departmental research laboratories.

UG 594 Seminar 1 cr. (R-6) Offered autumn and spring. Prereq., senior or graduate standing.

UG 595 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., senior or graduate standing.

UG 596 Independent Study Variable cr. (R-9) Offered every term.

UG 597 Research Variable cr. (R-6 for undergraduates; R-10 for graduates) Offered every term. Prereq., senior or graduate standing. Individual participation in library or laboratory research.

G 600 Thesis Variable cr. (R-10) Offered every term. Prereq., BIOC 380 or 481, or consent of instr. Same as BIOC 600. Exploration on a molecular level the regulation of structure, function, and dynamics of eukaryotic cells including membranes, cytoskeleton, transcription, translation, signal transduction, cell motility, cell proliferation,
and programmed cell death.

G 609 Biomedical Statistics 3 cr. Offered autumn.
Experimental design and statistical analysis relevant to the biomedical sciences.

G 610 Neuropharmacology 3 cr. Offered alternate years.
Prereq., PHAR 613 or 661 or consent of instr. Focus on current areas of research and research technologies in neuropharmacology. Development of presentations and research grant proposals.


G 615 Molecular Pharmacology 3 cr. Offered alternate years. Prereq., PHAR 600, 613 or consent of instr. Focus on the molecular world of receptors and their interactions with related cellular components and ultimately with binding ligands, both physiological and pharmaceutical. Major emphasis in pharmacodynamics with some time devoted to related pharmacokinetic parameters.

G 620 Cardiovascular Pharmacology and Toxicology 3 cr. Offered alternate years. Prereq., PHAR 613 or 641, or consent of instr. Recent advances in pharmacology and toxicology of the cardiovascular system. In-depth study of regulatory mechanisms and the effect of immune response and xenobiotics on cardiovascular function.

G 621 Medicinal Chemistry 3 cr. Offered alternate years. Prereq., CHEM 222; BIOC 380 or equiv. Same as CHEM 569. Introduction to the historical and contemporary discoveries in medicinal chemistry.

G 626 Research Methods in Biochemical Pharmacology 1-3 cr. (R-6) Offered summer. Prereq., consent of instr. Laboratory course intended to familiarize students with the instruments, and expertise of current research techniques in the biomedical sciences.

G 630 Pharmacogenetics 3 cr. Offered alternate years. Prereq., BIOC 380 or 481. The genetic basis of differential drug activity.

G 632 Advanced Pharmaceutics 2-3 cr. (R-6) Offered intermittently. Advanced studies of dosage formulations, biopharmaceutics, and pharmacokinetics.

G 635 Academic Development Seminar 2 cr. Offered alternate years. Prereq., admission to graduate program. Designed to improve skills in teaching, design and implementation of hypothesis testing, and grant writing with emphasis on the biological and chemical sciences.

G 641 Toxicology I–Principles of Toxicology 4 cr. Offered autumn. Prereq., BIOC 481 or equiv. Introduction to toxicology. Topics include general principles, risk assessment, organ system toxicology, introduction to carcinogenesis, and genetic toxicology.

G 642 Toxicology II–Toxic Agents 4 cr. Offered spring. Prereq., PHAR 641. Toxic agents and the diseases caused by those agents. Includes common toxics in the environment and occupational settings as well as drug induced toxicity.

G 643 Cellular and Molecular Toxicology 4 cr. Offered alternate years. Prereq., PHAR 641. Cellular and molecular mechanisms of toxicity. Includes apoptosis, regulation of cell cycle, genetic toxicology, and signal transduction pathways in toxicity.

G 644 Immunotoxicology 3 cr. Offered alternate years. Prereq., MICB 410 or equiv. The impacts of xenobiotic agents on the immune system.

G 645 Respiratory Toxicology 3 cr. Offered alternate years. Prereq., PHAR 641. The lung and associated immune systems and their response to inhaled immunogenic and toxicological agents.

G 646 Neurotoxicology 3 cr. Offered alternate years. Prereq., PHAR 641 or 661. Mechanisms of major neurotoxins and neurological disease.

G 661 Neuroscience I 4 cr. Offered autumn. Prereq., BIOC 380 or equiv. Overview of the structure and function of the nervous system.


G 667 Topics in Neurobiology 3 cr. (R-9) Offered every year. Prereq., PHAR 661. Current topics in neuroscience.

S 697 Research 1-20 cr. (R-20) Offered every term.

G 699 Dissertation Variable cr. (R-20) Offered every term.

Faculty

Professors

Richard J. Bridges, Ph.D., University of California, Davis, 1977
Carlos Duran, Ph.D., Oxford University, 1966 (Endowed Chair)
Charles L. Eyer, Ph.D., Washington State University, 1976
Vernon R. Grund, Ph.D., University of Minnesota, 1974
(Chair, Department of Pharmaceutical Sciences)
Andrij Holian, Ph.D., Montana State University, 1975
(Director, Center for Environmental Health Sciences)
Michael Kavanaugh, Ph.D., Oregon Health Sciences University–Portland, 1987
Charles M. Thompson, Ph.D., University of California, Riverside, 1982

Associate Professors

Howard D. Beall, Ph.D., University of Florida, 1991
Stephen Black, Ph.D., University of Edinburgh, Scotland, 1990
Todd G. Cochran, Ph.D., University of Washington, 1970
J. Douglas Coffin, Ph.D., State University of New York Health Sciences Center at Syracuse, 1989
Craig A. Johnston, Ph.D., Michigan State University, 1982
Diana I. Lurie, Ph.D., University of Pennsylvania, 1989
Keith K. Parker, Ph.D., University of California, San Francisco, 1977
Mark A. Pershouse, Ph.D., University of Texas-Houston, 1993
Elizabeth A. Putnam, Ph.D., University of Texas-Houston, 1989
Kevan Roberts, Ph.D., Christie Hospital in Manchester, U.K., 1984
Jerry R. Smith, Ph.D., University of Mississippi, 1977

Assistant Professors

Fernando Cardozo-Pelaez, Ph.D., University of Southern Florida, 1996
David Shepherd, Ph.D., Oregon State University, 1999

Lecturer

David S. Freeman, Ph.D., University of Washington, 1974

Research Assistant Professors

C. Sean Esslinger, Ph.D., Colorado State University, 1992
Jean Piau, Ph.D., University of Delaware, 1995
David Poulsen, Ph.D., University of Delaware, 1995
John Schumpert, M.D., M.P.H., University of California, San Diego, 1992
Physical Therapy

Steven Fehrer, Interim Chair
The professional program in physical therapy grants the Doctor of Physical Therapy (D.P.T.) degree. The following section describes the profession and the pre-professional requirements and application procedures. This information also is available on the program website at www.umt.edu/pt.

The Profession
Physical Therapy is a health care profession concerned with the habilitation and rehabilitation of individuals having limitations resulting from pathological, surgical, or traumatic conditions. The profession is also concerned with prevention of disability in an effort to promote maximal use of an individual's capacities. Physical therapists are trained to evaluate neurological, musculoskeletal, cardiovascular, respiratory, and integumentary disorders. Exercise and physical agents, such as heat, cold, light, electricity, and massage are used to promote healing, relieve pain, maintain or restore strength, and improve joint range of motion and functional capabilities. Physical therapists play key roles in: 1) the physical therapy diagnosis and treatment of musculoskeletal injuries, 2) wellness and injury prevention, 3) rehabilitating injured workers to return to their jobs, 4) rehabilitating senior citizens after debilitating disease to enable them to remain independent 5) helping handicapped children to live within the least restrictive environment, 6) preventing and treating sports related injuries, and 7) conducting research in the basic and clinical sciences. Knowledge of the psychological and social ramifications of disability affecting the individual and his or her family is an integral part of physical therapy intervention.

Physical therapy is practiced in diversified settings, including hospitals, clinics, skilled nursing facilities, sports medicine programs, public schools, and private practices. Legislation in Montana permits direct public access to physical therapists for evaluation and treatment without a physician referral. Even so, physical therapists remain committed to functioning as an integral member of the health care team.

The physical therapy educational program at The University of Montana seeks to prepare physical therapists who have a broad base of skills upon graduation, and who will be able to implement physical therapy services in many settings, especially rural environments. Rural settings require the therapist to serve as a consultant, implement physical therapy services in many settings, and be able to return the following prerequisite courses and meet the additional application requirements listed. All prerequisite courses should be taken for a traditional letter grade and must be completed with a grade of "C" (2.00) or better.

Pre-Requisite Courses and Credits

Biological Sciences: Students should note that these courses may require prerequisites, also. Four semesters to include:

- one semester of microbiology
- one semester of human anatomy
- one semester of human physiology (One year of sequential courses combining human anatomy and physiology are acceptable. Comparative vertebrate anatomy may be substituted for human anatomy.)
- one semester of advanced biology (Course must be offered by a biology, zoology, or physiology department.)

Courses in advanced physiology, cell biology, histology, genetics, or developmental biology are recommended.

Chemistry: two semesters of general chemistry with laboratory

Physics: two semesters of general physics with laboratory

Statistics: one semester of statistics

Exercise Physiology: one semester of exercise physiology. Laboratory recommended. This course is usually available on the University of Montana-Missoula campus during the summer prior to beginning of the professional program.

Social Sciences: two semester courses in the social sciences. Must include abnormal psychology or developmental psychology. Courses in sociology, psychology, anthropology are recommended.

Humanities: two semester courses required. Must include a writing course (English composition, technical writing, or a designed writing course) and a communications course.

Adult, child, and infant CPR certification is assumed. Computer literacy is assumed.

Suggested Prerequisite Courses at The University of Montana-Missoula

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 106N Elementary Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 312N-313N Anatomy/Physiology</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 460 Medical Physiology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 151N-152N, 154N General Chemistry</td>
<td>8</td>
</tr>
<tr>
<td>PHYS 121N-122N General Physics</td>
<td>10</td>
</tr>
<tr>
<td>HHP 377-378 Exercise Physiology</td>
<td>4</td>
</tr>
<tr>
<td>ENEX 101 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>2</td>
</tr>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
</tr>
</tbody>
</table>
PSYC 330S Abnormal Psychology or 240S Developmental Psychology .................. 3
MATH 241 Statistics .......................... 4
HHP 288, 289 Advanced First Aid/CPR.
Computer literacy required.

**Additional Requirements for Application**

Because the professional program is sequential, students must complete the program in the autumn semester of the first professional year.

Online application and information about admissions policies for the professional program are available from the Physical Therapy Department website www.sphs.umt.edu/pt. An application fee is required. Questions about admission should be addressed to physical.therapy@umontana.edu.

The application form is submitted online and the supporting documents for admission to the first professional year must be forwarded directly to the Chair, Student Selection Committee, Physical Therapy Department, no later than January 15, preceding the autumn semester of the year for which admission is requested.

Some preference will be given to Montana resident students. To be considered for admission, an applicant must have obtained a cumulative grade average of at least 2.75 (on a four-point scale) in all college courses for which the applicant has registered, as well as a minimum of 3.00 in the required pre-professional courses. To qualify as a resident applicant, the student must be a Montana resident on the closing date for submission of the application for admission.

In addition to these requirements, applicants must demonstrate an appreciation and knowledge of the practical duties and responsibilities of the physical therapist through direct exposure in a variety of clinical settings (a minimum of 80 hours of work or observation under the direct supervision of a physical therapist before application).

After completed applications have been received, the Selection Committee will screen the applications based on grade average in required courses, overall grade average, GRE scores, stated purpose, physical therapy experience and letters of recommendation. Based upon the results of this screening, only those applicants who appear best qualified will be invited for a personal interview.

Although an invitation to appear for interview does not assure the applicant a place in the class, the final selection will be made from those interviewed. All applicants will be notified in writing of their status.

All applicants to the program must submit GRE scores.

**Professional Physical Therapy Program**

The professional D.P.T. program is 33 months in length. Enrollment is limited to 32 students in each class.

Refer to the tuition and fee schedules for additional tuition and fees charged to students in the Professional Physical Therapy Program.

**Special Degree Requirements**

Once admitted into the Professional Physical Therapy Program, all students must achieve a 2.00 (C) grade or higher (or a CR, in credit/no credit) in all required courses in the physical therapy curriculum. Because courses in the curriculum are sequential, a student who fails to achieve a 2.00 (C) grade (or a CR, in credit/no credit courses) in any course may not be allowed to continue in the next semester of the professional program. The student must retake the course at the next offering. Students must maintain a minimum 2.50 grade average while in the professional D.P.T. program. Students who do not maintain this average will be on academic probation and must achieve the 2.50 grade average in order to graduate.

Students who fail to progress in the expected manner for two consecutive years will be dismissed from the Physical Therapy Program subject to review by the Academic Requirements Committee and the Dean of the School of Pharmacy and Allied Health Sciences. Students also must comply with all department academic and professional conduct policies as outlined in the Physical Therapy Department Student Handbook.

Because the program is academically intense, and because courses may be offered at various times during the day, evening and on weekends, employment is not recommended. All students enrolled in the program are expected to maintain a full-time academic course load (minimum of 12 semester credits) during each semester of the program.

**Professional Physical Therapy Curriculum**

**First Professional Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT 303</td>
<td>Physical Therapy and Health Care Issues</td>
<td>4</td>
</tr>
<tr>
<td>PT 510</td>
<td>Applied Anatomy and Kinesiology</td>
<td>4</td>
</tr>
<tr>
<td>PT 511</td>
<td>Applied Anatomy and Kinesiology</td>
<td>4</td>
</tr>
<tr>
<td>PT 516</td>
<td>Musculoskeletal Evaluation I</td>
<td>5</td>
</tr>
<tr>
<td>PT 519</td>
<td>Musculoskeletal Evaluation II</td>
<td>5</td>
</tr>
<tr>
<td>PT 520</td>
<td>Human Motor Development</td>
<td>3</td>
</tr>
<tr>
<td>PT 526</td>
<td>Physical Therapy Interventions I</td>
<td>4</td>
</tr>
<tr>
<td>PT 527</td>
<td>Electrotherapy</td>
<td>2</td>
</tr>
<tr>
<td>PT 528</td>
<td>Physical Therapy Interventions II</td>
<td>4</td>
</tr>
<tr>
<td>PT 529</td>
<td>Biomechanics and Exercise Interventions</td>
<td>2</td>
</tr>
<tr>
<td>PT 536</td>
<td>Neurosciences</td>
<td>5</td>
</tr>
<tr>
<td>PT 560</td>
<td>Introduction to Research</td>
<td>1</td>
</tr>
<tr>
<td>PT 582</td>
<td>Clinical Experience I</td>
<td>1</td>
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**Summer Session**

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT 587</td>
<td>Clinical Internship I</td>
<td>4</td>
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</table>

**Second Professional Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>PT 525</td>
<td>Clinical Medicine and Pharmacology</td>
<td>3</td>
</tr>
<tr>
<td>PT 561</td>
<td>Research in Physical Therapy</td>
<td>2</td>
</tr>
<tr>
<td>PT 562</td>
<td>Scholarly Project I</td>
<td>1</td>
</tr>
<tr>
<td>PT 563</td>
<td>Cardiopulmonary PT</td>
<td>3</td>
</tr>
<tr>
<td>PT 565</td>
<td>Physical Therapy for Children</td>
<td>2</td>
</tr>
<tr>
<td>PT 566</td>
<td>Advanced Anatomy Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>PT 567</td>
<td>Neurorehabilitation I</td>
<td>2</td>
</tr>
<tr>
<td>PT 569</td>
<td>Orthopedic Physical Therapy I</td>
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</tr>
<tr>
<td>PT 570</td>
<td>Psychology of Illness and Disability</td>
<td>2</td>
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<tr>
<td>PT 571</td>
<td>Scholarly Project II (M.S.P.T. only)</td>
<td>1</td>
</tr>
<tr>
<td>PT 572</td>
<td>Practice and Administration</td>
<td>2</td>
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<tr>
<td>PT 573</td>
<td>Orthopedic Physical Therapy II</td>
<td>1</td>
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<tr>
<td>PT 575</td>
<td>Physical Therapy Interventions III</td>
<td>4</td>
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<tr>
<td>PT 576</td>
<td>Synthesis of Clinical Evaluation and Intervention</td>
<td>1</td>
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<tr>
<td>PT 588</td>
<td>Clinical Internship II</td>
<td>4</td>
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<tr>
<td>PT 671</td>
<td>Scholarly Project II (D.P.T. only)</td>
<td>1</td>
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**Total** 18-19 20-21

**Summer Session**

<table>
<thead>
<tr>
<th>Course Code</th>
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<tr>
<td>PT 589</td>
<td>Clinical Internship III</td>
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<tr>
<td>PT 590</td>
<td>Clinical Internship IV (M.S. only)</td>
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**Third Professional Year (D.P.T. only)**

<table>
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<th>Course Code</th>
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<tbody>
<tr>
<td>PT 626</td>
<td>Primary Care in Physical Therapy</td>
<td>3</td>
</tr>
<tr>
<td>PT 627</td>
<td>Prevention, Wellness, and Education</td>
<td>2</td>
</tr>
<tr>
<td>PT 672</td>
<td>Research in Physical Therapy II</td>
<td>2</td>
</tr>
<tr>
<td>PT 574</td>
<td>Practice &amp; Administration II</td>
<td>4</td>
</tr>
<tr>
<td>PT 676</td>
<td>Clinical Mastery in Physical Therapy</td>
<td>4</td>
</tr>
<tr>
<td>PT 679</td>
<td>Trend in Clinical Practice (may be repeated)</td>
<td>4</td>
</tr>
<tr>
<td>PT 690</td>
<td>Clinical Internship IV</td>
<td>12</td>
</tr>
</tbody>
</table>

**Total** 17 12
Four credits of professional elective course work are required for the D.P.T. These may be satisfied by PT 679 sections or courses outside the department. Only 2 credits may be independent study.

Total credits required for graduation D.P.T. . . . . . 118

Courses

U = for undergraduate credit only. UG = for undergraduate or graduate credit. G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Physical Therapy (PT)

UG 495 Special Topics Variable cr. (R-4) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-12) Offered intermittently.

G 503 Physical Therapy and the Health Care System 4 cr. Offered autumn. Prereq., consent of instr. An introduction to physical therapy and its relationship to the health care system. Topics include introduction to the PT literature, medical terminology, medical records, communication, ethics, and professional issues in physical therapy.


G 516 Musculoskeletal Evaluation I 5 cr. Offered autumn. Principles of physical therapy musculoskeletal evaluation including pathology, patient interviews, measurement of ROM, strength, special tests.


G 520 Development Through the Life Span 3 cr. Offered spring. Prereq., PT 510, 511 and consent of instr. Process-based learning course covering human development with emphasis on motor development including pediatrics and geriatrics and a review of geriatric care programs.

G 525 Clinical Medicine and Pharmacology 3 cr. Offered autumn. Pathology, evaluation, differential diagnosis, pharmacology, management of oncological, endocrine, metabolic, GI, renal, and immunological pathology.

G 526 Physical Therapy Interventions I 4 cr. Offered autumn. Coreq., PT 516. Basic skills of transfers, bedmobility, gait assistive device use, soft tissue mobilization, and application of physical agents.

G 527 Electrophysiological Testing and Therapeutics 2 cr. Offered spring. Physiology, indications, contraindications, and application of physical agents. Theory and application of electrodiagnosis and electrotherapy procedures.

G 528 Physical Therapy Interventions II 4 cr. Offered spring. Prereq., PT 526. Continuation of PT 526. Basic principles of PNF. Application and prescription of therapeutic exercise to various patient problems and environments, including gait functional training, and aquatics. Emphasis on equipment analysis and patient education.


G 536 Neurosciences for the Health Professions 5 cr. Offered spring. Prereq., PT 510, 511 or consent of instr. Anatomy of the head and neck, and neuroanatomy of the human nervous system with emphasis on evaluation of central nervous system lesions and pathological conditions, clinical applications to physical therapy.

G 560 Introduction to Research 1 cr. Offered spring. Introduction to the research process in physical therapy including evidence based practice, faculty research tracks, and laboratories. Includes beginning literature review for special/research project.

G 561 Research Methods in Physical Therapy 2 cr. Offered autumn. Directed research with individual faculty advisor to develop proposal for research/special project.

G 563 Cardiopulmonary Physical Therapy 3 cr. Offered autumn. Prereq., second year in PT professional program or consent of instr. Cardiovascular and pulmonary pathology, pharmacology, and differential diagnosis. Physical therapy assessment and interventions for patient’s with cardiovascular and/or pulmonary disease.


G 566 Advanced Anatomy Laboratory 1 cr. Offered autumn and spring. Prereq., PT 510, 511, 536, 537. Regional dissection and study of the back, neck, upper extremity and lower extremity, including clinical correlates.


G 568 Neurorehabilitation II 2 cr. Offered spring. Neurologic physical therapy assessment and intervention of adults with traumatic brain injury or spinal cord injury.


G 570 Psychology of Illness and Disability 2 cr. Offered autumn. Prereq., second year in professional PT program. Psychological response to illness and disability to include patient motivation, patient/professional interaction, and treatment of persons with chronic pain.

G 571 Scholarly Project II 1 cr. Offered spring. Prereq., M.S.P.T. student. Research and writing on a special topic as related to physical therapy.

G 572 Practice and Administration 2 cr. Offered spring. Prereq., consent of instr. Organization and management of the physical therapy department with emphasis on the therapist’s role as administrator, supervisor and consultant.


G 575 Physical Therapy Interventions III 4 cr. Offered spring. Continuation of PT 528. Includes units in burns and wound care, prosthetics, plus the American Disabilities Act and the management of chronic disability.
G 576 Synthesis of Clinical Evaluation and Intervention 1 cr. Offered spring. Prereq., second year in PT program. Synthesis and analysis of PT evaluation and intervention through case reports.

G 577 Applied Clinical Anatomy and Kinesiology Teaching 1-2 cr. Offered autumn. Teaching experience in practical application of clinical anatomy and kinesiology.

G 578 Physical Therapy Interventions IV 4 cr. Offered spring. Coreq., PT 575. Physical therapy assessment and interventions are addressed in the areas of industrial ergonomics, women's health, advanced orthotics and activities of daily living.

G 582 Clinical Experience I 1 cr. Offered spring. Prereq., consent of instr. Clinical experience in physical therapy departments.

G 587 Clinical Internship I 4 cr. Offered summer. Prereq., PT 582. Seven weeks of full-time clinical experience with emphasis on developing patient treatment skills.

G 588 Clinical Internship II 4 cr. Offered spring. Prereq., PT 587. Five weeks of full-time clinical experience with emphasis on patient evaluation and continuation of developing patient treatment skills.

G 589 Clinical Internship III 5 cr. Offered summer. Prereq., PT 588 or consent of instr. Eight weeks of full-time clinical experience with emphasis on learning about administrative issues, problem-solving, time management, and communication skills. Continuation of development of patient treatment and evaluation skills.

G 590 Clinical Internship IV 5 cr. Offered summer. Prereq., PT 589 and M.S.P.T. student. Eight weeks of full-time clinical experience that is a continuation of PT 589 in a different setting. Emphasis is on entry level mastery of all required clinical skills.

G 594 Seminar Variable er. (R-6) Offered autumn and spring.

G 595 Special Topics Variable er. (R-4) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable er. (R-6) Offered autumn and spring.

G 626 Primary Care 3 cr. Offered autumn. Differential diagnosis of system pathology including basic verbal and physical screening, diagnostic imaging, laboratory tests and pharmacological intervention. Infectious diseases and cancer as related to physical therapy.

G 627 Prevention, Wellness, and Education 2 cr. Offered autumn. Nutrition, health promotion, patient and support network education, exercise/fitness, disease and injury prevention, life span emphasis.

G 671 Research in Physical Therapy I 2 cr. Offered spring. Prereq., D.P.T. student. Data collection for research/special project.

G 672 Research in Physical Therapy II 2 cr. Offered autumn. Data analysis, writing of research manuscript, presentation of project.

G 673 Advanced Practice and Administration II 2 cr. Offered spring.

G 676 Clinical Mastery in Physical Therapy 4 cr. Offered autumn. Learner-centered course synthesizing PT examination, evaluation, diagnosis, prognosis, intervention, outcomes, reimbursement, education, delegation, and wellness.

G 679 Trends in Clinical Practice 1-2 cr. (R-4) Offered autumn. Focus on advanced clinical topics in physical therapy.

G 690 Clinical Internship IV 12 cr. Custom-designed clinical internship of 15 weeks. Includes writing and presentation of case study or special project.

G 696 Independent Study 1-4 cr. (R-4) Offered intermittently.

Faculty

Professors
Richard Gajdosik, Ph.D., University of North Carolina at Chapel Hill, 1989; P.T., Montana
Charles Leonard, Ph.D., Medical College of Pennsylvania, 1985; P.T., Montana

Associate Professors
Carrie Gajdosik, M.S., University of North Carolina at Chapel Hill, 1986; P.T., Montana
Beth Ikeda, M.S., Massachusetts General Hospital Institute of Health Professions, 1989; P.T., Montana

Assistant Professor
Steve Fehrer, Ph.D., University of Minnesota, 1984; P.T., Montana (Interim Chair)
James Laskin, Ph.D., University of Alberta, 2001; P.T., Montana
David L. Levison, M.H.S., Indianapolis Kranert School of Physical Therapy, 1996; P.T., Montana

Health Sciences

Health science courses are concerned with fundamental issues in human health and disease and are, therefore, interdisciplinary in both scope and content. They have been designed not only for students anticipating careers in medicine, dentistry, nursing, pharmacy, medical technology, physical therapy, cytotecnology, and numerous other health care professions and services, but for all students interested in individual and community health, the clinical and paramedical arts, and the biomedical sciences. Health sciences courses are listed under two designations: 1) Health Sciences; 2) other disciplines.
Anthropology
265N Human Sexuality
267N Human Genetics
343S Culture and Population
388 Native American Health and Healing
444 Culture, Health and Healing
Health and Human Performance
184 Personal Health and Wellness
236N Nutrition
Microbiology
106N Elementary Medical Microbiology
107N Elementary Medical Microbiology Laboratory
302 Medical Microbiology
Social Work
322S Explorations in Gerontology
423 Addiction Studies
Pharmacy
110N Use and Abuse of Drugs
324 Medicinal Plants
395 Indian Health Issues
423 Drug Induced Malnutrition
Philosophy
421E Medical Ethics

Courses
U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.

Health Sciences (HS)
U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Cynthia Garthwait, Chair

Social work is a human service profession concerned with the prevention of social problems, the maintenance of satisfying social relationships and the enhancement of human development. It focuses on people and their social environment. Social workers employ a range of knowledge and skills as the basis for constructive intervention on behalf of various client populations. Our primary goal is to prepare students for beginning generalist social work practice. The Bachelor of Arts and Master of Social Work degrees are offered.

The undergraduate major in social work is available for those who wish to prepare for: (1) professional employment in the social services; (2) entry into a graduate school of social work; (3) graduate education in other helping service professions. The graduate degree in social work prepares graduates for advanced social work practice. Students can enroll in a two year full-time program or in a part-time option. See The University of Montana Graduate Catalog for a description of the Master of Social Work program. The M.S.W. program is a candidate for C.S.W.E. accreditation.

Department of Social Work

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index.

Thirty-seven credits in social work courses are required for the B.A. degree. The following courses must be successfully completed: SW 100S, 200, 300, 310, 350, 360, 400, 488, and 10 credits in SW 489.

Requirements for the B.A. degree include course work outside the Social Work Department providing content in the social and behavioral sciences, human biology, and human diversity. Required course work includes ECON 100S; PSC 100S; SOC 110S; PSYC 100S, 240S, 245; BIOL 100N; ANTH 180S or SOC 220S. No fewer than six of these eight course requirements must be completed before enrollment will be permitted in required 300-level social work courses.

To enroll in required 300- and 400-level social work courses, social work majors are required to have earned and to maintain a 2.5 grade average for all college course work. In order to insure that they have compiled with all course prerequisites, grade point average requirements and
compliance with professional social work ethics, students
must complete a formal Application to the Social Work
Major for departmental approval prior to admission to
required social work courses at the 300-level or above.

Social work majors are required to complete a two-semester
practicum placement (SW 489, Field Work Practicum, 10
credits). Refer to the SW 489 course description for
admission and completion requirements regarding this
specific course.

The Upper-division Writing Expectation must be met by
successfully completing an upper-division writing course
from the approved list in the Academic Policies and
Procedures section of this catalog. SW 310 will satisfy this
requirement.

Social work majors who wish to explore more specialized
study in such areas as aging, children, exceptional persons or
the family should consider the Human and Family
Development minor program, which is described elsewhere in
the catalog. The Department of Social Work offers a Title
IV-e Child Welfare Training Program for eligible B.A. and
M.S.W. students interested in a career in child protective
services. The Gerontology Fellows Program is available to
undergraduate students pursuing a career in gerontological or
intergenerational social work. Social work majors are
expected to conduct themselves according to the ethical
standards of the National Association of Social Workers as
well as those applicable to students of the University. Other
expectations are described in the Social Work Advising Guide
available from the department or on web page
[www.spahs.umt.edu/sw/].

Majors in social work are assigned a faculty advisor with
whom they are required to meet at least once per semester as
soon as the social work major is declared. A departmental
advising guide is available to all students at the Department
of Social Work office or on web page
[www.spahs.umt.edu/sw/]. The Master of Social Work
requirements are detailed in The University of Montana
Graduate Catalog.

### Suggested Course of Study

<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>First Year</td>
<td>MATH 107 (or higher) Contemporary Mathematics</td>
<td>3</td>
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<tr>
<td></td>
<td>PSC 100S Introduction to American Government</td>
<td>3</td>
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<td></td>
<td>PSYC 100S Introduction to Psychology</td>
<td>3</td>
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<td></td>
<td>SOC 110S Principles of Sociology</td>
<td>3</td>
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<td></td>
<td>SW 100S Introduction to Social Welfare</td>
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<td></td>
<td>General Education</td>
<td>7</td>
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<td></td>
<td>15</td>
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<tr>
<td>Second Year</td>
<td>SW 200 Introduction to Social Work Practice</td>
<td>4</td>
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<tr>
<td></td>
<td>BIOL 100N The Science of Life</td>
<td>3</td>
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<td></td>
<td>ECON 100S Introduction to Political Economics</td>
<td>3</td>
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<tr>
<td></td>
<td>PSYC 240S Child and Adolescent Development</td>
<td>3</td>
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<td></td>
<td>PSYC 245 Adult Development and Aging</td>
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<td></td>
<td>ANTH 180S Race and Minorities</td>
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<td></td>
<td>or SOC 220S Race and Ethnic Relations</td>
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<td>General Education</td>
<td>6</td>
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<td></td>
<td>15</td>
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<tr>
<td>Third Year</td>
<td>SW 300 Human Behavior and Social Environment</td>
<td>4</td>
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<td></td>
<td>SW 310 Social Welfare Policy and Services</td>
<td>3</td>
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<td></td>
<td>SW 350, 360 Social Work Intervention</td>
<td>4</td>
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<tr>
<td></td>
<td>Methods I, II</td>
<td>4</td>
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<tr>
<td></td>
<td>Electives</td>
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<td></td>
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<tr>
<td>Fourth Year</td>
<td>SW 400 Social Work Research</td>
<td>3</td>
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<tr>
<td></td>
<td>SW 488 Field Work Practicum Seminar</td>
<td>2</td>
</tr>
</tbody>
</table>

**Courses**

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undergraduate or graduate credit, G = for graduate credit. R
after the credit indicates the course may be repeated for credit
to the maximum indicated after the R.

### Social Work (S W)

**U 100S Introduction to Social Welfare** 3 cr. Offered
autumn and spring. Overview of human services, programs
and problems in meeting social welfare needs, with emphasis
on the complexity of social services and their historical
development. Analysis of the value, attitudinal, economic and
political factors that condition the provision of these services.

**U 195 Special Topics Variable** cr. (R-6) Offered
intermittently. Experimental offerings of visiting professors,
experimental offerings of new courses, or one-time offerings
of current topics.

**U 198 Cooperative Education Experience Variable** cr.
(R-3) Offered autumn and spring. Prereq., consent of
department. Application of classroom learning in off campus
placements. Prior approval must be obtained from the faculty
supervisor and the Internship Services office.

**U 200 Introduction to Social Work Practice** 4 cr.
Offered autumn and spring. Prereq., SW 100S, sophomore
standing. Introduction to social work as a profession,
eincluding an examination of goals, guiding philosophy and
basic assumptions. Emphasis on a generalist framework of
social work practice and the development of beginning
analytical and practice skills.

**U 295 Special Topics Variable** cr. (R-6) Offered
intermittently. Experimental offerings of visiting professors,
experimental offerings of new courses, or one-time offerings
of current topics.

**UG 300 Human Behavior and Social Environment** 4 cr.
Offered autumn and spring. Prereq., SW 200. Prereq. or
coreq., Psyc 240S, junior standing. Using the
ecological-social systems framework, the integration of
knowledge and concepts from the social and behavioral
sciences for analysis and assessment of problems and issues
relevant to professional social work practice.

**UG 310 Social Welfare Policy and Services** 3 cr. Offered
autumn and spring. Prereq., SW 200. Social welfare history,
program planning and analysis with review of selected
policies on the national level. Includes international
comparisons. Upper-division writing course.

**U 323 Women and Social Action in the Americas** 3 cr.
Offered autumn odd-numbered years. Prereq., one of SW
100S, SOC 110S, or ANTH 101H or consent of instr. Same
as WS 323. Focus on women’s experiences of and
contributions to social change in North, South and Central
America in the mid- to late-20th century. Through case
studies, testimonials, discussions with activists and Internet
connections examine social constructions of gender, compare
forms of social action in diverse cultural, political and
historical contexts, link practice to theories of social
participation, and reflect on lessons learned from women’s
experiences.

**U 324 Gender and the Politics of Welfare** 3 cr. Offered
autumn even-numbered years. Prereq., SW 100S or consent
of instr. Same as WS 324. Exploration of the relationship
between gender ideologies and the development of social
welfare policies. Examination of historic and contemporary
social welfare policies, practices and debates in the United
States through a gender lens.
UG 350 Social Work Intervention Methods I 4 cr. Offered autumn and spring. Prereq., SW 200; coreq., SW 300. The study and application of the generalist model of social work practice and related techniques and procedures for the assessment, intervention and prevention of problems in social functioning of individuals, families, small groups and communities.


UG 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

UG 398 Cooperative Education Experience Variable cr. (R-3) Offered autumn and spring. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. The department will determine the number of credits to be earned for the experience based upon the activities outlined in the learning agreement. Prior approval must be obtained from the faculty supervisor and the Center for Work-Based Learning. The department has determined that a maximum of 3 credits can be applied to the departmental major.

UG 400 Social Work Research 3 cr. Offered autumn and spring. Prereq., SW 360. Utilization of social research findings in social work practice. Techniques for the collection and analysis of clinical data. Special emphasis on research methodology for the assessment of practitioner and program effectiveness.

UG 410E Ethics and the Helping Professions 3 cr. Offered spring. Prereq., completion of twelve credits in social work or a related discipline. Analysis of specific ethical dilemmas from personal, professional and policy perspectives. Focus on ethical issues common to the helping professions and utilizing codes of ethics as guides to decision-making. The relationship between professional ethical issues and the development of social policy.

UG 420S Child Abuse and Child Welfare 4 cr. Offered autumn. Prereq., junior standing or consent of instr. Signs and symptoms of physical and sexual abuse and neglect, family dynamics in abuse and neglect, the legal context, programs of prevention and intervention, foster care, special needs adoptions and related issues in child welfare.

UG 422 Services to Changing Families 3 cr. Offered intermittently. Prereq., upper-division or graduate standing. Examination of current family forms and practices in the United States with attention to single-parent, step-parent, and two-parent working families. Family dynamics, community services, and therapy models discussed. Social services and support programs discussed.

UG 423 Addiction Studies 3 cr. Offered spring. Same as PSYC and SOC 423. Examination of chemical dependency and behavioral compulsions, including alcohol and other drugs, gambling, eating disorders, sexual addictions. Ecosystems perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors.


UG 450 Children and Youth at Risk 3 cr. Offered autumn or spring. Focus on the aspects of society that pose a threat to today's youth and the ramifications of those threats on youth development and behavior. Resilience and protective factors for youth at risk and strategies to work with those youth. Attention to related systems in Missoula and Montana, including juvenile justice, mental health, child protection, substance abuse, and education.

UG 455 Social Gerontology 3 cr. Offered autumn. Examination of the field of social gerontology, including an examination of the major bio/psycho/social/cultural/spiritual theories of aging, the service system, social and health issues, family and care giving dynamics, social policy, and end of life concerns. Student engage in a service learning community project which is integrated into the classroom through initial training, regular reflection, and other activities.

UG 460 Domestic Violence 3 cr. Offered intermittently. Examination of domestic violence in relation to its societal context, with attention to sex role socialization, interpersonal dynamics, and family consequences. Emphasis on etiology, treatment, intervention and prevention.

U 488 Field Work Practicum Seminar 2 cr. Offered every term. Coreq., SW 489. Consideration and discussion of practicum-related matters, professional development, and issues confronting the profession. Generally taken during first semester of practicum.

UG 489 Field Work Practicum Variable cr. (R-10) Offered every term. Prereq., SW 360 and approved application to practicum coordinator. Practicum must be taken over two consecutive semesters for a total of 10 credits. Minimum of one credit per semester. Cumulative grade point average of 2.75 or above in SW 100S, 200, 300, 350 and 360 and a 3.0 grade average for SW 200, 350 and 360 are required. Supervised field work in public and private agencies and institutions. During one semester of practicum, students must enroll in SW 488. Successful completion of the field work practicum requires a passing performance on the departmentally administered professional social work competency examination.

U 493 Omnibus Variable cr. (R-10) Offered intermittently. Prereq., 10 credits in social work. Independent work under the University omnibus option. See index.

UG 494 Seminar Variable cr. (R-9) Offered intermittently. Prereq., 9 credits in social work.

UG 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr.

G 500 Orientation 1 cr. Prereq., admission to M.S.W. program. Seminar introducing M.S.W. students to program philosophy and social work's theory and value base.

G 505 Foundations of Social Work Practice 2 cr. Prereq., admission to M.S.W. program. Introductory practice course that examines generalist social work practice, dominant theoretical influences, and forces shaping social work over time.

G 510 Human Behavior and Social Environment I 3 cr. Prereq., admission to M.S.W. program. Introduction to and critical consideration of social work perspectives on human behavior as influenced by the social environment. Particular attention is paid to biological, psychological, social, cultural and spiritual influences.

G 511 Human Behavior and Social Environment II: Difference, Diversity and Oppression 3 cr. Prereq., admission to M.S.W. program and SW 510 or consent of instr. Advanced course on human behavior and social environment that addresses difference and diversity, histories
and mechanisms of discrimination and oppression, and frameworks for thought and practice that recognize diversity
and promote social justice.

G 515 Practice with Individuals and Families in a
Community Context 4 cr. Prereq., admission to M.S.W.
program or consent of instr. Practice-oriented course
building on students' developing knowledge of engagement,
assessment, intervention and evaluation and the application
to practice with individuals and families in context of
community.

G 520 Social Work Research Methods 3 cr. Prereq.,
admission to M.S.W. program or consent of instr.
Introduction to principles, methodologies, technologies, and
statistical approaches of human service research. Emphasis
on beginning capabilities in evaluation of social work practice
and skill development regarding use of published research.

G 521 Advanced Research and Program Evaluation 3 cr.
Prereq., SW 515. The use of research within the integrated
practice model of social work through evaluation of practice
and program evaluation. Advanced statistical concepts are
applied to direct practice and five types of program
evaluation.

G 525 Practice with Groups and Communities 4 cr.
Prereq., admission to M.S.W. program or consent of instr.
Practice-oriented course addressing theories, frameworks,
principles, and skills of group and community work.
Dynamics of group work and examination of modalities such
as mutual aid and social action groups.

G 530 History of Social Policy, Justice and Change 3 cr.
Prereq., admission to M.S.W. program or consent of instr.
Foundation in social welfare policy and services; examination
of relationship between history social welfare policy and
emergence of social work profession. Introduction to
frameworks for policy analysis.

G 531 Methods of Social Policy Analysis 3 cr. Prereq.,
SW 530. Focus on the analysis of existing or proposed
policies specific to oppressed populations, rural areas and
isolated communities.

G 535 Advanced Integrated Practice 4 cr. Prereq.,
consent of instr. Builds on the skills, knowledge, and values
of the foundational generalist and practice courses.

G 545 Practice of Organizational Leadership 4 cr.
Prereq., consent of instr. Advanced training in professional
leadership and how to effectively conceive, plan, design,
implement, manage, assess, and change contemporary
organizations.

G 576 Foundation Integrative Seminar I 1 cr. Prereq.,
admission to M.S.W. program, SW 505, 587; coreq., SW
589. Seminar accompanying first semester foundation
practicum in which students discuss experience with goal of
integrating theory and practice.

G 577 Foundation Integrative Seminar II 1 cr. Prereq.,
admission to M.S.W. program, SW 505, 587; coreq., SW
589. Seminar accompanying second semester foundation
practicum in which students discuss experience with goal of
integrating theory and practice.

G 578 Advanced Integrative Seminar I 1 cr. Prereq.,
SW 586; coreq., SW 588. Critical analysis of how
predominant social work theories and professional values and
skills are being incorporated into the practicum.

G 579 Advanced Integrative Seminar II 1 cr. Prereq.,
SW 578; coreq., SW 589. Critical analysis of how
predominant social work theories and professional values and
skills are being incorporated into the practicum. Advanced
portrait development.

G 586 Foundation Practicum I 2 cr. Prereq., admission
to M.S.W. program; coreq., SW 586. First semester
foundation field practicum experience in a supervised setting
designed to provide opportunities to integrate classroom
learning and field experiences.

G 587 Foundation Practicum II 2 cr. Prereq., admission
to M.S.W. program, SW 505, 587; coreq., SW 588. Second
semester foundation field practicum experience in a
supervised setting designed to provide opportunities to
integrate classroom learning and field experiences.

G 588 Concentration Practicum I 2 cr. Prereq., SW 587,
589; coreq., SW 578. Advanced supervised field work in
public and private agencies and institutions.

G 589 Concentration Practicum II 2 cr. Prereq., SW
588; coreq., SW 579. Advanced supervised field work in
public and private agencies and institutions.

G 593 Professional Portfolio 1 cr. (R-2) Prereq.,
foundation courses. Summative and in-depth written analysis
of course work and practicum experience.

G 594 Graduate Seminar 3 cr. (R-9) Offered autumn or
spring. Prereq., admission to M.S.W. program or consent of
instr. In-depth analysis of a current social work issue.

G 595 Special Topics Variable cr. (R-9) Offered autumn
and spring. Prereq., admission to M.S.W. program or
consent of instr. Experimental offerings of visiting
professors, experimental offerings of new courses, or one-
time offerings of current topics.

G 596 Independent Study Variable cr. (R-9) Offered
autumn or spring. Prereq., admission to M.S.W. program or
consent of instr. Work on selected problems by individual
students under direct faculty supervision.

G 597 Research Variable cr. (R-9) Offered autumn or
spring. Prereq., admission to M.S.W. program or consent of
instr. Directed individual graduate research and study
appropriate to background and objectives of the student.

Faculty

Professors
Cynthia Garthwait, M.S.S.W., University of Wisconsin,
Madison, 1974 (Chair)
John Spores, Ph.D., University of Michigan, 1976

Associate Professor
Janet Finn, Ph.D., University of Michigan, 1995
Maxine Jacobson, Ph.D., University of Utah, 1997
Ryan Tolleson Knee, Ph.D., University of Denver, 1999
David Schantz, Ph.D., University of Washington, 1996

Assistant Professor
Timothy Conley, Ph.D., Boston College, 2001

Adjunct Assistant Professors
Doreen Antenor, J.D., The University of Montana, 1996
Tondy Baumgartner, M.S.W., Walla Walla College, 1998
Michaela Conway, M.S.W., San Diego State University,
1978

Kerrie Ghenie, M.S.W., Walla Walla College, 2000
Diane Haddon, M.S.W., Michigan State University, 1977
Tamara Tolleson Knee, M.S.W., University of Denver,
1994

Michael Perry, M.S.W., Eastern Washington University,
1991

Julie Turunen, M.S.W., Walla Walla College, 1999
Jennifer Walrod, M.P.A., The University of Montana,
2002

Charlie Wellenstein, M.S.W., Eastern Washington
University, 1991
Emeritus Professors
Mary Birch, M.S.W., Columbia University, 1966
Frank Clark, Ph.D., University of Oregon, 1969
Robert Deaton, Ed.D., University of Nevada, Reno, 1980
Charles Horejsi, Ph.D., University of Denver, 1971
University College
University College

Melanie Hoell, Director

The University College is the academic home for exploratory students. It also provides academic advising for freshmen business administration, pre-psychology, pre-communication studies, and pre-elementary education students. University college activities include early assessment of entering students' academic difficulty, placement of under prepared students in appropriate developmental courses, and creation of special sections of established courses and of new courses to meet the needs of entering students.

Four Bear Four-Year Graduation Plan

The aim of the Four Bear Four-Year graduation Plan is to facilitate, through commitments made by the participating student and the University of Montana-Missoula, the student's goal of graduating from the University in four years. (Pharmacy is an exclusion to the four year plan. The students in this program are given five or six years to complete their degree.) The plan is intended for first-time UM freshmen, including freshmen with Advanced Placement or High School Pilot Program credits, but excluding freshmen admitted on provisional, part-time status and transfer students.

Four Bear gives the student registration priority beginning his or her first registration after signing the Four Bear contract and will pay incidental and mandatory fees past the planned graduation time provided the student has met all contract conditions and followed an advisor-approved four year graduation plan. If a student is not meeting the conditions as set forth in the Four Bear contract, he or she will be dropped from the program, but no other penalties are incurred.

Many departmental sections in the catalog include a suggested four-year course of study for students to follow in order to graduate in four years. These are suggested course plans. Four Bear students must meet with their advisor in order to customize their plan to fit individual circumstances and academic goals.

For more information and to sign up for the program, contact the Four Bear Coordinator, Lommasson Center 269.

Courses

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University College (UNC)

U 101 Freshman Seminar I 2cr. Offered autumn. Introduction to academic life: readings in current social and ethical topics, extensive practice in listening and composition skills, applied research skills, individual and group presentations, and individual academic advising. Course is anchored by a mandatory lecture series.

U 102 Freshman Seminar II 2cr. Offered spring. Development of writing and speaking skills, time management, goal setting, values clarification and other college survival issues. Intended for at-risk students who exhibit high academic potential.

U 170 Orientation to the U.S. 2 cr. Offered autumn. Examination of American cultural and societal trends from a cross-cultural perspective to help new and continuing foreign students adjust to life in the United States and to offer U.S. students an opportunity to examine their own culture from the perspective of members of other cultures.

U 180 Freshman Interest Group Seminar 1 cr. Offered autumn. Coreq., enrollment in a Freshman Interest Group. Discussion section for Freshman Interest Group in which the theme of the FIG is articulated in interdisciplinary terms as well as terms related to the separate courses that make up the FIG.

U 194 Seminar Variable cr. (R-6) Offered autumn.

U 195 Special topics 1-6 cr. (R-6) Offered autumn and spring. Restricted to freshmen. Topics variable. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196 Independent Study 1-2 cr. (R-2) Offered intermittently.

U 198 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of director. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 230 Explorations in American Culture 2 cr. Offered spring. U.S. and foreign students read fictional accounts of cultural adaptation. Some accounts written from the perspective of foreigners to give foreign students comparisons with their own acculturation process and provide a contrastive world-view for American students. Intended to give an understanding of the complexity and richness of cross-cultural ambiguity, dissonance, and convergence.

U 270 Critical Writing II 2 cr. Offered autumn. Planning and composition of written documents for academic and professional purposes; writing thesis statements, developing supporting arguments, crafting cohesive paragraphs, and choosing appropriate language.

U 295 Special topics 1-6 cr. (R-6) Offered autumn and spring. Restricted to freshmen. Topics variable. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 298 Cooperative Education Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of director. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 380 FIG Leader Training Seminar 2 cr. Offered autumn and spring. Prereq., consent of director of FIG program. Training seminar for discussion leaders in the Freshman Interest Group program.

U 398 Cooperative Education Experience Variable cr. (R-12) Offered every term. Prereq., consent of instr. Extended classroom experience that provides practical application of learning during placement off-campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

U 495 Special topics 1-6 cr. (R-6) Offered every term. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 496 Independent Study 1-6 cr. (R-6) Offered intermittently. Prereq., consent of instr.

U 498 Cooperative Education Experience Variable cr. (R-12) Offered every term. Prereq., consent of instr.
Extended classroom experience that provides practical application of learning during placement off-campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.
Affiliated University of Montana Campuses
The University of Montana - Western

The unique mission of The University of Montana - Western emphasizes experiential learning that combines theory and practice through projects and field experiences. Western embraces as its mission the privilege and obligations to capitalize on its beautiful but isolated landscape in southwest Montana. This mission infuses the University's curriculum: in its century-long tradition for excellence in professional programs in teacher education, business and technology; in its emerging strength in the interdisciplinary arts and sciences; and in its two year associate degree programs responding to regional needs.

Western offers the Bachelor of Science degree in elementary or secondary education with options in traditional subject areas. A new B.S. in Business with options in Business Administration, computer technology, and tourism will be available beginning Fall semester 2002. In addition, Western offers Bachelor of Arts (BA) and Bachelor of Applied Science (BAS) degrees. BA students have options in the Arts; Visual Arts; Environmental Sciences; Literature and Writing; Professional Health and Social Science. BAS students may use an Associate of Applied Science (AAS) degree as a base for the BAS degree with most of the credits from the two-year degree transferring into the BAS. Western grants Associate of Arts and Associate of Sciences degrees for those who want to obtain their general education before transferring to another campus, and also offers a variety of Associate of Applied Science degrees for those needing entry-level job skills.

Individualized education has been a campus hallmark for over 100 years. An average of 1200 students enroll at Western each fall. Class sizes are kept small (average class size is 20 students). The faculty is nationally recognized for its excellence, creativity, and genuine concern for maintaining the high quality academic and personal experience that is a tradition at Western.

In addition to fulfilling academic life, UM-Western offers National Association of Intercollegiate Athletics Frontier Conference sports in football, volleyball, men's and women's basketball and golf, and men's and women's National Intercollegiate Rodeo Association teams. A varied sports program is also available for students seeking intramural activities. Western's geographic location makes an ideal setting for individuals who enjoy the rugged outdoors. Yellowstone, Grand Teton, and Glacier national parks are nearby for those interested in viewing natural wonders and wildlife.

Although it has a small town atmosphere, Dillon offers all the amenities of a much larger community. Ranching, mining and tourism are the chief industries of the area. Western's picturesque 34 acre campus and friendly atmosphere blend with the community and area. For more information about The University of Montana - Western, call 800-962-6668 and request the admissions office.

The University of Montana-Helena College of Technology

The University of Montana - Helena College of Technology of The University of Montana offers two-year programs in business, trades, technical and health occupations designed to meet the state's business and industry needs for technologically-skilled workers. All of the curricula are industry-approved and emphasize learning in a hands-on environment. In addition, the college offers an Associate of Science degree and Associate of Arts degree designed to transfer to four-year institutions. The college, founded in 1939, is fully accredited by the Northwest Association of Schools and Colleges, the Montana State Board of Nursing, the Federal Aviation Administration, and the National Institute for Automotive Service Excellence.

Helena's students take a full compliment of courses in mathematics, communication, computer literacy, and career development. With the restructuring of the university system, the Helena College of Technology also serves as a Higher Education Center, providing graduate-level study to the Helena area through distance education. Located in Montana's beautiful capitolo city, the College offers its programs in modern classrooms, shops, and labs, both near the Capitol building and at the Helena airport. For more information, call 1-800-241-4882.

Montana Tech of The University of Montana

Founded in Butte in 1889 as the Montana School of Mines, Montana Tech has a century-old reputation as one of the finest science and engineering colleges in America. Montana Tech is repeatedly recognized year after year among the top 10% of all colleges in America. While still focusing on its original programs in minerals and energy engineering, Montana Tech has expanded its offerings to include new science, engineering, computer science, technical communication, business, and innovative health care programs all designed to meet the needs of today's rapidly changing world.

Montana Tech provides outstanding educational programs to its 2,200 students in a truly personalized setting. Students are treated as individuals and enjoy their close relationships with faculty. Current Montana Tech students come from every Montana county, 34 states and 17 foreign countries. Montana Tech is a friendly campus where students get involved in a wide array of campus events and activities as well as abundant outdoor recreational opportunities. Student satisfaction surveys consistently give the College high marks for its quality of student life.

Upon graduation, Montana Tech graduates enjoy over a 95% average placement rate at outstanding starting salaries. Many of the College's alumni have attained senior leadership positions in the minerals, energy, and natural resource industry and business. Over 35% of Montana Tech alumni give back to the campus each and every year.

Located in the heart of the mountains of Southwest Montana, the 58-acre main campus can be seen for miles. With over $20 million in recently completed building and renovation projects, the campus blends its historical buildings with new, state-of-the-art laboratory and instructional facilities. The College's two-year campus is located seven miles south of the main campus and provides occupational and technical program opportunities at the associate degree level.

Montana's geologic and hydrogeologic research arm, the Bureau of Mines and Geology, is a department of the College. Montana Tech's commitment to research has been rewarded with a 500 percent increase in funding over the past ten years. Inquiries to Montana Tech should be directed to 1-800-445-Tech or admissions@mttech.edu or see Tech's webpage at www.mttech.edu.
Expenses, Services, Organizations
Expenses

Fees

General

The student expense information provided in this catalog is based upon the estimated rates for the 2004-05 academic year. More current information may be obtained by contacting Business Services, Lommasson Center, The University of Montana-Missoula, Missoula, Montana 59812. (Phone 406-243-2223). The Board of Regents reserves the right to adjust fees at any time.

Students are encouraged to have funds on deposit in a Missoula bank for fees, board, room and other necessary expenses and be able to write a check for the exact amount during registration periods. Foreign and Canadian checks are not accepted. Canadian money is discounted. Credit card payment is accepted using Business Services, Lommasson Center, The University of Montana-Missoula, Missoula, Montana 59812. (Phone 406-243-2223). The Board of Regents reserves the right to adjust fees at any time.

Students enrolled for 6 credits or fewer have the option of paying an additional amount to cover the ASUM activity fee, campus recreation fee, health service, and athletic fee.

Permission is required by the undergraduate student's faculty advisor to register for more than 21 credits.

Fee Schedule Explanation

Activity Fee

The activity fee is applied to the Associated Students of The University of Montana-Missoula, ASUM. It entitles students to use ASUM services (legal services, day care, tutoring services, etc.), provides support to ASUM activities, allows students to vote in elections and receive reduced rates to programming events.

Athletic Fee

This fee is used to help the Athletic Department maintain Division I status, and help bring them into compliance with gender equity laws. This fee entitles students to attend most UM-Missoula athletic events.

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### Main Campus Estimated Student Fee Schedule 2004-2005 Semesters Undergraduate Lower Division *Fees May Change*

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<th>Course Credit</th>
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<th>Comput/ Tech/ Fee</th>
<th>Equip FEE</th>
<th>Ath Activity Fee**</th>
<th>Camp Rec</th>
<th>Health Fee /*</th>
<th>Kaimin/ Recyc Fees**</th>
<th>Acad Fac Fee</th>
<th>UC OP Fee</th>
<th>UC Ren. Fee</th>
<th>Radio/ Trans Fees**</th>
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### Building and Nonresident Building Fees
These fees are applied to the long term debt and used for the acquisition and renovation of buildings.

### Campus Recreation Fee
This fee supports the services and programs of the Campus Recreation Department. It allows students to use the facilities at no charge, the Grizzly Pool at no charge at certain times, and to participate in recreation sports.

### Computer Fees
Fee is used for the purchase or lease of computer equipment, software, maintenance, or related items which will benefit the instructional program.

### Medical Insurance Fee
The University of Montana-Missoula requires all students to have and to maintain major medical insurance. Before you can register for classes, you must be enrolled in the student medical insurance program.

### Insurance
If you elect the insurance and fail to register for at least 1 credit before the 15th class day, your election will be voided and you will not have insurance coverage. More information on the student insurance program is available at [www.umt.edu/chc](http://www.umt.edu/chc), then select "Student Insurance".

### Radio and Transportation Fee
Students enrolled for 7 credits or more are assessed these fees. Radio Fee is used to support the student radio station. Transportation Fee is used to address transportation issues.

### Registration Fee
Fee is non-refundable and applied to instructional costs.

### Tuition Resident and Nonresident Fees
These fees are applied to instructional costs.

### University Center Fees
The University Center operation fee is applied to the operation of the University Center. The University Center renovation fee is applied to renovation of the University Center.

### Kaimin and Recycling Fees
The $2.00 Kaimin fee supports the student newspaper and the $2.00 Recycling fee supports the recycling program.

### Academic Facilities and Technology Fee
The Academic Fee was approved by students for the repayment of bonds. The proceeds from the bonds will be used to remodel classrooms and laboratories. The Technology Fee is used to support the technology infrastructure for Academic and Administrative Systems.

### Other Course Fees
The Board of Regents may approve additional fees at any time. Fees frequently are assessed for selected courses in subjects such as: Accounting Technology, Art, Biology, Biochemistry, Building Maintenance Engineering, Business, Chemistry, Computer Technology, Culinary Arts, Curriculum and Instruction, Dance, Diesel Equipment Technology, Drama, Educational Leadership, Electronics Technology, Forestry, Geology, Health and Human Performance, Heavy Equipment Technology, and other major educational programs, including library and other related capital acquisitions.

### College of Technology Estimated Student Fee Schedule 2004-2005 Semesters

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<th>Course Credit</th>
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* Students enrolled for 6 credits or less have the option of paying additional amounts to cover Activity, Clinical Services provided by Curry Health Center.
** At 12 credits Technology Fee $35; Computer Fee $36.60; Activity Fee $30; Kaimin Fee $2; Recycling Fee $2; Radio Fee $5; Transportation Fee $3.
Operation, Journalism, Legal Studies, Mathematics, Metals Processes, Microbiology, Military Science, Music, Nursing, Pharmacy, Physical Therapy, Resource Conservation, Respiratory Therapy, Science, Secretarial Technology, Small Engines, Surgical Technology, Truck, Welding, and Wildlife Biology. This listing may not be all-inclusive and does not preclude a specific fee from being assessed. Special fees are assessed for extended field trips in various departments. An Educational Service Fee is charged for the off-campus B.A. and M.P.A. programs.

Audited courses are assessed the same fees as courses taken for credit. A fee is charged for cooperative education internships. Purchase of supplies, equipment, or tools may be required by certain programs.

**Law School Fees**

The proposed 2004-2005 School of Law fees for 12 credits are approximately $2468 for autumn and $2448 for spring for an in-state student and $6850 for autumn and $6830 for spring for an out-of-state student. The Health Service fee is included. Health Insurance coverage is available to students for an additional charge.

**Law Special Fees**

All persons who apply for admission to the School of Law must pay an acceptance fee of $300.00 ($150.00 is refundable if written notice is received by the due date if student does not want to attend) which is applied toward payment of fees upon entering and attending the School of Law in the semester for which application was made.

In addition to the above fees, Law School students must pay an additional $1888.00 per semester (if they are enrolled in 15 or more credits) or $126.00 per credit if they are enrolled in less than 15 credits per semester. The amount is applied to instructional costs.

All law students are assessed a $26.00 law activity fee for autumn and a $6.00 law activity fee for spring.

**Summer Programs and Continuing Education**

Fees, room and board costs for Summer Programs and fees for registration in Continuing Education are contained in separate publications. These publications can be obtained by contacting the Center for Continuing Education and Summer Programs, The University of Montana-Missoula, Missoula, MT 59812.

**Refund for Withdrawal from the University**

The withdrawal process (dropping all classes) begins at Griz Central located in the Lommasson Center. The date used in determining the amount credited to the student’s account is the official withdrawal date as recorded by the University Registrar. No fees are credited after the fifteenth class day of the semester.

Students using the continuous deferred payment plan will have their withdrawal credit applied to their student account, but may still owe some or all of the deferred balance. All existing debts such as a deferred payment plan balance, library charges, health service charges, etc., may be deducted from any refund due the student. For further information, contact Business Services.

Financial aid funds may be returned to the funding source for students who have received aid the semester they withdraw. Consult the Enrollment Services-Financial Aid Office for more information.

Fees paid for room and board charges are refunded on a pro-rata basis. During the final two weeks of the term, room fees will be forfeited.

Medical withdrawals are granted for significant medical problems. Refunds for medical withdrawals initiated after the third week of classes are reviewed only if a significant medical problem originated in the first three weeks. This must be documented by a medical provider. This cannot conflict with Financial Aid guidelines.

**Other Registration Costs and Policies**

**Late Registration**

A student who does not complete registration, including payment of fees or finalize via cyberbear.umt.edu, during the scheduled registration period (see current Schedule of Classes) is assessed a late registration fee of $40.00. After the fifteenth class day, a petition is required to register and, if approved, an additional $80.00 may be assessed.

**Dishonored Checks**

A charge of $15.00 will be assessed on checks (paper or electronic) returned from the bank. Any check tendered in payment of registration fees and not honored by the bank upon which it is drawn may result in cancellation of a student’s registration. The student will be assessed the late registration fee of $80.00 maximum in addition to the $15.00 service charge.

**Fee Policy on Drop/Adds**

Students must pay for all courses for which they are enrolled at registration. However, within the first fifteen class days, they may drop or add courses. The courses for which students are enrolled on the fifteenth class day will determine any fee adjustments (see fee schedule) or financial aid adjustments. Beginning the sixteenth class day, courses dropped will not result in a reduction of fees but courses added will increase credit hour enrollment and may result in additional charge. Financial aid adjustments are not made for any activity after the fifteenth day of classes.

**Drop/Add Processing Fee**

A $10.00 processing fee will be charged for each course that is added after the fifteenth class day or dropped after the twenty-fifth class day. See the summer class schedule for summer session deadlines.

**Refund for Withdrawal from the University Previously Enrolled Students**

(First-time students may contact Business Services for a refund schedule)

<table>
<thead>
<tr>
<th></th>
<th>Before Classes</th>
<th>1st Week</th>
<th>2nd Week</th>
<th>3rd Week</th>
<th>4th Week or Later</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Tuition/Fees</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Radio/Trans Fee</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Activity Fee</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Athletic Fee</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Klaimi/Recycling</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Campus Rec.</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Health Services #</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Blue Cross Ins. #</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>none</td>
</tr>
<tr>
<td>Other Fees</td>
<td>varies</td>
<td>varies</td>
<td>varies</td>
<td>varies</td>
<td>varies</td>
</tr>
</tbody>
</table>

#Providing student is not withdrawing for medical reasons.
Continuous Deferred Fee Payment Plan

The Board of Regents of Higher Education have authorized a continuous deferred fee payment plan which provides for the payment of at least one third of the total fees along with a $30.00 administrative charge at the time of registration, payment of one third approximately 30 days after registration and payment of the full balance approximately 60 days after registration. Registration, Incidental, Health Service, Activity, Kaimin, Recycling, Academic Facilities, Computer, Equipment, Athletic, Campus Recreation, Radio, University Center and Building Fees, and Residence Halls and Dining Service charges less any Financial Aid may be deferred. The signing and adherence to the terms and conditions of a promissory note will be required and no fees may be deferred by any person who owes the University any fees, fines, loans or other charges or who has previously deferred fees and failed to make timely payments. A $15.00 fee will be assessed each time a payment is late. This plan is not available for the summer session.

Monthly Bill Statements

Students will be sent statements or electronic notices on a monthly basis. It is the student's responsibility to keep their mailing address current. Payment for billed amounts are due by the due date showing on the statement or included in the electronic message. Failure to make timely payments will result in an interest charge assessed on balances not paid in full by the following monthly billing.

Non Payment

No person who owes the University any fees, fines or other charges will be permitted to (1) receive academic credit or grades; (2) receive a transcript, diploma or record; or, (4) access any University facilities or services, regardless of the relationship thereof to the amount owed, until the full amount due has been paid or satisfactorily adjusted with Business Services. Interest may be charged at the rate of 10% on the balance due from the day after the due date until the full amount has been paid and any attorney's fees or other costs or charges necessary for the collection of the amount owed may be added to the balance due. The University shall have the right to apply any portion of any amount it may owe such individual for any reason, including wages, to payment of the balance owed to the University.

Determination of In-State Fee Status

The Montana University System classifies all students as either in-state or out-of-state. This classification affects admission decisions and fee determinations. The basic rules for making the classification are found in Board of Regents' Policy. It is each student's responsibility to secure and review a copy of the policy. Failure to be aware of the rules will not be cause for granting any exceptions to them. A copy of the policy is available from the Admissions Office or the Registrar's Office. It is important to bear in mind that each residency determination is based on the unique set of facts found in each individual's case. Students participating in the Western Undergraduate Exchange or the National Student Exchange programs are not eligible to gain residency. If you have questions concerning your particular case, be sure to contact the unit to which you are applying for admission or at which you are already enrolled. Generally, the Admissions Office or the Registrar's Office will be able to assist you.

With certain exceptions, in order to be eligible for in-state status, a person must meet a 12-month durational residency test. You will have to demonstrate a bona fide intent to become a Montana resident. The 12-month period does not start until some act indicative of an intent to establish residency is taken. Mere presence in Montana or enrollment at a unit will not serve to start this period. Sufficient acts to start the period are registration to vote, obtaining a Montana driver's license, registration of a motor vehicle in Montana, purchase of a home in Montana or filing of a resident Montana tax return. The 12-months must be completed by the 15th instructional day to qualify for that term.

Your actions during the 12 month waiting period will be used to determine whether you are in the state as a bona fide resident or merely for educational purposes. The decision on your residency will not generally depend on just one factor. The following are the things you need to do that will support a claim of bona fide residency.

A. Register to vote if you are a voter
B. License a vehicle if you operate one in Montana
C. Obtain a driver's license if you drive
D. Be physically present in Montana, not out of state, for 12 months or more
E. Not be claimed as a tax exemption by residents of another state
F. Provide at least 51% of your own financial support (this means you will need to document to us that you have contributed approximately $6000 towards your support during the twelve month waiting period)
G. File a Montana resident income tax return (this is important for all who claim residency in Montana, regardless of the amount of earnings)
H. Only register for six (6) credits or less per semester (including summer school) during the twelve month waiting period. Registering for more than 6 credits creates a strong presumption that you are here for education purposes, and may disqualify you from achieving in-state status.
I. Be certain to secure the Board of Regents residency Policy and questionnaire from the Registrar's Office in the Lommasson Center 201 or at the Registration Counter in Griz Central
J. At the end of your twelve month waiting period you must complete the residency questionnaire and attach copies of your driver's license, vehicle registration, voter's registration and your earnings for the twelve months and return it to the Registrar's Office for review. This documentation can be submitted to the Registrar's Office up to 30 days in advance of the petitioners start date and not later than the 15th instructional day of the semester for which the status is sought. When a student petitions or meets the require- ments after the 15th instructional day, a change in classification, if granted, will not be retroactive and will become effective for the next term. Reclassification is not automatic and will not occur unless the individual so petitions. It is the student's responsibility to meet any filing deadlines that are imposed by the appropriate unit of the System. All students should check with their appropriate unit to determine the time limits for filing. The appeal process is given in the Regents' policy.

Costs of On-Campus Services

Housing and Dining Services

Students living in University residence halls are required to contract for a meal plan with Dining Services. Room and board rates are the same for in-state and out of state students. Occupants may select any meal plan to obtain the number of meals preferred and choose from a variety of room options. Students who are approved to move out of the residence halls and terminate their meal plan contract will receive a prorated refund based upon the days remaining in the semester less the cancellation fee.
Residence Halls

*Increases are expected*

2004-05 room rates in University residence halls are:

<table>
<thead>
<tr>
<th>Autumn/Spring Semesters per semester</th>
<th>Per Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Room</td>
<td>$1,224.00</td>
</tr>
<tr>
<td>Single Room</td>
<td>1,403.00</td>
</tr>
<tr>
<td>Double as Single</td>
<td>1,487.00</td>
</tr>
<tr>
<td>Panzer Suite</td>
<td>1,862.00</td>
</tr>
<tr>
<td>Miller Suite</td>
<td>1,613.00</td>
</tr>
</tbody>
</table>
| Rates include telephone service and $6.00 per semester social fee. Early arrival prior to opening day on August 28th, 2004, cost an additional $14.00 per day.

Lewis and Clark Village

Rent is $375.00 per month per person regardless of which size apartment you are assigned to. Each resident will be responsible for their own rent payment. Residents may choose to pay either by the semester or by the month. Rent includes a furnished apartment with all utilities paid including cable TV. You must make your arrangements for telephone service.

Dining Services

Dining Services meal plan prices 2004-2005 academic year.

*The prices below are subject to approval by the Board of Regents and may change.

<table>
<thead>
<tr>
<th>Meal Plan</th>
<th>Autumn/Spring Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grizzly</td>
<td>$1493.00</td>
</tr>
<tr>
<td>Silver</td>
<td>$1284.00</td>
</tr>
<tr>
<td>Copper</td>
<td>$1038.00</td>
</tr>
</tbody>
</table>

Students living in residence halls are required to contract for one of the three meal plans. All meal plans are available to off-campus students, faculty, and staff.

University Villages

*Increases are expected*

University Villages housing is available. An application together with $20 processing fee should be submitted to University Village Office, Elkhorn Court, Missoula, MT 59801. A $250 deposit will be required when apartment is assigned.

Housing Apartment Rates (monthly)

<table>
<thead>
<tr>
<th>Craighed and Sisson</th>
<th>Elliot (Tenant pays Heat &amp; Elec.)</th>
<th>Toole (Tenant pays Heat &amp; Elec.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(All Utilities paid)</td>
<td>Rental Rate</td>
<td>Rental Rate</td>
</tr>
<tr>
<td>Studio</td>
<td>$406.00</td>
<td>$277.00</td>
</tr>
<tr>
<td>1-Bedroom</td>
<td>452.00</td>
<td>329.00</td>
</tr>
<tr>
<td>2-Bedroom</td>
<td>545.00</td>
<td>406.00</td>
</tr>
<tr>
<td>3-Bedroom</td>
<td>612.00</td>
<td>453.00</td>
</tr>
<tr>
<td>4-Bedroom</td>
<td>645.00</td>
<td></td>
</tr>
</tbody>
</table>

Note: These rates are monthly and effective July 1, 2004 through June 30, 2005. All rates include cable TV, water, garbage, and sewer. Tenants are responsible for telephone service.

Vehicle Registration Fee

All vehicles parking on campus must display current campus vehicle registration between the hours of 7:00 a.m. and 5:00 p.m. Monday through Friday year round. Students, staff or faculty may purchase window or hanger decals for $146 a year. Students have the option of purchasing semester decals for $73.00. Reserved parking is available on a first come, first serve basis for $438 a year. Car pools of three or more drivers may register for $10 per person for the year.

Motorcycles are issued "B" decals at $32 per year. Day passes, all day parking for $2.00, may be purchased from the Office of Campus Security or the University Center and are valid in all "A" decal required lots only. Hourly pay parking is available for $.75 per hour.

Partial refunds on decals are available only until the last day of semester late registration. No refunds will be given on motorcycle, car pool or half semester registrations.

If a vehicle is sold, transferred or destroyed, the parking decal must be removed and returned to the Office of Public Safety for replacement. There is a $10 replacement fee for all decals lost, stolen or not returned.

Other Campus Services

On campus there are other services provided such as the swimming pool, laundry facilities, locker rental, full service bookstore, prescription pharmacy, testing programs, etc. The rates charged for these services are too varied to present in this publication. If more information is required concerning these services, contact the department providing the service.

Veterans' Benefits for Education Assistance Under Public Law 95-202 and Public Law 815

A veteran may be eligible to receive benefits under various GI Bills. When applying for educational benefits, it is essential that the veteran's status be known (Montgomery Bill, VEAP, Vocational Rehabilitation or Survivors or Dependents). Refer to the Veteran's Guide available in the Lommasson Center, 201. The veteran must be enrolled and pursuing an approved program of education or training to be eligible for benefits.

The following chart indicates the minimum credit hours for which veterans must be registered to receive benefits:

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Undergraduate</th>
<th>Graduate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Three-Quarter</td>
<td>9, 10, 11</td>
<td>7, 8</td>
</tr>
<tr>
<td>One-Half</td>
<td>6, 7, 8</td>
<td>6</td>
</tr>
<tr>
<td>Fees only</td>
<td>Less than 6</td>
<td>Less than 6</td>
</tr>
</tbody>
</table>

*Graduate credits only

Additional information, minimum grade and credit requirements, advice on the benefits, or application forms may be obtained by contacting the Veterans' Coordinator, Lommasson Center 201.

Students who plan to attend The University on The Montgomery G.I. Bill should be prepared to pay for their first semester when they arrive. It can take 10-12 weeks for their claim to be processed and their first check to arrive.

Veterans who have exhausted all GI Bill benefit, maybe entitled to the Montana Veterans Fee Waiver and should contact the Enrollment Services-Financial Aid Office.

Financial Aid

Financial aid services are available from two campus locations depending upon status of admission. Students admitted to the College of Technology (COT) should apply at the South Avenue location. All other students, including graduate students, should use the Enrollment Services Financial Aid Station located on the second floor of the Lommasson Center Building in Griz Central. Additional information may be obtained by accessing the Enrollment Services-Financial Aid web site at http://www.umt.edu/finaid.
COT students only:
Enrollment Services-Financial Aid Office
909 South Avenue West
Missoula, MT 59801
(406) 243-7886
E-Mail: faidcot@mso.umt.edu

All other students:
Enrollment Services-Financial Aid
Lommasson Center - Griz Central
Missoula, MT 59812-1254
(406) 243-5373
E-Mail: faid@mso.umt.edu

Both offices are fully accessible.
Notice: Any policy is subject to change without advance notice if required by federal or state law, Board of Regents, or Enrollment Services-Financial Aid Office.

Acceptance to UM

Students must be accepted for admission (or readmission) to the University in a degree seeking program before financial aid requests are considered. Students accepted into non-degree categories are not eligible for any financial aid.

Presidential Leadership Scholarships

This award is open to incoming freshmen who have demonstrated high academic achievements, leadership, and promise for success in their high school experiences. The award is renewable for four years based on meeting eligibility requirements. Further information is available, beginning October 1st, in the application. The application is available from Enrollment Services-Admissions, the Davidson Honors College, and high school counselors in Montana. The application is also available on the World Wide Web at http://www.umt.edu. The application deadline is February 1.

Campus-Wide Scholarships

The University offers a campus-wide scholarship program. Students must apply each year as most scholarships are awarded on an annual basis.

Requests for applications, beginning October 1st, may be directed to Enrollment Services-Admissions, the Enrollment Services-Financial Aid Office, or high school counselors in Montana. The application is also located on the World Wide Web @http://www.umt.edu. The filing deadline is February 1. Students are notified in March.

The Western Undergraduate Exchange (WUE) scholarship may be available for applicants from participating states. Contact Enrollment Services-Admissions for further information.

Departmental Scholarships

Many departments, including the College of Technology, offer scholarships based on skill or academic potential. Students should contact their major departments for deadlines and more information.

Financial Aid Application

All students who wish to receive any federal funds, including need-based or most non-need based assistance, must file the Free Application for Federal Student Aid (FAFSA). Applicants are strongly encouraged to use the federal web site at www.fafsa.ed.gov. Students whose FAFSA’s are received and processed by the Department of Education by March 1, and who complete all other documentation requirements are given priority for limited funds. Those who complete requirements later are considered only for federal loan programs and Federal Pell Grants.

Determination of Eligibility

Eligibility for need-based financial aid is determined by subtracting the Expected Family Contribution (as determined from filing the FAFSA), scholarships, and other educational assistance from private or public agencies from the Cost of Education.

Financial Aid Package

Packages of need-based aid can include a combination of grants, loans and workstudy. A student using the FAFSA automatically applies for all possibilities with one application. The types of aid offered will include federal subsidized and unsubsidized student loans for graduate or undergraduate students and federal Pell Grants for undergraduates if qualified. For those who file the FAFSA early and complete all requirements for additional documentation promptly, additional campus aid will be considered. This aid includes federal and state grants for undergraduate students. Federal Perkins loans and either federal or state work study will be considered for all early filers for both degree-seeking undergraduates and graduate students.

Non-need based aid, in the form of unsubsidized federal loans, for students and parents of dependent students will be considered for those families who file the FAFSA and request these loans.

Distribution of Aid

All financial aid is awarded by the Enrollment Services-Financial Aid Office and distributed through Business Services, usually by crediting aid to the student’s account. Aid is released after a student has accepted the award offer, but not before the first day of classes each semester. Loans may be cancelled under certain conditions if the student no longer desires the debt. Students who are offered work study must obtain employment and complete additional paperwork at the Enrollment Services-Financial Aid Office. Students who work are paid monthly based on the timecard submitted by the student and the supervisor.

Additional Requirements for Loans

Any student who receives a student loan at The University of Montana must complete an entrance interview requirement before a loan will be disbursed. Graduating students will be required to complete an exit interview requirement prior to disbursement of any loans in their last scheduled semester of enrollment. Both entrance and exit counseling can be completed by accessing the Enrollment Services-Financial Aid page of the web site for The University of Montana-Missoula, at http://www.umt.edu/finaid.

Study Abroad and Financial Aid

Students who desire to study abroad and who enroll in courses that are approved by The University of Montana should contact the Enrollment Services-Financial Aid Office. Instructions will be provided for using financial aid with this type of study.

Other Requirements and Guidelines for Retaining Financial Aid

Financial aid for full-time is based on maintaining a minimum of twelve (12) credits each term for undergraduates and nine (9) credits for graduate students.

Part-time students with six (6) or more credits will be considered for reduced financial aid packages. Pell recipients receive 75% of the full Pell amount if enrolled for 9-11 credits, and 50% of the award if enrolled for 6-8 credits for the semester. Other aid may be reduced or eliminated.
Students enrolling for fewer than six credits are not considered for financial aid with two exceptions; (1) undergraduates who are seeking their first degree may be eligible for a reduced federal Pell Grant, and (2) fee waivers may be available for those who qualify.

Employment
The Enrollment Services-Financial Aid Office coordinates subsidized federal and state work study programs. Open positions are posted on the electronic job board located at http://www.umt.edu/studentjobs.

Minimum academic standards are necessary to receive fee waivers. Other requirements and limitations may apply. Contact the Enrollment Services-Financial Aid Office for details.

Satisfactory Progress
Any student receiving financial aid is required to make satisfactory progress in a program leading to a degree. Complete information is available in the Enrollment Services-Financial Aid Office.

Short Term Loans
Limited short term loan money is available to registered students who are eligible and submit complete applications.

Reduced Fees
Fee Waivers
The Montana Board of Regents has authorized the waiver of registration and incidental fees for certain categories of students. Applications for any of the fee waivers listed must be made in writing to the Enrollment Services-Financial Aid Office. The request must be made prior to the start of the semester in which the student expects the waiver.

Minimum academic standards are necessary to receive fee waivers. Other requirements and limitations may apply. Contact the Enrollment Services-Financial Aid Office for application forms or more information.

Montana Veterans Fee Waiver
- bonafide resident of the State of Montana for fee purposes
- Honorable Discharge
- at one time qualified for veterans benefits under Title 38 of the U.S. Code, but are no longer eligible
- served during a time of war as determined by the Attorney General (World War II, 12-7-41 to 9-2-45; Korean War, 6-22-50 to 1-31-55; Vietnam War, 1-1-64 to 5-7-75; or post-Vietnam world conflicts under certain conditions. Contact the Enrollment Services-Financial Aid Office for further information.)

Indian Student Fee Waivers
- resident of the State of Montana for one year immediately prior to enrollment at The University of Montana-Missoula
- documentation proving at least one-quarter degree blood
- meet admissions guidelines of the University
- must have financial need as determined by the Enrollment Services-Financial Aid Office
- meet satisfactory academic progress according to the standards of the Enrollment Services-Financial Aid Office

Senior Citizens Fee Waiver
- permanent resident of the State of Montana
- 62 years of age or older

University of Montana Employees
- instate resident
- employed at least three-quarter time on the date of registration and for the entire semester
- must be after probationary employment period
- approval from department head & Human Resources every semester

High School Honors
- awarded by Board of Regents to top graduating seniors in Montana
- student must submit form received from the Regents to The University of Montana Enrollment Services-Financial Aid Office for activation of this waiver.

Other
There are several other fee waivers including war orphans, family’s of UM employees, dependents of prisoners of war, and surviving spouse or children of any Montana firefighter or peace officer killed in the line of duty. Contact the Enrollment Services-Financial Aid Office for details.

Department of Military Science
All students are afforded the opportunity to apply for two, three and four year scholarships provided by Army ROTC. The scholarships pay for all mandatory tuition and fees, a monthly stipend and $300.00 per semester for books. The monthly stipend for scholarship students is $250.00 in the freshman year; $300.00 in the sophomore year; $350.00 in the junior year and $400.00 in the senior year.

Additional financial assistance opportunities are provided to students that are interested in joining the U.S. Army Reserve or the Montana State National Guard. These programs are referred to as the Simultaneous Membership Program, since the student is involved in the National Guard or Reserves at the same time they are involved in ROTC. These programs have financial benefits that range from $15,000 for a two year program to $50,000 for a four year program. These benefits are very complex and are best understood by stopping in to visit with the Military Science Enrollment Officer.

Students have the opportunity to enroll in both the basic and advance courses offered by the Department of Military Science in the College of Arts and Sciences. The Basic Course is simply the Freshman and sophomore level courses offered by Army ROTC Instructors and no financial benefits are received for enrolling unless the student is on a scholarship. The Advanced Course refers to our junior and senior level courses. All advanced course students are contracted and receive financial benefits. We welcome student involvement in Land Navigation and Drill and Conditioning courses but no benefits are provided for enrollment in these classes.
Services

Housing and Dining Services

Residence Halls Community

The University of Montana-Missoula residence halls' community is very much a part of the total University and Missoula communities. The campus is a center for educational, cultural, and social activities. Residing in residence halls places the student at the center of these activities. Our mission is creating an atmosphere that is safe, provides for individual growth, and promotes academic exploration and learning. The University houses nearly 2300 students in nine residence halls on campus. The residence halls staff are resource people. Sharing ideas, observations or questions with them will benefit residents. Resident Assistants offer help when students experience problems with University life.

The University of Montana-Missoula requires all freshmen and students who have earned fewer than 30 semester credits to reside in the University’s residence halls. Students are required to continue residence hall living until the student earns 30 semester credits. Any student who moves into the residence halls at the beginning of the semester is required to reside in the residence hall for the entire semester. (However, students must be enrolled for at least seven credits to be eligible to live in a residence hall.) Exceptions to residence hall living are made for students who reside with their parents and for students who are married or are single parents. Other exceptions are made under special circumstances on an individual basis. Any student requesting an exception to the residency requirements must submit a request in writing, accompanied by supporting documentation, to the Director of Residence Life. Students are not released from the residency requirements until the student receives an official notification from the Director of Residence Life. Students who have earned 30 semester credits or more are not subject to the residency requirements but are encouraged to live on campus. All students living in the residence halls are required to contract for one of the on-campus meal plans.

Rooms in residence halls are provided in order of application. Freshmen students required to live in Residence Halls who submit their residence hall application and $100.00 prepayment by the priority Admission deadline of March 1, will be guaranteed permanent housing assignments. Application forms and information may be obtained by writing the Residence Life Office.

A number of rooms have been designed to accommodate students with disabilities. Application for these rooms is made to the Residence Life Office. The Director of Residence Life or the Office of Disability Services for Students, (406) 243-2243, should be contacted to ensure the necessary accommodations are provided or visit our website at www.umt.edu/reslife.

Lewis and Clark Village
(Upperclass and Graduate Housing)

Lewis and Clark is a No-Smoking apartment facility designated for single students at The University of Montana without dependents who will have accumulated at least 60 credit hours by the time they move into the apartments. The apartments are adjacent to Park n’ Ride which provides free and easy transportation to the UM campus. The apartments are furnished with all utilities paid including cable TV.

Prospective tenants may submit applications together with a requested roommate(s). If a tenant does not have a roommate preference, the Residence Life Office will assign roommates based on like gender. As space allows we will attempt to take into consideration other preference such as age, smoking, alcohol consumption, and length of agreement.

How to Apply. Applications are available on the website at www.umt.edu/reslife, by calling in a request to the Residence Life Office at 406-243-2611, or sending an email message to housing@msou.umt.edu. Your application must be accompanied by $250.00, ($20.00 which is a non-refundable processing fee and $230.00 which is a prepayment toward your first month’s rent). A damage deposit of $400.00 and the remaining 1st months rent will be required before moving into the apartment. If you cancel before you move in, a $230.00 cancellation fee will be assessed.

A complete set of policies, photos and site map are available on the website at www.umt.edu/reslife.

Dining Services

Winner of nine international dining awards and home to nationally renowned chefs, University Dining Services is dedicated to providing students with a variety of quality food choices, convenience, reasonable prices, and friendly guest service. Our extensive variety of dining options include: the Food Zoo, the Cascade Country Store, La Peak, the Food Court, BiSip, Biz Buzz and the Think Tank. All University Dining Services locations accept cash, checks, the UM Debit Card and appropriate meal plans.

The Food Zoo, located in the Lommasson Center, serves nutritious, self-serve, buffet-style meals with unlimited seconds. The menu includes an ever-changing choice of entrees, homemade soups, an extensive salad bar, fresh fruits, fresh baked desserts, traditional fast food favorites, and vegetarian selections. All meal plans, cash, checks and the UM Debit card are accepted at the Food Zoo.

The Cascade Country Store, located at the east end of the Lommasson Center, boasts a bright, food-court style atmosphere with pizzas, Mexican food, grilled favorites and a fresh deli. Soups, salads, deli sandwiches, Bear Claw Bakery specialties, a wide variety of grocery items, organic products, and health and beauty aids are just some of the options available. The expansive outside deck is a popular stop for many students. All meal plans, cash, checks and the UM Debit Card are accepted at the Cascade Country Store.

For a peak experience you’ll never forget...stop by LaPeak, located in the Lommasson Center. La Peak features Graven’s gourmet coffee and espresso drinks, fresh fruit smoothies, delicious juice blends, and Bear Claw Bakery goodies. The log furniture and lodge-like atmosphere make a great place to meet and socialize with friends. All meal plans, cash, checks and the UM Debit Card are accepted at La Peak.

The UC Food Court, located on the second floor of the University Center, rivals all other food courts with a contemporary, open atmosphere, and exceptional cuisine. Food choices include The Grizzly Grille, Pizza Hut, Taco Time, Jenga Juice, The Bear Claw Bakery, Garden City Greens, Soups & Such, Eastside Deli, and Pacific Rim. The Grizzly meal plan, cash, checks and the UM Debit Card are accepted at the UC Food Court.

The BiSip, located in the beautiful new Fitness and Recreation Center, features sandwiches, salads, natural juices, smoothies, coffee and espresso, and healthy items for before and after your workout. The Grizzly and Silver meal plans,
Village

After the written request for exception from the above residency policies requires a year. In addition, a student or family with one applicant does not occupy all available units. Applicants earn a one (1) credit for the first semester of occupancy. Priority is given to students who must be registered for at least seven (7) credits the two of the three semesters per year. The Silver meal plan is accepted at the Lommasson Center operations and at the BiSip and the Copper meal plan is only accepted at the Lommasson Center operations.

The only method of accessing meal plan funds is through the University I.D. card, the Griz Card. A student may downgrade a meal plan once during the first two weeks of the semester. Upgrades are accepted all semester. No refunds will be issued for the last four weeks of the semester.

For detailed information on meal plans and other special dining services, please contact the University Dining Services office at 406/243-6325 or visit our web site at www.umt.edu/uds.

University Village

The University has 566 apartments for married students, single students with dependents, and students with disabilities who have a live-in care attendant. All apartments are within walking distance of the campus. Units range from studio to four-bedroom apartments.

Eligibility for University Village requires at least one adult member of the household be enrolled for a minimum of seven (7) credits two of the three semesters per year. The student must be registered for at least seven (7) credits the first semester of occupancy. Priority is given to students who are married or otherwise have a legal dependent relationship with another adult; single parents with at least one (1) legal dependent living in the apartment; and single students with disabilities who require a live-in care attendant. Single students may be assigned apartments if other priority applicants do not occupy all available units.

Students residing in University Village must demonstrate satisfactory progress toward an educational degree by earning a minimum sixteen (16) credits per calendar year. After the initial year of residency, satisfactory progress is based upon credits earned during the preceding calendar year. In addition, a student or family with one or more members working toward an educational degree will have priority occupancy for a maximum of six (6) calendar years. Any exception from the above residency policies requires a written request for exception submitted to the University Village Office. The request is not approved until written consent is received from the University Village Office.

Housing is assigned according to the date of application and notification is given approximately twenty (20) days before housing becomes available. All applications must be updated every six (6) months in order for applicants to remain on the assignment list. A $250.00 deposit must be submitted when an apartment is assigned. The deposit is refundable when the rental agreement is terminated provided the apartment rental fees are current and no damage or cleaning fees are assessed. The deposit is forfeited if the student cancels after accepting the assigned apartment.

Due to the demand for University Village housing, the University Village Housing Office should be contacted early to make reservations and obtain detailed information including an application or visit our website at www.umt.edu/reslife. Applications must be accompanied by a $20.00 processing fee.

Personal Property

The University of Montana-Missoula is not responsible, by state law, for damage to, or theft of, the personal property of students on campus (for example: damage to clothing or a stereo due to fire, smoke or water). Students are encouraged to adequately insure their personal property and to protect their property by locking their room/apartment and car and taking other simple precautions to prevent theft and damage.

Career Services

The Office of Career Services assists students in developing viable career objectives and the plans necessary to achieve those goals. Assistance is also provided to students and UM alumni who wish to modify their career goals and improve their employment options. Career Services provides a wide array of services designed to facilitate the transition from education to employment, including: career counseling and assessments; workshops on such topics as resume writing, interviewing and job search strategies; videotaped mock interviews; on-campus interviews with employers; credential files services for teachers; alumni referral network program, an on-line job vacancy service, and student employment.

Career Services maintains an extensive library of current resources on general and specific career options, resume, interviewing and job search reference materials and employment resources from companies, school districts and government entities. The library also maintains listings of current job vacancies from around the country. Two major career fairs are hosted each year for the purpose of bringing students and employers together to discuss volunteer, internship, part-time and full-time employment opportunities. The Big Sky Career Fair is open to all students and is held in the autumn semester. The Educators’ Career Fair is open to teaching, administrative and school counseling professionals and is held in the spring semester.

All UM students are eligible to establish a free Griz eRecruiting account which allows you to post your resume on the web for viewing by and referral to employers, participate in the on-campus recruiting program and view current job vacancies in the online jobs database.

For additional information, contact the Office of Career Services at 154 Lommasson Center, call (406) 243-2022, e-mail: careers@mso.umt.edu or visit our web site at: www.umt.edu/career.

Student Employment

Student Employment provides the opportunity for students and employers to connect. We offer an online job posting system for employers and an online job search and application process for students. We post jobs for on-campus, off-campus, work-study, non work-study, and volunteer employment. We work closely with Financial Aid and Student Payroll to assure students are being hired and paid within the established guidelines. Student Employment hosts two free Student Job Fairs, one in the fall and another in late Spring. We also coordinate National Student Employment Week and the
Internship Services

Internships are available to students in most disciplines offered at The University of Montana-Missoula. Internship services allow a student to work in a field related to his or her academic and career goals while utilizing skills learned in the traditional classroom setting. Information, applications and other forms are available at Internship Services, Lommasson Center 154; phone 406-243-2815; fax 406-243-5866; or visit the web site at: www.umt.edu/internships.

Disability Services for Students

Students with disabilities can expect access at The University of Montana-Missoula. Wherever possible, the University exceeds mere compliance with the civil rights laws of Section 504 of the Rehabilitation Act, the Americans with Disabilities Act, and the Montana Human Rights Act. The University's programs are readily accessible to and usable by people with disabilities. Program access is delivered to the maximum extent feasible and in the most integrated manner. Disability Services for Students (DSS), a student affairs department, leads the University's program access efforts. DSS provides and coordinates reasonable accommodations as well as advocating for an accessible and hospitable learning environment. Examples of DSS services include priority registration, physical accessibility arrangements, academic adjustment, auxiliary aids (readers, scribes, sign language interpreters, etc.), alternative testing, textbook taping and other alternate formats, assistance technology training, and other reasonable accommodations. To achieve equal access, DSS vigorously pursues the removal of informational, physical, and attitudinal barriers to all University programs. "Expect Access", the DSS handbook for students, and a campus accessibility map are available upon request. Students with disabilities are encouraged to plan ahead and contact DSS prior to arriving on campus. For additional information, contact DSS Director Jim Marks, Lommasson Center 154 or (406) 243-2243 (Voice/Text).

Web site: www.umt.edu/dss

Foreign Student and Scholar Services

The office of Foreign Student and Scholar Services (FSSS) assumes responsibility for the general welfare of foreign students at The University of Montana from admission to graduation and practical training. It provides direct support services, consultation, and liaison. The office assists in the reception and orientation of foreign students and helps with integration into the University and community. It interprets immigration regulations and laws and assists students in maintaining legal status and obtaining benefits related to their visa status. Staff members provide advising for academic and personal concerns, cultural adjustment, financial problems, and other concerns that arise.

The staff works with the International Student Association and other student groups, as well as the Missoula International Friendship Program to sponsor cultural activities, a speaker's bureau, a community hospitality program for students, leadership opportunities for students, and the annual International Culture and Food Festival. FSSS coordinates the International Student Peer Assistant Program, a campus peer-mentioning program. It offers educational fields trips; winter and summer break activities, as well as direct and on-going orientation and educational programs on relevant topics to foreign students. FSSS manages the campus' International House, an activity center for inter-cultural events.

Foreign Student and Scholar Services works closely with other service and advising offices on campus to optimize those services and their visibility to foreign students.

Foreign Student and Other Scholar Services prepares certificates or petitions for the exchange visitor J-1 visa and advises foreign scholars who need to change or extend their visa status, travel temporarily out of the United States or bring dependents to this country. Finally, the office serves as liaison to federal agencies dealing with foreign student and scholar concerns, such as the Immigration and Naturalization Service, Department of Labor, Department of State, Internal Revenue Service and Social Security Administration.

Office of International Programs

The Office of International Programs administers all campus-wide student, faculty, and staff exchange programs with international institutions and serves as the information and referral center for UM Faculty Directed Study Abroad programs. A wide variety of short and long term overseas study opportunities are available to UM students. The University of Montana-Missoula has direct student exchange agreements with universities in Australia, Canada, Chile, China, Denmark, Finland, Japan, Korea, Mexico, Morocco, New Zealand, Taiwan, Thailand and the United Kingdom. The office also administers the International Student Exchange Program (ISEP) which provides students with the opportunity to study at one of over 130 universities in 35 countries. Information is available regarding other study abroad programs and financial resources, including the Fulbright program. For additional information, contact the office of International Programs, International Center, call (406) 243-2288, e-mail gobroad@mpho.umt.edu, or visit their website at www.umt.edu/oip.

English Language Programs

English Language Programs are intensive, stand-alone summer and academic year English language and teacher training institutes. The institutes last between 3 and 12 weeks. For the Summer of 2004, ELP expects to host students and teachers from Ajou University, Andong National University, Itakura Junior High School, Kangnung National University, Korea National University of Education, Kumamoto Gakuen University, Meisei University, Pakistan, and Toyo University.

English Language Institute

UM offers two distinct types of academic second language English instruction: EASL courses that are described in the Linguistics Program for matriculated students and intensive (20 hours a week), academic English courses that are taught in the English Language Institute (ELI) for non-matriculated students (http://www.umt.edu/eli). ELI’s curriculum addresses the needs of international students whose TOEFL scores are below 500/173 (undergraduates) or 525/196 (graduates) and who want to raise their English proficiency in order to gain admission to a university or college where English is the language of instruction.

The Practical Ethics Center

The Practical Ethics Center was created in 1996 at The University of Montana-Missoula to promote high quality teaching, research and service in applied and professional ethics. The Center has a two-part mission: (1) Promote high quality teaching and research in all areas of practical ethics through projects and programs that assist and enhance faculty
research, that provide faculty development, and that introduce students to the field. (2) Promote sophisticated discussions concerning matters of ethics in public life among professionals, leaders and citizens through projects and programs that serve community needs and encourage public dialogue. For more information, call (406) 243-5744, email ethics@selway.umontana.edu or visit the website at www.umt.edu/ethics.

Curry Health Center

Aware and respectful of the changing needs of student and campus life, we, the staff of Curry Health Center, enhances the health and learning of students and the greater campus community by:
- Providing affordable, high quality student-centered medical, dental, psychological, and health promotion services
- Assessing the health needs of students, faculty, and staff, and effectiveness of our interventions
- Proactively supporting the health of students, faculty, and staff of all backgrounds and cultures
- Actively participating in student learning
- Engaging with the larger campus and community

Curry Health Center is YOUR campus based health care center, with services designed to meet the needs of college students and the campus community.

General Information

Access to Curry Health Center is primarily funded through the Clinical Health Fee (see the Expenses section of this catalog). Some options are available on a Fee-For-Service basis, primarily in the Medical Clinic.

To better utilize pre-paid fees, CHC works primarily on an appointment basis. Appointments can be changed or cancelled at any time prior to the visit. If you are unable to make your scheduled time you need to cancel or change your appointment. If this does not occur, you will be charged a “No-Show Fee”.

Medical Services - 406-243-2122

The Medical Clinic offers a variety of services on a 24/7 basis during the autumn and spring semesters. Summer hours and services are limited.

All listed services are subject to the capabilities of Curry Health Center.
1. Follow up, at the student’s request, on any significant health problems.
2. Medical care for illnesses or medical conditions, and inpatient facility for acute illness.
3. Twenty-four-hour urgent care during routine school session
4. Inpatient area for overnight care
5. Diagnostic X-rays and laboratory tests at a physician’s direction
6. Referrals to specialists, within CHC and the community when indicated.
7. Elective minor surgery by appointment as time and facilities permit.
8. Immunization on a needs basis. Admission immunizations requirements should be completed before arrival on campus.
9. Certification completed for marriage licenses, graduate school applications where appropriate, as a physician determines.
10. Travel planning and immunizations
11. Basic health screening for prevention and risk reduction
12. Women's health care including pap smears and birth control.
15. STD/HIV testing.
16. Assessment and treatment of minor injuries suffered in motor vehicle accidents.

(Illness/injuries/accidents (i.e., Personal injury, Worker’s Compensation, motor vehicle accidents) involving civil litigation should be referred to a full service facility capable of providing more extensive testing and documentation.)

Services Not Provided:
1. Treatment of medical conditions that require specialty or intensive care beyond the scope of the health center facility (see #6 above).
2. Off-campus hospitalization and doctor fees.
3. Allergy diagnostic services. Routine allergy injections are available.
4. Routine eye refractions and prescribed corrective lenses.
5. Home care.
6. Disability evaluations or review of past medical conditions for obtaining life insurance.

Counseling and Psychological Services - 243-4711

Counseling and Psychological Services (CAPS) provides rapid access and brief therapy for UM students. CAPS also serve the needs of students in crisis and facilitate off-campus referral when necessary. All services are confidential.

Counseling covers the broad range of personal, academic, relational and social concerns of students. Counseling may help a student solve a personal problem, cope with the transition to university life, enhance family relationships, or improve academic performance. Most services are covered by the Clinical Health Fee payment. There are additional charges for some services including psychiatric consultation, some psychiatric assessments and for prolonged counseling and psychotherapy.

Self Over Substance (S.O.S.) - 243-4711

S.O.S. educates and motivates students to address high-risk behaviors associated with heavy alcohol or other drug use. Services include individual and group counseling, education/intervention programs, and assessment/referral to treatment resources. Some services have modest fees.

Dental - 243-5445

Dental care is provided to students who have paid the Clinical Health Fee. The Dental Clinic’s primary focus is on emergent and preventative care. While urgent care is given priority, routine dental care is also provided. Charges for dental services are set at a substantially lower rate than the private sector.

Services Provided (as time permits)
1. Emergency dental care.
2. Fillings, root canals, simple extractions, crown and bridge procedures.
3. Teeth cleaning, periodontal scaling, and oral hygiene instructions.
4. Routine exams and X-rays (‘checkups’) on a limited basis-one per year.
5. Night guards for TMJ disorders and protection from grinding.

Referrals to specialists or other dentists are provided for students whose dental needs are beyond the scope/capabilities of the clinic, e.g., oral surgery, complex root canals, orthodontics, dentures, etc. Charges incurred at private offices are the student’s responsibility.

The Student Insurance plan does not cover dental charges.
Health Enhancement - 243-2809

Health Enhancement researches, plans, implements and evaluates programs, which contribute to the health of both individual students and the campus as a whole. The department's goal is to make positive, healthy behaviors the easy choice for UM students.

Health Enhancement trains and sponsors the student group, Peers Reaching Out (PROs). PROs is a diverse team of students from all academic majors who present positive, empowering, interactive programs about health issues to other students. Topics included are healthy sexuality (birth control, prevention of STD/HIV prevention), positive body image, self-care, drinking safely, stress reduction and sexual violence prevention. Call 243-2809 to find out how to become a PRO.

Health Enhancement Services:
1. Free and anonymous HIV counseling and testing;
2. Social marketing campaigns using innovative materials to promote healthy behavior choices and communicate accurate perceptions to UM students;
3. Resources for students doing speeches, presentations, class projects and residence hall/student group events;
4. Presentations about college health issues for classes, residence halls, and student groups;
5. Health Enhancement staff and PROs participate in university and community efforts as advocates for policies and programs which promote health.

Student Assault Recovery Services - 24-Hour Crisis - 243-6559 Office - 243-5244

Student Assault Recovery Services offers confidential support and advocacy services to victims of rape, sexual assault, child sexual abuse, relationship violence, sexual harassment, and stalking. Services are also available for friends, partners, and relatives of victims. SARS offers a 24-hour crisis line, 243-6559 and a walk-in Resource Center when the University is in session. Trained student Advocates are available 24 hours a day to provide information and advocacy. Other services offered by SARS include support groups, workshops, and training as well as an extensive resource library. There is no charge for SARS services. Professional counseling is available by referral to campus or community resources. SARS is located in the basement of the Curay Health Center. Enter through the east entrance (corner of Maurice St. and Eddy Ave). SARS walk-in hours are 10:00 a.m. to 5:00 p.m., Monday through Friday, when the University is in session.

Health Services Pharmacy - 243-5171

The Health Services Pharmacy, located in the Curry Health Center building, offers students and their dependents (spouse and children) a complete prescription service at very reasonable rates. The pharmacy is operated by the School of Pharmacy in cooperation with Curry Health Center and is used for training pharmacy students under the supervision of registered pharmacists.

Medical Insurance - 243-2844

Because of your privacy rights and concerns, Curry Health Center will not automatically bill your insurance plan for services received at CHC. If you would like to file an insurance claim for services received at Curry Health Center, you must request this through the Student Insurance Office located in CHC. CHC will assist you in filing insurance claims so that your insurance company will reimburse you directly. Because your insurance company reimburses you directly, you are responsible for paying charges incurred at CHC, not your insurance company.

CHC is not a Medicare/Medicaid provider, nor do we accept direct payments from insurance companies.

Clinical Psychology Center

The Clinical Psychology Center (CPC) is operated by the Department of Psychology as part of the doctoral Clinical Psychology training program. The CPC offers a wide range of psychological services to students and non-students, including individual, couples, child, family and group psychotherapy; personality assessment; intelligence testing; and career interests assessment. All services are confidential and all clients are charged on a sliding fee schedule. The CPC is located at 1444 Mansfield on campus.

Physical Therapy Clinic

The UM Physical Therapy Clinic is open to all UM students for the evaluation and treatment of problems related to injuries, surgeries and pain that limit or affect activities. The clinic is staffed by licensed physical therapists. The clinic is a valuable component of the professional physical therapy program. It provides students in the professional program the opportunity to work with patients under the direct supervision of licensed physical therapists. The clinic is open during the school year, Monday through Friday from 1:00 to 5:00. The clinic is not supported through the Student Health Service fee. Blue Cross and other insurance typically cover physical therapy services minus any deductible or co-payment responsibilities. To make an appointment call 243-4006.

University Center

As the University's student union, the University Center (UC) is the community center for the campus. The most popular gathering place in the UC is the atrium which features a large tropical garden. The UC provides an assortment of services and conveniences to members of the campus community. Services include a post office, UPS counter, box office, hair salon, credit union, ATMs, movie theater, copy and word processing services, bookstore, information desk, game room, meeting rooms, and dining and conference facilities.

The UC complements students' academic experience through an extensive variety of cultural, educational, social and recreational programs. These programs include UC Programming, Greek Life, UC Multicultural Alliance, and the Center for Leadership Development. Through these programs, students can become involved in student organizations, plan campus events, or participate in a series of leadership development workshops.

Sports and Recreation

Organized sports and recreational activities are an important part of academic and leisure life at the University. The University of Montana-Missoula is a member of the National Collegiate Athletic Association, and the nine-member Big Sky Conference. The athletic program consists of 14 varsity teams. The men's program includes basketball, cross country, football (Division I-AA), indoor and outdoor track, and tennis. The women's program offers competition in basketball, cross country, tennis, indoor and outdoor track, volleyball, golf, and soccer. The teams go by the nicknames Griz and Lady Griz. Athletic scholarships are offered in all sports.

Recreation

The Campus Recreation Department offers a wide variety of services and programs to the students, faculty and staff of The University of Montana-Missoula. A comprehensive intramural
sports program provides opportunities for men's, women's, and co-recreational team competition and individual events.

Recreational facilities include gymnasiaums, weight rooms, an indoor running track, handball and racquetball courts, tennis courts, indoor swimming pool, an indoor climbing wall, and a golf course. Sports equipment such as balls, bats, gloves, etc. can be checked out for free and other equipment such as volleyball nets, badminton sets, and horseshoes require a cash deposit. The Recreation Center in the University Center offers video games, billiards, and table tennis for student use.

The Outdoor Program offers services to students, faculty, staff and the general public, supplying information, training, and education about outdoor pursuits and sports. Classes are offered on a non-credit basis or for activity credits through the Health and Human Performance Department. The Outdoor Program also organizes outdoor trips.

University Golf Course
The University of Montana-Missoula has a picturesque nine/eighteen hole golf course open to students, faculty and staff, as well as the general public. It is located approximately one-half mile south of the main campus.

The course has a clubhouse restaurant, driving range, putting and chipping green. The pro shop is well-stocked and club and cart rentals are available. Private lessons are offered by appointment with an assortment of rate structures.

Grizzly Pool
The University of Montana Grizzly Pool is a 7-lane, 25-yard indoor pool. Present programs include: fitness swims, recreational swims, classes for all ages (infant to adult), Lifeguarding and WSI classes, pool rentals, Swim Shop, and competitive skills lessons.

Community Services

Bureau of Business and Economic Research
The Bureau of Business and Economic Research is the research and public service branch of the School of Business Administration.

Montana Cooperative Wildlife Research Unit
The Unit investigates basic and applied problems in wildlife ecology and management. Graduate students, majoring in Wildlife Biology or Biological Sciences, conduct much of the research supported through the Unit by USGS-Biological Resources Division, Montana Fish, Wildlife and Parks, and numerous other agencies and groups.

Montana Campus Compact
The Montana Campus Compact (statewide) is a coalition of college and university presidents, chancellors, and deans representing two-and-four year, public, private, religiously affiliated, community, and tribal colleges across Montana. These campus leaders are committed to fostering the values and skills of citizenship in Montana students through active involvement in civic engagement activities.

Programs:
- Campus Corps (Extracurricular Community Service)
- Community Partners Education Awards
- MTCC VISTAS
- Service-Learning:
  - Raise Your Voice: Student Action for Change
  - MTCC Community Service Scholarships
  - Montana Athletes in Service
  - Jimmy and Rosalynn Carter Partnership Award

For more information regarding MTCC programs and member benefits, please contact the MTCC headquarters office at (406) 243-5177 or browse the MTCC website at www.mtcampus.org. For more information regarding The University of Montana MTCC affiliate, contact the Office for Civic Engagement at (406) 243-5128 or see their listing under The Office For Civic Engagement.

The Office for Civic Engagement
The Office for Civic Engagement (OCE) serves as a focal point for the campus community to expand academic, professional, and personal development through volunteer and service learning activities. OCE strives to promote active citizenship and leadership development by incorporating service into the University ethos. The OCE operates as an affiliate of the statewide Montana Campus Compact (MTCC) organization (see separate listing). The OCE is located in Social Science 126, (406) 243-4442 or http://www.dhc.umt.edu/oce.

OCE Programs:
- Student Volunteer Programs - Throughout the school year, OCE coordinates several community service programs for students to get actively involved in such as America Reads America Counts, Alternative Spring Break, Habitat for Humanity, and Clean Start Missoula.
- AmeriCorps* & AmeriCorps* VISTA national Service Programs - OCE provides students with the opportunity to engage in national service while attending the University.

American Humanics
The University of Montana is an affiliate of the national American Humanics, Inc. The American Humanics program at UM is designed to be a degree enhancement certification program that complements a student’s major. The program provides students with academic and extra-curricular opportunities to gain skills and abilities in preparation for professional careers in the nonprofit sector. All American humanics students acquire knowledge and skills in general nonprofit management, fund-raising principles and practices, board committee development, program planning, and risk management. The American Humanics program is operated by UM’s Office for Civic Engagement.

Continuing Education and Summer Programs

Mission
Continuing Education is the outreach arm of The University of Montana, and our mission reflects The University of Montana’s commitment to provide high quality, innovative outreach programs that serve the lifelong learning needs of the citizens of Montana and beyond. Our primary goal is to provide access to UM’s vast array of educational opportunities.

Credit, non-credit, grant-funded, sponsored and self-supporting programs are facilitated through two departments: Educational Outreach and Community and Professional Services. These departments work with academic units and external agencies for program development; write grant and contract proposals for external funding; offer focused training programs that contribute to the economic development of Montana; and use a variety of technologically assisted delivery formats. CE is funded by appropriated, self-support, sponsored and grants/contracts sources.

Continuing Education is located in a bonded facility which provides access to state-of-the-art technology in every room. In addition, we provide conference and event planning,
equipment rental, technical support and assistance with catering. For more information, check our website at www.umt.edu/cc/external.

Educational Outreach

The Educational Outreach Department is an integral part of the instructional program of the University of Montana, offering credit courses and programs for individuals on- and off-campus through a variety of delivery methods. Educational Outreach is home to the following divisions: Extended Studies; External Degree Programs; UM Online; Summer Semester and Winter Session. For Information, visit our website at www.umt.edu/cc/extension.

Extended Studies offers academic courses in a variety of subjects throughout Montana and beyond. Educators and other professionals may find workshops to satisfy recertification or professional development requirements or courses to fit individual needs. Select Extended Studies at www.umt.edu/cc/extension to view course schedules and program offerings.

External Degree Programs administer several UM off-campus programs in various locations around the state including the MBA program, the online MBA Foundation program; Education cohort programs at the Masters level in Educational Leadership, and at the Doctoral level in Educational Leadership. Online degree programs are described below. For more information and locations, select External Degree Programs at www.umt.edu/cc/external.

UM Online courses are available to students both on- and off-campus at times and places convenient to the learner. Degree programs and courses are offered in cooperation with academic units, to students locally, throughout Montana, nationally and globally. Online degree programs include Library Media Endorsement Program, the AAS in Surgical Technology, the Masters of Public Administration, and the Masters of Education in Curriculum Studies. For more information and course schedules, select UMOline at our website http://umonline.umt.edu/

Summer Semester offers several options for traditional and non-traditional students throughout the summer months. Graduate and undergraduate courses are offered in more than 30 disciplines, along with workshops and seminars. The summer catalog includes complete information about summer semester and may be obtained by writing to the Division Manager, Summer Programs or via e-mail at the website http://www.umt.edu/summer or http://umt.edu/summer.

Wintersession offers UM students and community members an opportunity to earn 3-6 credits during the three-week session in January. For more information, view our website at http://www.umt.edu/ce/winter.

Community and Professional Services

The mission of the Community and Professional Services Department is to provide comprehensive credit and non-credit training opportunities to a broad spectrum of professional and community groups using a variety of delivery media. The Department is responsible for the development and implementation of programs that are outside the traditional education format and cover professional development, technical support, training, creative solutions, enhanced solutions and communications. Community and Professional Services is home to the following two divisions: Grants and Contracts; and Health and the Environment.

The Grants and Contracts Division is responsible for responding to Requests of Proposals; managing successful sponsored projects; project evaluations; and conducting grand-writing workshops for non-profit groups.

The Health and Environment division is responsible for providing training opportunities to health and human services professionals as well as those working with environmental issues related to natural resources, ecosystem management, fire, water, soil and air. Contact us on the internet at http://www.umt.edu/cc/external.

Facilities

Computing and Information Services

Computing and Information Services (CIS) offers a variety of services and facilities to support students, faculty and staff who use information technology. These include e-mail, Web, and telecommunications services, Internet access, Banner (CyberBEAR) information systems, student computing labs, Help Desk support, and technology short courses.

CIS provides a high-speed network that links several thousand computers in offices, labs, classrooms, and residence halls across the three UM-Missoula campuses, and provides high-speed Internet access to users in these locations.

CIS-managed, student computing labs provide about 200 general access computers (PC's and Macs) in several locations. Available software includes a variety of tools for Internet browsing, word processing, spreadsheets, database management, Web development, presentation graphics, and statistical analysis.

CIS offers a selection of free, non-credit, short courses, Help Desk support (visit LA 139 or call 243-help), other consulting services, and numerous free documents to help users become more proficient with information technology.

The CIS main office is located in Liberal Arts room 144 and can be reached at 243-5455. CIS is part of the University's Information Technology Office (ITO). ITO offices are located in the lower level of Davidson Honors College.

Montana Forest and Conservation Experiment Station

The Montana Forest and Conservation Experiment Station was established by the Montana Legislature in 1937 as a non-profit organization devoted to scientific investigation of natural resource problems. The station serves as the research unit of the University of Montana School of Forestry with the dean functioning as station director. The station seeks, through its research and publications, to enhance public understanding of forestry and conservation and contribute to responsible management of our nation's natural resources.

The Shafizadeh Rocky Mountain Center for Wood and Carbohydrate Chemistry

The Center is a research facility specializing in development of new chemical products from carbohydrates (monosaccharides to polysaccharide) found in grains and wood. Targeted applications include consumer products and environmentally safe industrial products such as biodegradable synthetic polymers, pharmaceutical components, and materials for industrial processing.

Stella Duncan Memorial Research Institute

The Institute was created initially by a bequest from an alumna of the University; the funds were designated originally for research on the cause and treatment of bronchial asthma. Current work focuses on the mechanisms by which transcription can enhance DNA secondary structures and mutations similar to those found in some cancers and during the immune response.

Institute for Tourism and Recreation Research

The Institute was created by the Montana University System Board of Regents in June 1987 to conduct the travel research authorized by the 1987 Legislature. The Institute is the
research arm for Montana's travel and recreation industry; its mission is to conduct research that will strengthen the travel component of the state's economy.

**Wilderness Institute**

The Institute seeks to encourage and support teaching, research and outreach programs focusing on wilderness. The Institute administers the Wilderness and Civilization program of interdisciplinary undergraduate education, a program leading to the Wilderness Studies minor (see the School of Forestry).

**Student Rights**

**Public Safety Report and Alcohol and Drug Guidelines**

The health and safety of students, faculty, staff, and visitors are of paramount concern to The University of Montana. Each year the University publishes an annual report outlining on-campus security and safety information and crime statistics. The report provides important information for security awareness and crime prevention programs, emergency procedures and reporting crimes, plus law enforcement and safety services on campus.

Additionally, the booklet contains the University's policy on sexual assault and information about support services for victims of sexual assault. The booklet also includes information about the University's drug and alcohol policy, programs and support services for substance abuse, and risk management guidelines for University-related events.

The booklet is available by writing or calling the Office of Public Safety (406) 342-6131 or the Office of the Vice President for Student Affairs (406) 243-5225, The University of Montana, Missoula, Missoula, MT 59812. The information can also be accessed on the web at www.umt.edu/studentaffairs/ and www.umt.edu/pubsafety/campact.htm.

**Student Complaint Procedures**

Under the terms of the faculty-administration contract at The University of Montana, there is a formal procedure for students who have a complaint against a faculty member or an administrator. The handbook for resolving complaints against faculty and administration is available from the ASUM office and outlines the steps to be taken to pursue grievances. The ASUM Student Resolution Officer is available to answer questions about procedures and to serve student concerns. Time restrictions are important in the process so students should review procedures immediately if they feel they may have a complaint.

**Family Educational Rights and Privacy Act of 1974 (Buckley Amendment)**

Consistent with the provisions of the Family Educational Rights and Privacy Act of 1974 and University policy, every person who is or has been a student at this University, and the parents of students under 18 who are not taking postsecondary courses, have the following rights:

1. Upon completion of the appropriate request form and submission thereof to the person responsible for the custody and maintenance of the records, a student has the right to inspect and review within 45 days from the date of initial request that portion of any official record which directly relates to the requesting student and to have a copy thereof upon payment of the cost of the copy. An "official record" is any record intended to be used for "school use" or to be available to parties outside the school or school system, specifically including but not necessarily limited to identifying data, academic work completed, level of achievement (grades, standardized achievement test scores), attendance data, scores on standardized intelligence, aptitude, and psychological tests, interest inventory results, health data, family background information, teacher or counselor ratings and observations, and verified reports of serious or recurrent behavior patterns.

2. Upon completion of the appropriate request form and submission thereof to the person responsible for the custody and maintenance of the records, a student may request that portion of any official record which directly relates to the requesting student and to have a copy thereof upon payment of the cost of the copy. An "official record" is any record intended to be used for "school use" or to be available to parties outside the school or school system, specifically including but not necessarily limited to identifying data, academic work completed, level of achievement (grades, standardized achievement test scores), attendance data, scores on standardized intelligence, aptitude, and psychological tests, interest inventory results, health data, family background information, teacher or counselor ratings and observations, and verified reports of serious or recurrent behavior patterns.

3. The right to have education records or personally identifiable information from education records kept confidential and not released to third parties without the written consent of the student, except for release to the following:

   a. University personnel for legitimate purposes and to the extent required in the ordinary course of the performance of their duties. For disclosure purposes, University personnel shall include appropriate University of Montana Foundation, Alumni Association, and Grizzly Athletic Association personnel; and legitimate purposes shall include those relating to planning, execution, and evaluation of academic, administrative, employment, and/or financial programs of the University.

   b. Authorized representatives of (a) the Comptroller General of the United States, (b) the Secretary, (c) an administrative head of an education agency, or (d) state educational authorities having access to student or other records which may be necessary in connection with the audit and evaluation of federally supported education programs, or in connection with the enforcement of the federal legal requirements which relate to such programs. Provided, that, except when collection of personally identifiable data is specifically authorized by federal law any data collected by such officials with respect to individual students shall not include information (including Social Security numbers) which would permit the personal identification of such students and their parents after the data so obtained has been collected.

   c. In compliance with judicial order or any lawfully issued subpoena upon condition that the student is notified of compliance.

   d. In connection with a student's application for or receipt of financial aid.

   e. The University of Montana may forward educational records to other institutions for students intending to transfer.
Alumni Association

The University of Montana Alumni Association, established in 1901 by Eloise Knowles, represents over 80,000 graduates, former students and friends across the world. The mission of the Association, with offices in Brantly Hall, is to “identify and serve the needs of this University, its alumni, students and friends.” The Alumni Association sponsors and helps coordinate Homecoming, Charter Day, Distinguished Alumni Awards, Senior Recognition Day, Scholarships, Internships and Commencement Reunions. The Association also co-sponsors with Career Services the Ask-An-Alum program, which connects alumni with currently enrolled students who are exploring career options. Visit their website at www.umontanaalumni.org for more information.

Student Government

By paying the student activity fee, a student becomes a member of the Associated Students of The University of Montana (ASUM). ASUM is governed by officers elected at large – president, vice president and business manager – and a 20-member Senate. Together they have full authority over the ASUM general fund, which consists of the yearly activity fee collections and a total annual cash flow approximating 1.5 million dollars. The sole power to determine the allocation of the student budget resides with ASUM, pursuant to a 1970 Board of Regents policy. After the ASUM president presents the annual executive budget recommendation, the Senate determines the final allocations. The business manager and the Budget and Finance Committee, along with the ASUM accountant and office manager, then assume full responsibility for the disbursement of student money.

ASUM budgets money to its agencies - ASUM Administration, ASUM Child Care, UM Productions and ASUM Legal Services - as well as to a wide variety of special interest groups. It also co-sponsors Escort Service, Students Tutoring Students, Ask An Alum and the UM Advocates. For the special interest groups, ASUM designates special funds available for emergency expenses. Information about these groups may be obtained by visiting www.umt.edu/asum/government/studentgroups.htm.

ASUM Child Care provides several child care facilities for activity fee-paying students.
UM Productions is the largest student programming agency on campus. They provide the University and Missoula communities with a wide variety of entertainment and activities, specializing in pop concerts, special events, and performing arts.

ASUM hires professional lawyers for Legal Services. Legal services are available to all activity fee-paying students for a minimal one-time fee plus office and court costs. Services include everything from tenant-landlord disputes to major legal needs of students, not including major felonies.

Also ASUM-affiliated are KBGA, a student-run alternative radio station; the ASUM Office of Transportation, which encourages and provides alternative transportation; and ASUM Off-Campus Rental Center, which assists student and the community with rent-related problems.

Student appointments to full-voting membership on ASUM and University committees are made by the ASUM vice-president. Such committees virtually govern many aspects of the University, including curriculum, campus development, and scholarships and loans. Ad hoc committees may be appointed at any time by the ASUM president or vice-president.

ASUM has three semi-autonomous standing committees which share in student governance. Publications Board oversees all ASUM publications. The UC Board is charged with policy making for and administration of the University Center. The Student Political Action Committee oversees student interests in political affairs, both on and off campus, and organizes volunteers for various activities. It also assists the ASUM president in advising the full-time lobbyist hired by ASUM for state legislative sessions.

**Special Interest Groups**

Students have organized over 150 different special interest groups. Information about them can be obtained in the ASUM Offices in the University Center or by visiting our web site at http://www.umt.edu/asum/government/studentgroups.htm.

**Fraternities and Sororities**

The Greek Community of The University of Montana provides a comprehensive educational, social, and living experience for members through the promotion of friendship, leadership, personal development, academics, and services to the University and the Missoula community. The Greek members donate their time and support to over 50 recognized philanthropies. Additionally, they involve themselves in a wide variety of campus leadership organizations, such as Residence Life Staff, PRÓ's, ASUM Senate, Advocates, Peer Advising, and Mortar Board.

The Greek system has seven national fraternities (Phi Delta Theta, Phi Gamma Delta, Sigma Alpha Epsilon, Sigma Chi, Sigma Nu, and Sigma Phi Epsilon) and four national sororities (Alpha Phi, Delta Gamma, Kappa Alpha Theta and Kappa Kappa Gamma).
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