1-1-2007

**2007-2008 Course Catalog**

University of Montana--Missoula. Office of the Registrar

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The University of Montana-Missoula

The University of Montana-Missoula Home Page ................................................................. http://www.umt.edu
Enrollment Services, Admissions, Orientation ................................................................. (406) 243-6266
Business Services ........................................................................................................... (406) 243-2223
College of Technology ................................................................................................ (406) 243-7882 (In Montana, 1-800-542-6882)
Disability Services ................... TDD (406) 243-2243
University Villages ........................................................................................................ (406) 243-6030
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, 2007
Summer Sessions will occur between the dates of May 21 and July 27.

Autumn Semester, 2007
April 16 (Monday) ................................................................. Autumn 2007 Registration Begins
August 10 (Friday) .......................................................... Last Day for Registered to Pay Fees
August 14 (Tuesday) .......................................................... Late Registration Begins
August 22-24 (Wednesday-Friday) .................................. Semester Begins, Orientation and Registration
August 27 (Monday) .......................................................... Classes Begin
September 3 (Monday) .................................................... Labor Day, Holiday
October 29-November 9 .................................................. Spring 2008 Registration
November 12 (Monday) .................................................... Veteran’s Day, Holiday
November 21-22-23 (Wednesday-Thursday-Friday) .... Thanksgiving Vacation
December 8-9 (Saturday-Sunday) ................................. Study Days
December 10-14 (Monday-Friday) ............................. Final Examinations

Wintersession, 2008
January 2-18 ................................................................. Wintersession Classes

Spring Semester, 2008
October 30 (Tuesday) ....................................................... Spring 2008 Registration Begins
January 4 (Friday) .......................................................... Last Day for Registered to Pay Fees
January 8 (Tuesday) .......................................................... Late Registration Begins
January 16-18 (Wednesday-Friday) .................................. Semester Begins, Orientation and Registration
January 21 (Monday). ........................................................ Martin Luther King Day, Holiday
January 22 (Tuesday) ........................................................ Classes Begin
February 18 (Monday) ......................................................... Washington-Lincoln Day, Holiday
March 24-28 (Monday-Friday) ........................................ Spring Vacation
April 14-25 ........................................................................ Autumn 2008 Registration
May 3-4 (Saturday-Sunday) .............................................. Study Days
May 5-9 (Monday-Friday) .................................................... Final Examinations
May 10 (Saturday) ............................................................. Commencement

Summer Session, 2008
Summer Sessions will occur between the dates of May 19 and July 25.
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.
   4. 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.

C. To increase the coordination of academic resources to improve student progress toward degree.

D. To promote diversity with special attention to Montana’s Native American populations.

E. 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.
   4. 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 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 a 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 (50 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.

**Equal Opportunity**

The University of Montana is committed to a program of equal opportunity for education, employment and participation in University activities without regard to race, color, sex, age, religio/us creed, political ideas, marital or family status, physical or mental disability, national origin or ancestry, or sexual orientation.

**Accreditation**

The University of Montana-Missoula is accredited by the Northwest Association of Schools and Colleges. Many of the professional schools and departments have special accreditation as well. 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 accreditation by the AACSBoard; the Chemistry Department’s Bachelor of Science program is approved by the American Chemical Society; computer science is accredited by the Computing Accreditation Commission of 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 (at undergraduate and graduate levels) are approved by the Montana Board of Public Education and are part of the Professional Education Unit which is accredited by the National Council for Accreditation of Teacher Education (NCATE) www.ncate.org; the mental health counseling option and the school counseling option in Counselor Education are accredited by the Council for Accreditation of Counseling and Related Education Programs; 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 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 Paralegal Studies program is approved by the American Bar Association; the Department of Music is accredited at the undergraduate and graduate levels by the National Association of Schools of Music; the Skaggs 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; the pharmacy technology program is accredited 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, Recreation, 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 accredited by the American Association for Accreditation of Laboratory Animal Care.

**University Officers**

**June 2007**

**Board of Regents of Higher Education**

Stephen M. Barrett (vice-chair) ....................................................... Bozeman
Todd Buchanan ................................................................. Billings
Clayton Christian ............................................................. Missoula
Lynn Morrison-Hamilton (chair) ........................................ Havre
Kerra Melvin (student regent) ......................................................... Butte
Dr. Janine Pease ................................................................. Billings
Lila Taylor ............................................................... Busby
Sheila Stearns, Commissioner of Higher Education ............................................. ex officio
Linda McCulloch, Superintendent of Public Instruction ........................................ ex officio
Brian Schweitzer, Governor ................................................................. ex officio

**Local Executive Board**

Arlene Breum ............................................................... Missoula
Bob Ream ............................................................... Missoula
Vacant ................................................................. Missoula

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Royer C. Engstrom, Ph.D.
University Provost and Vice-President for Academic Affairs
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Executive Vice President
Teresa S. Branch, Ph.D.
Vice President for Student Affairs
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Vice President for Administration and Finance
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Center for Continuing Education
Bonnie Allen, M.L.S.
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Perry Brown, Ph.D.
College of Forestry and Conservation
E. Edwin Eck II, J.D.
School of Law
Roberta Evans, Ph.D.
School of Education
Gerald A. Fetz, Ph.D.
College of Arts and Sciences
David S. Forbes, Ph.D.
College of Health Professions and Biomedical Sciences
Larry D. Gianchetta, Ph.D.
School of Business Administration

Barry Good, Ph.D.
College of Technology
Shirley Howell, D.A.
School of Fine Arts
Peggy Kurh, M.A.
School of Journalism
James McKusick, Ph.D.
Davidson Honors College
David Micus, M.S.
Registrar
James Staub, Ph.D.
Associate Provost
David Strobel, Ph.D.
Graduate School
Arlene Walker-Andrews, Ph.D.
Associate Provost
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English Teaching - option in B.A. and M.A., English
Entrepreneurship - option in A.A.S., Management
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 - option in B.A., English
Finance - courses offered
Financial Management - option in B.S. in Business Administration
Fish and Wildlife Biology - Ph.D.
Food Service Management - A.A.S.
Forensic Anthropology - option in B.A. and M.A., Anthropology
Forensic Chemistry - option in B.S., Chemistry
Forensic Studies - Certificate
Forest Operations and Applied Restoration - option in B.S. in Forestry
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.H.P., M.S., teacher preparation
Health Enhancement - option in B.S. in Health and Human Performance
Health Information Coding Specialty - option in A.A.S., Medical Information Technology
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. Accounting Technology
Individual Interdisciplinary Program - Ph.D.
Information Systems - option in B.S. in Business Administration; teacher preparation; M.S.
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 Development Studies - undergraduate minor
International Relations and Comparative Politics - option in B.A., Political Science
International Resource Management - option in M.S., Resource Conservation
Irish Studies - minor
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
Liberal Studies - B.A.
Library - courses offered
Library Media Services - option in M.Ed. and M.A., Curriculum and Instruction; undergraduate minor; teacher preparation
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 - B.A., option in M.F.A., Fine Arts; undergraduate minor
Medical Administrative Assisting - option in A.A.S., Medical Information Technology
Medical Assisting - A.A.S.
Medical Information Technology - A.A.S.
Medical Reception - Certificate
Medical Technology - B.S. in Medical Technology
Medical Transcription - option in A.A.S., Medical Information 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 Leadership - courses offered
Military Studies - undergraduate minor
Modern Languages and Literatures - M.A.
Music - B.M., B.M.E., M.M.; 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
Natural Resource Conflict Resolution - Certificate
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
Operations Research - option in M.A., and Ph.D., Mathematics
Orchestral Instruments - option in B.M., Performance
Organ - option in B.M., Performance
Organic Chemistry - option is 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
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
Photography - 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 - 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
Political Science-History - B.A., teacher preparation
Power Generation - option in A.A.S., Diesel Technology
Practical Nursing - Certificate
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 Health - Certificate; M.P.H.
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 Resources Management - option in B.S. in Forestry
Reading - teacher preparation
Recreation Management - B.S. in Recreation Management, M.S.
Recreation Resources Management - option in B.S. in Recreation Management
Recreational Power Equipment - Certificate
Registered Nursing - A.S.
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., Management
School Counseling - option in M.A., Counselor Education
School Psychology - M.A., Ed.S.; option in Ph.D., Psychology
Science - teacher preparation
Sculpture - option in B.F.A. and M.F.A., Fine Arts
Secondary Education - option in M.Ed. and M.A., Curriculum and Instruction
Small Engine and Equipment Technology - courses offered
Social Science, Comprehensive - teacher preparation
Social Work - B.A., M.S.W., undergraduate minor in Gerontology
Sociology - B.A., M.A., undergraduate minor, teacher preparation
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
Wild Land Restoration - B.S., 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

Writing Studies - courses offered
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 2006-07 academic year both in-state and out-of-state high school graduate 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.
4. For Fall 2007, students must meet a minimum math score of:
   - 18 on the ACT or
   - 440 on the SAT or
   - A score of 3 or above on the AP Calculus AB or BC Subject Exams. In lieu of the above requirement, student can complete a Rigorous High School Core that includes four years of math with grades of C or higher.
5. For Fall 2007, students must meet a minimum Writing Proficiency score of:
   - 16 on the Combined English/Writing section of the Optional Writing Test or a 5 on the Writing Subscore of the ACT; or
   - 390 on the Writing Section of the SAT or a 5 on the Essay the SAT; or
   - 2.5 on the Montana University System Writing Assessment; or
   - 3 on the AP English Language or English Literature Examination; or
   - 50 on the CLEP Subject Exam in Composition.

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 must meet a minimum math score within two semesters and must complete them within three semesters. In cases where academic preparation falls well below the admission standards listed above, applicants will be directed to the College of Technology were courses can be taken to strengthen their preparation for success at The University of Montana.

Special Circumstances

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

1. Non-traditional freshmen (those students who do not enter college for a period of at least three years after completing 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.

2. 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.

3. Summer only students are exempt from standards 2, 3 and 4 above.

All traditional freshman or GED freshman applicants must take the ACT or SAT. Some departments reserve the right to set higher admission standards 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. These admission requirements are subject to change.

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

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. These admission requirements are subject to change.

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 transfer 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 completed, signed and returned. Applications are also available on the university website.

2. $30.00 or $36 application fee. This non-refundable fee is payable once at the undergraduate level provided payment is
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 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 or $36 application fee. This non-refundable application fee is payable once at the undergraduate level and 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, 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 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 complete this form.

**When to Apply**

Applications are considered on a first come, first-served basis. Within two weeks of receiving an application, the College of Technology will notify applicants of their status. If a program is full, applicants who fulfill admission requirements will be admitted to the next available term.

**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. Applications are also available on the university website.
2. $30.00 or $36.00 application fee (in U.S. 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 Enrollment Services-Admissions.
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).
6. Medical History Record International. All students are required to submit supporting credentials and meet the regular admissions acceptance criteria. 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.

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.

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 admission requirements 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 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. Applications are
also available on the university website.

2. $30.00 or $36 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 Pre-Registration Immunization Form 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 chair 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 fifth week of the semester.

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 at 406-243-2572 or by
e-mail at grad.school@umontana.edu. Former graduate
nondegree students applying for readmission pay a $15 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.

**Distance Education**

The University of Montana provides the opportunity to apply
as a Distance Education only student. Students who are
interested in applying for this status would need to meet the
University’s general admission requirements for freshman and
transfer students. This admission status is designed for students
who are registering for online courses only and do not plan to
take any courses on campus. When applying for this status
students are not required to provide proof of immunization or
complete a medical History Form. Since Distance Education
only students have some of the mandatory fees waived, they are
not eligible for health insurance, services provided by the Curry
Health Center, athletic event discounts or the Campus
Recreation facilities.

Currently enrolled students or former University of Montana
students must change their status by completing a Distance
Learning Change of Status Form. This form is available from
the Registrar’s Office or online at the following URL:
http://www2.umt.edu/registrar/forms.htm.

**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 45. Effective Jan 1, 2002
passing scores are 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 Office or Enrollment Services-Admissions.

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 undergraduate 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.
For additional information you can contact the Registrar’s
Office at 406-243-2939 or visit us on the web at
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, ATAP, Box 592, Princeton, New Jersey 08540.

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 Pass 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. Enrollment Services-Admissions will make appropriate designations.
5. The student’s academic department will determine the applicability of credits granted toward major requirements.

Additional credit information is available at http://admissions.umt.edu/admissions/apinformation/

International Baccalaureate
The University of Montana recognizes IB achievement and awards eight credits for each higher level exam passed with examination scores of four or higher. The University does not grant credit for standard level examinations. Enrollment Services-Admissions will provide students with an evaluation of their credits upon receipt of official scores. Additional information can be found at http://admission.umt.edu/admissions/apinformation/

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 Foreign Language department 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.

Additional information can be found in the section titled “General Education for Transfer Students.” See index.

Immunization Requirements
Montana state law requires postsecondary students to provide proof of immunization. Students must complete the Pre-Registration Immunization Requirements form and return the form 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/sa/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, International Center, 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 190 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 
year student may travel to another state and participate in the 
exchange program for up to one academic year. 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.

Special Admission Committee
A special admission 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, re-admission, 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 thereon. In making such judgment, the University may, 
among other things, take into account the individual’s history 
and experience relative to (a) violent 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 Assistant Vice President for Enrollment, the Dean of the 
Graduate School or the Chair of the Admissions Committees of 
the various professional schools 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 
thereon, additional information regarding the applicant’s 
background and experiences shall be requested. No applicant’s 
admission may be barred automatically, solely by reason of a 
criminal conviction, if state supervision has terminated, or 
solely by reason of a youth court adjudication. The responsible 
admissions officer may request additional information in the 
following 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 Assistant Vice President 
for Enrollment or other responsible officer has reason to believe 
an applicant may present an unreasonable risk to the safety and 
wellfare of the campus and persons thereon.

After obtaining additional information, the responsible 
admissions officer may admit the applicant or refer the 
application 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. 
Course work from other schools is not evaluated unless an 
individual exception is requested by a student and approved by 
a committee composed of the Academic Vice President, 
Assistant Vice President for Enrollment and Registrar.

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 non-traditional 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 departmental 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 a "C" was earned, 
internship, clinical experience, and some laboratory courses 
will not be considered for transfer credit.

Students who wish to appeal a decision regarding acceptance 
of transfer credit should contact Enrollment Services-
Admissions to receive information on the appeal process.

Transfer Articulation
Enrollment Services-Admissions publishes articulate course 
work from various two and four year colleges in Montana, 
Idaho, Oregon, Utah, Washington and Wyoming. This 
information is available at www.umt.edu. Choose “A-Z Index” from 
the "A-Z Index" and click on Transfer Credit Information.

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 "VT". 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) 444-1409.

**Western Undergraduate Exchange Program (WUE)**

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

Only first time incoming freshman and new transfer students are eligible to apply for a WUE scholarship.

The amount of the WUE scholarship will represent 150% of Montana resident tuition. Therefore, the WUE scholarship will enable recipients to pay the equivalent of 150 percent of Montana resident tuition rather than the full non-resident tuition and fees.

The WUE scholarship will automatically be renewed each semester providing recipients follow the conditions of the WUE Scholarship.

The conditions of the WUE Scholarship are:

- The scholarship is in effect for four years or until completion of a bachelor's degree (120 credits), whichever comes first.
- Recipients may not change their state of legal residence. Recipients must maintain legal residence in a participating WUE state.
- Recipients must maintain a 3.0 grade point average to maintain the scholarship.
- Recipient must enroll as a full-time student (15 or more credits) for each consecutive term of enrollment.

Time as a WUE scholarship recipient cannot be used toward fulfilling Montana state residency requirements for fee purposes at any unit of the Montana University System. To be eligible for the WUE scholarship first time incoming freshman and transfer students must apply for admission to The University of Montana and complete the UM Entering Student Scholarship by December 31st. Further details are available from the Enrollment Services-Admissions Office or by visiting http://admissions.umt.edu.

**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.
Academic Advising and Orientation

Advising

Academic advising is an important part of the education process at The University of Montana. It is a personal and educational advantage to the UM student who establishes a friendly and honest relationship with an academic advisor. 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 goals.

All undergraduate students are required to meet with their advisor at least one each semester. The mandatory advisement policy requires that a student must obtain the advisor’s endorsement of his or her course selections. Students meet with an advisor prior to registration for the next semester to review educational progress, discuss plans and secure schedule approval.

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

Academic advisors assist students regarding class schedules, dropping or adding courses, by making referrals to appropriate academic or personal assistance programs and the various requirements for graduation. Advisors’ signature lines are provided on forms when it seems necessary for a student to visit with the advisor to make an appropriate educational decision.

The University of Montana-Missoula encourages the enrollment of students who are uncertain of their education and career plans. These students are designated as Undeclared students. Undeclared students are assigned a faculty advisor or a student (peer) from a select advising pool through the Undergraduate Advising Center. 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, staff and professional advisors in the process. In the event that a student does not know who his or her advisor is or is dissatisfied with an assigned advisor, he or she may request advisor information or a change of advisor either from the department or through the Undergraduate Advising Center.

Although faculty advisors, peer advisors and the Director of the Undergraduate Advising Center are all available to assist students, it is important for students to realize that the ultimate responsibility for meeting all graduation requirements is their own. Students increase their academic planning 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.

Faculty, staff and student advisors facilitate positive academic advising experiences by: educating students about developing mentoring 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 Undergraduate Advising Center, Lommasson Center 269, The University of Montana-Missoula, Missoula, MT 59812 or telephone (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 $60.00 orientation fee and new transfer students are assessed a $50.00 orientation fee. New students in the College of Technology are assessed a $15.00 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 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 and 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.umont) 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 sections 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.

$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 (withdrew) 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 (withdraw/passing) if the student’s course work has been passing or a WF (withdraw/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 new students unfamiliar with the drop process who 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.umont) 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. 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 unless a student is granted a medical withdrawal. 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 instructor. 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; W—withdrawal. Withdrawal after the fifteenth day will not result in a grade, credits, or grade point averages. No credit/no credit only and courses graded A-F only will be follow the same rules as the traditional grading system except at the discretion of the instructor.

Courses taken to satisfy General Education Requirements must be taken for traditional letter grade. A student's academic dean may request a notation be placed on the student's academic record indicating attendance was unsatisfactory.) 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 elect one 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; 3.7 quality points for each credit of A-; 3.3 quality points for each credit of B+; 3 quality points for each credit of B; 2.7 quality points for each credit of B-; 2.3 quality points for each credit of C+; 2 quality points for each credit of C; 1.7 quality points for each credit of C-; 1.3 quality points for each credit of D+; 1 quality point for each credit of D; and 0.7 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 the calculation of the grade average 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 their transcripts viewed on cyberbear.umt.edu. 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 Undergraduate Advising Center.

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 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 TRiO and the other by the Undergraduate Advising Center; both are located in Corbin Hall. The Counseling Center offers workshops on a variety of topics designed to enhance student academic performance.

The TRiO Student Support Services (formerly the Educational Opportunity Program) 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 quality, 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 TRiO 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 referred 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**

Grades of AUD, I, N, NC, NCR, NF, W, WP, or WF do not repeat other grades but an F grade does. All courses repeated remain on the permanent record but only the last grade received is used to determine credits earned. If the last grade received is an F, no credit is given for previous passing grades. All grades are used to calculate the grade point average unless the $100.00 per course repeat fee is paid. If the repeat fee is paid, only the last grade received is used in calculating the grade point average.

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**

001-099 Courses below college level. Credit not allowed toward a degree.

100-199 Primarily for freshmen.

200-299 Primarily for sophomores.

300-399 Primarily for juniors.

400-499 Primarily for seniors.

500-699 Primarily for graduate students.

Senior (5th year) courses in Pharmacy are numbered 500 to 599.

**Undergraduates in Graduate Courses**

Post-baccalaureate 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 programs and associate of applied science programs in the College and may not apply toward the associate of arts or baccalaureate degrees. Refer to vocational-technical credits in the Admissions section or Credit Maximums section. See the College of Technology section to see the courses that count toward the associate of arts and baccalaureate degrees. See index.

**Cancellation of Courses**

The University reserves the right to cancel any course for which fewer than five students are enrolled as of the beginning of the course.

**Final Examinations**

Final examinations for the semester are scheduled in two-hour segments, one for each course. The segments should be considered as class meetings to be treated by the instructor as he or she thinks educationally appropriate. The time scheduled for final examinations is the only time period during which final examinations are to be given. If an instructor elects not to give a final examination, under no circumstances are final examinations to be given during the week preceding the scheduled final examination days.

Students may seek relief from writing more than two examinations during the same day. Students who are scheduled for more than two examinations may contact the appropriate faculty to arrange an alternate testing time during the scheduled final examination period. If satisfactory arrangements cannot be made, the student should seek the assistance of his or her dean.

**Transcripts of Academic Records**

Transcripts of the academic record of a student may be obtained from the Registration Counter in Griz Central in the Lommasson Center or the Registrar's Office in the College of Technology upon the written request of the student. In compliance with federal and state laws designed to protect privacy, transcripts are not released without the student's authorizing signature. Transcripts are usually available within two to five working days after receipt of the request. There is a charge of $3.00 for each official transcript. Payment must be received before transcripts are released. Transcripts are withheld if the student owes a debt to the University. Faxed and overnight transcripts are $10.00 to cover special handling.

A student can view his or her academic record on the internet at [http://cyberbear.umt.edu](http://cyberbear.umt.edu).

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**Degree/Certificate Requirements for Graduation**

**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 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 she or he 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**

**Associate of Applied Science**

To receive an Associate of Applied Science (A.A.S.) Degree from the College of Technology, a student must fulfill the following criteria:

1. Complete a minimum of 60 credits.
2. Possess a minimum grade average of 2.00 in all work attempted at the University of Montana-Missoula and a minimum grade of C- in all classes that count toward major, minor or general education requirements.
3. Complete the specialized degree requirements of his or her specific program.
4. Complete the following related subject area of core collegiate-level courses:
   a. Communication: the ability to formulate and adapt messages to a variety of audiences through written, verbal, and nonverbal processes. To ensure all graduates have developed skills in the area of communication, students must successfully demonstrate competency in one of the following writing courses: COM 101, COM 115, or other approved writing course. Furthermore it is recommended that all students complete one of the following communication courses, such as COM 150S, COM 160A, or other approved courses to further develop understanding of human communication processes.
   b. Computation: the ability to complete basic algebraic
manipulations and achieve mathematical literacy. To ensure all graduates have achieved computational literacy, students must demonstrate competency in MAT 100 or a higher number mathematics course.

c. Human Relations: the ability to analyze social problems and structure, ethical norms of professions and society, human behavior, or human values systems. To ensure all graduates have explored dimensions in human relations, students must demonstrate competency in one of the following courses: COM 150S, COM 210E, CRT 122E, PSY 100S, PSY 110S, SUR 204E, or other approved ethical and human values or social sciences course.

d. Computer Literacy: the ability to utilize a modern computing system including web applications and an office productivity suite to research, develop and produce information in a 21st century society. To ensure all graduates have achieved basic technology literacy, students must demonstrate competency in one of the following: CRT 100, CRT 103T, or other approved applied computing course.

e. Professional Capstone: the opportunity to apply skills acquired through a specialized field of study in a professional realm. To ensure all graduates the opportunity to apply specialized skills in a professional environment, it is recommended student complete a program-related internship, field experience, capstone project, or professional certification activity.

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:

Maximum Credit Applicable:

<table>
<thead>
<tr>
<th>For Bachelor Degree</th>
<th>For AA Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical courses (B.A.S. candidates may present more)</td>
<td>0</td>
</tr>
<tr>
<td>(course number suffix of T, up to 10 credits may be requested by petition)</td>
<td>0</td>
</tr>
<tr>
<td>Career Skills</td>
<td>0</td>
</tr>
<tr>
<td>Study Skills Courses (AASC 101, C&amp;L 160)</td>
<td>2</td>
</tr>
<tr>
<td>Physical education activity/skills courses</td>
<td>4</td>
</tr>
<tr>
<td>(DRAM 385, HHP 100-179, MS 203 and 315)</td>
<td>12</td>
</tr>
<tr>
<td>R.O.T.C. courses (contracted students may present 24 credits)</td>
<td>12</td>
</tr>
<tr>
<td>Performance music (Mus 100A, 115A, 116A, 117A, 215, 216, 218)</td>
<td>6</td>
</tr>
<tr>
<td>(Music majors and minors may present more)</td>
<td>6</td>
</tr>
<tr>
<td>Ensemble music (Mus 107A-110A, 113A-114A and 150A)</td>
<td>8</td>
</tr>
<tr>
<td>(Music majors and minors may present more)</td>
<td>8</td>
</tr>
<tr>
<td>Credit/No Credit credits</td>
<td>18</td>
</tr>
<tr>
<td>Omnibus credits</td>
<td>15</td>
</tr>
<tr>
<td>Internship credits in 198, 298, 398, and 498</td>
<td>6</td>
</tr>
<tr>
<td>Correspondence credits</td>
<td>6</td>
</tr>
<tr>
<td>Credits attempted in these areas which are beyond the maximum applicable will remain on the students' permanent records but cannot be used toward graduation.</td>
<td></td>
</tr>
</tbody>
</table>

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

Preamble

The University of Montana-Missoula’s General Education Program provides a broad academic base that supports undergraduate learning both at The University of Montana-Missoula as well as continued learning following graduation. While the General Education Program offers students considerable flexibility in selecting courses, it has a set of common educational objectives for all students.

In accordance with the mission of The University of Montana-Missoula, these objectives are to develop competent and humane individuals who are informed, ethical, literate, and engaged citizens of local and global communities. Students should become acquainted with issues facing contemporary society, participate in the creative arts, develop an understanding of science and technology, cultivate an appreciation of the humanities, and examine the history of different American and global cultures. Upon completion of the general education requirements students should be able to articulate ideas verbally and in writing, understand and critically evaluate tangible and abstract concepts, and employ mathematical and other related skills appropriate to a technologically focused society.

In summary, the General Education Program is designed to provide a high quality intellectual foundation that accommodates all UM students whether in liberal arts or professional programs. This foundation will be reinforced, expanded, and refined as students continue through their course of study. Students are encouraged to prepare for productive roles in their chosen fields by cultivating civic awareness vital to the greater community and a democratic society. The acquired skills will allow students to examine critically the human experience and achieve genuine confidence in their knowledge and abilities. For the General Education Program to accomplish its goals, students must assume primary responsibility for their growth and education.

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 a traditional letter grade and must be C- or better except English composition and the Mathematical Literacy course must be a C or better.

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 benefits 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 45-70 credits;
4. The upper-division writing course(s) required by the major.

ENEX 101. All students must complete English (ENEX) 101 with a grade of C (2.00 quality points) or better unless exempted.

Students may be exempted from ENEX 101 by transferring credit verified as an equivalent of ENEX 101 with a grade of C (2.00 quality points) or better or by score on The University of Montana-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 either ENEX 100 or ENEX 101; or will be exempted from ENEX 101.

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 2007-2008. 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.

African American Studies 372, 478
Anthropology 340H, 359, 450
Art 203L, 303L, 368H, 384H
Asian Studies 210H, 313L, 314L, 340H, 432
Biology 405, 418
Chemistry 334
Chinese 313L, 314L, 432
Communications 210E, 421, 422, 424
Computer Science 415E
Computer Technology 122E
Curriculum and Instruction 287, 318
Dance 334H, 494
Drama 320, 321,
Economics 350, 440
Environmental Studies 302, 305L, 367, 373A, 440, 427E
Forestry 220, 340, 422, 489E
Geography 333S, 335, 401, 499
Geology 320N, 499
German 303H, 304H
Health and Human Performance 340, 450
History 107H, 108H, 300, 400, 401, 437, 446, 467, 470, 471, 478
Honors College 121L
Information Systems 448
Japanese 311L, 312L, 431L
Journalism 270, 331, 333, 415, 489
Management 348, 444, 445, 446
Marketing 461
Mathematical Sciences 406
Microbiology 418, 420
Music 325H, 424, 436, 437
Native American Studies 200, 202L, 329, 367H, 368H, 410L, 494
Pharmacy 550
Philosophy 300E, 427E, 443E, 453, 461, 463
Physics 330
Political Science 300
Psychology 320, 400
Radio-Television 280, 360, 361, 494
Recreation Management 451, 482
Russian 301
Social Work 310
UNC 270
Wildlife Biology 245
Women’s Studies 336
Writing Studies 115, 240E

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 70 credits.
-Transfer students must 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 2006-2007. 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, 150, or 152; or qualify for the Mathematical Literacy Examination.

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 rigor 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) 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 ESOL/ENG 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, (201 may be taken twice if it deals with two different languages) or Computer Technology 121, 270.
   - 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 401
   - Mathematical Sciences 117, Psychology 220
   - Mathematical Sciences 117, Sociology 202
   - Mathematical Sciences 150, Anthropology 381
   - 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 2006-2007. 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 file 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, 311A, 312A
Environmental Studies 373A
Media Arts 111A
Writing Studies 184A, 185A, 186A

**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, 203L, 303L, 403L
Communication Studies 250L
Drama 101L, 166L, 210L, 220L
Environmental Studies 305L
Film Studies 227L
French 311L, 312L
German 311L, 312L, 313L, 361L
Honors College 121L
Liberal Studies 160L, 227L, 251L, 252L, 282L, 305L, 306L,
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, 397H
   - Anthropology 100H, 324H
   - Dance 334H
   - Environmental Studies 167H
   - German 303H, 304H, 362H
   - Music 324H, 325H
   - Philosophy 119H, 251H, 252H, 362H
   - Political Science 321H
   - Religious Studies 106H, 260H
   - Women's Studies 119H, 370H, 371H
   - Non-Western:
     - African-American Studies 208H, 388H, 389H
     - Art 150H, 151H, 367H, 368H, 484H, 485H
     - Asian Studies 102H, 201H, 210H, 211H, 212H, 340H
     - Geography 283H, 284H
     - Japanese 210H
     - Music 136H
     - Native American Studies 100H, 201H, 324H, 342H, 367H, 368H, 465H, 466H
     - Political Science 326H, 328H, 329H
     - Religious Studies 232H
     - Women's Studies 342H
     - Sociology 212H

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 102S, 250S, 328S, 343S, 385S, 420S, 473S
   - Business 103S
   - Business Administration 100S
   - Communications 150S, 260S
   - Economics 100S, 111S, 112S, 302S, 345S
   - Forestry 380S
   - Geography 101S, 103S, 201S, 315S, 333S, 412S
   - Journalism 100S
   - Linguistics 473S
   - Management 340S
   - Military Science Leadership 101S
   - Political Science 100S, 120S
   - Psychology 100S, 240S, 260S, 265S, 330S, 350S, 351S
   - Psychology 100S, 110S
   - Recreation Management 110S, 370S
   - Religious Studies 130S
   - Social Work 100S, 420S, 455S
   - Sociology 110S, 130S, 220S, 230S, 275S, 350S
   - Women's Studies 263S, 275S
   - Non-Western:
     - Anthropology 220S, 251S, 326S, 329S, 341S
     - Asian Studies 202S, 213S, 214S
     - Communication Studies 451S
     - Economics 310S
     - History 214S
     - Liberal Studies 212S, 241S
     - Native American Studies 341S
     - Political Science 463S
     - Sociology 370S

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

Specialized:
Anthropology 403E
Communications 210E
Computer Science 415E
Computer Technology 122E
Curriculum and Instruction 407E
Environmental Studies 327E, 427E
Geology 304E
Health and Physical Education 475E
History 226E, 334E, 460E
Military Science Leadership 402E
Pharmacy 514E
Philosophy 223E, 325E, 327E, 421E, 422E, 427E, 429E, 441E, 443E
Political Science 130E, 353E
Social Work 410E
Writing Studies 240E

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, 142N
Biology 100N, 107N, 109N, 110N, 120N
Chemistry 101N, 154N, 161N, 162N
Forestry 210N, 241N
Geology 101N, 106N
Microbiology 107N
Physics 121N, 122N, 221N, 222N
Science 201N, 202N
Science 225N, 226N

Courses which do not include laboratory experience:
Anthropology 210N, 211N, 286N, 310N
Astronomy 131N, 132N
Biology 106N, 108N, 121N, 201N
Chemistry 151N, 152N
Environmental Studies 101N
Forestry 170N, 271N
Geography 102N, 322N, 426N
Geology 100N, 103N, 105N, 320N
Health and Human Performance 236N
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.
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.

If students transfer 20 or more approved Montana University System core course credits with their initial registration at UM-Missoula, they may choose to complete the MUS General Education rather than the UM-Missoula General Education requirement.
Students governed by the 2006-2007 catalog or later catalogs must earn a traditional letter grade of C- or better in courses used to satisfy General Education (except English composition and the Mathematical Literacy course must be a C or better). Students enrolled in a post-secondary institution prior to autumn 2006 may be eligible to choose an earlier governing catalog. Refer to the Governing Catalog information in the previous section. See index.
Students who have completed a bachelor degree at the University or elsewhere will be presumed to have completed the General Education Requirement.
Admissions & New Student Services will evaluate all transfer
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 to be Undeclared while making program and career decisions. Students must declare a major in a degree-granting program prior to completion of 45 credits or after three semesters, whichever occurs first.

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 Requirement

Courses taken to satisfy the requirements of the major must be completed with a grade of C- or better.

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 Requirement

Courses taken to satisfy the requirements of the minor must be completed with a grade of C- or better.
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
Davidson Honors College

James McKusick, 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 talented and motivated 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 Honors College building, at the center of the campus, provides a large student lounge, study rooms, classrooms and a computer center for student use. The Honors Students' Association plans and conducts a variety of social and academic activities as well as community service projects throughout the year. Special Honors dormitory floors and living units are available. The Davidson Honors College also sponsors The University of Montana Office for Civic Engagement, 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

In accordance with our mission, the DHC is committed to offering students the additional resources, challenges, and encouragement to be active and collaborative learners. DHC students are expected to:

- be intellectually curious;
- develop research and life-long learning skills and habits;
- increase their abilities to write and speak effectively;
- learn skills to succeed and engage in cooperative and collaborative learning;
- develop skills and habits of community and public service.

Honors students are expected to pursue these student learning outcomes 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 courses. 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 research 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 encouraged to reflect on their personal, social and civic goals, and to support the best possible teaching and learning outcomes mentioned previously.

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). HC 120, Introduction to Honors, also is required of all first year students. As this is a one-credit course, it does not count toward the seven Honors courses required to graduate. Details are available in the Davidson Honors College office or on the DHC web site at www.umt.edu/dhc.

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

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.

Admission to the DHC

There are two ways to apply for admission to the Davidson Honors College. One is by completing the DHC Application for Admission; the second is by application for a Presidential Leadership Scholarship. Both options are discussed below.

DHC Application for Admission

Students applying to the Davidson Honors College should show evidence of academic talent and motivation. Generally, a minimum high school GPA of 3.5 is expected, as well as an ACT score of 27 or higher, or SAT combined score of 1800. These criteria are not absolute and highly motivated students are encouraged to apply.

Applications particularly are welcomed from older or non-traditional students and students from varied racial and ethnic backgrounds. College transfer students with a record of strong performance in college courses are welcome to apply. The Davidson Honors College Application for Admission must be postmarked by December 31. Note that all applicants to the Davidson Honors College also must complete a separate application for admission to The University of Montana-Missoula.

Presidential Leadership Scholarships

The Presidential Leadership Scholarships are the University of Montana's premier academic scholarships, recognizing outstanding talent, academic performance, and contribution to the community. These awards are renewable for four years, subject to satisfactory performance by the student. Each scholarship includes a full or partial tuition waiver, the value of which varies according to the amount of tuition each year.

Presidential Leadership Scholarship applicants must be recent high school graduates who have not enrolled previously as regular college or university students. Qualified applicants must meet both of these criteria: (1) cumulative GPA of at least 3.8 on a 4.0 scale; and (2) SAT combined score of 1860 or ACT composite score of 28.

Applicants should complete the Presidential Leadership Scholarship Application Form found in the University of Montana's Scholarship Application Packet. If you complete an application for the Presidential Leadership Scholarship, you will also be considered for admission to the Davidson Honors College. A separate application is not needed. Applications for Presidential Leadership Scholarships must be postmarked by December 31. Qualified applicants who are not chosen to receive Presidential Leadership Scholarships will automatically be placed in the UM entering scholarship program competition. Please note that all applicants for Presidential Leadership Scholarships also must complete a separate application for admission to the University of Montana-Missoula.

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

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. Credits beyond this maximum do not count toward a degree.

Honors College (HC)

U 120 Introduction to Honors 1 cr. Prereq., consent of instr. Interdisciplinary offerings by various faculty. Orientation to practical and theoretical issues facing students entering college.
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 Seminar Variable cr. (R-6)
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 Internship Variable cr. (R-6) Prereq., consent of instr. Practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
U 202 Introduction to Student Leadership 3cr. Offered spring. This service-learning course provides students with a broad overview of leadership development through engagement with campus and community organizations. Students will examine a variety of leadership models, analyze their own capacity for ethical leadership, and develop a personal leadership philosophy.
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. Practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
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 Internship Variable cr. (R-6) Prereq., consent of instr. Practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
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.
U 496 Independent Study Variable cr. (R-3) Prereq., consent of instr.
U 498 Internship Variable cr. (R-6) Prereq., consent of instr. Practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
U 499 Honors Thesis/Project Variable cr. (R-9) Prereq., consent of thesis/project director and dean of Honors College.

Faculty

Professor
James McKusick, Ph.D, Yale University, 1984 (Dean)
College of Arts and Sciences
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

Tunde Adeleke, Director

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, fine 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 1880
389H African since 1880
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
383S 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. Credits beyond this maximum do not count toward a degree.

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 288 Abolitionism: The First Civil Rights Movement 3 cr. Offered spring. Interdisciplinary, historical perspective on the early 19th century movement to abolish slavery and racial discrimination in the United States.

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 368 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 372 African American Identity 3 cr. Offered autumn. Interdisciplinary course designed to explore and illuminate the multifaceted nature and development of African American group and individual identity.

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.

U 389H Africa Since 1880 3 cr. Offered intermittently. Same as HIST 389H. Historical development in Africa since the imposition of colonial rule. Analysis of colonialism and emergence of nationalism.

U 395 Special Topics Variable cr. (R-9) 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) Prereq., consent of instr.

UG 408 Africa and the Black Diaspora 3 cr. Offered intermittently. History of Blacks in the diaspora. Focus on comparative examination of experiences in the United States, Latin America, South Africa, Africa and the Caribbean.

UG 409 History of Southern Africa 3 cr. Offered intermittently. Same as HIST 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 478 Martin, Malcolm and the Civil Rights Movement 3 cr. Offered intermittently. Same as HIST 478. Examination of two leading and dominant leaders of the civil rights movement in the 1960s. Backgrounds, ideological orientations, idiosyncracies, and dynamics of change, continuity, conflict and consensus in their respective programs; lasting impacts and legacies.

U 493 Omaha Variable cr. (R-6) Prereq., consent of instr.

UG 495 Special Topics Variable cr. (R-9) 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) Prereq., consent of instr.

Faculty

Professor
Tunde Adeleke, Ph.D., Western Ontario, 1985

Instructors
Jim Hogan, M.A., 1984
George Price, M.A., The University of Montana, 1996

Emeritus Professor
Ulysses S. Doss, Ph.D., The Union Institute, 1974

Department of Anthropology

John E. Douglas, Chairman

Anthropology is the study of people, both ancient and contemporary, in their biological, archaeological, cultural, and linguistic context. Anthropology uses a holistic approach to integrate findings from the social sciences, natural sciences, and the humanities. The primary educational mission of the Department of Anthropology is teaching, research, and professional service to impart the critical importance of understanding the human condition and its relevancy to an increasingly diverse world. To accomplish this task, the Department of Anthropology provides a stimulating and challenging curriculum that will help students understand and appreciate the range of human cultures as well as the significance of biological evolution of the human condition. Through our rigorous undergraduate and graduate programs students not only achieve a broad cross-cultural education, but prepare to apply their anthropological knowledge in their chosen career paths. Bachelor of Arts, Master of Arts, and Doctor of Philosophy degrees are offered in anthropology, with several options or specializations available at each level.

Special Degree Requirements

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

There are no prerequisites to the undergraduate major. The major requires 36 credits in Anthropology or Linguistics, 12 of which must be the core offerings. In addition to the core courses, students are required to have a course in quantitative methods. Students must complete the core courses and the quantitative course with a letter grade of “C” (2.00) or better.

Of the remaining 24 credits, two upper-division courses (6 credits) must be selected from Subarea 1 with 3 credits from the theory section and 3 credits from the methods section. Six additional credits must be selected from Subareas II, III, or IV. Students must complete the undergraduate anthropology degree requirements by choosing 12 other elective credits in anthropology or approved cognate courses.

The 36 credits must include:

Lower-Division Core Courses, 12 Credits

ANTH 210N Introduction to Physical Anthropology, 3 cr.
ANTH 220S Comparative Social Organization, 3 cr.
ANTH 250S Introduction to Archaeology, 3 cr.
LING 175 Introduction to Language, 3 cr. or
LING 270 Introduction to Linguistics, 3cr.

Subarea I: Theory and Methods, 6 Credits

Anthropological Theory:
ANTH 359 Seminars in Archaeology
ANTH 400 History of Anthropology
ANTH 404 Anthropological Museology
ANTH 410 Human Evolution
ANTH 415 The Emergence of Modern Humans
ANTH 430 Social Anthropology
ANTH 450 Archaeological Theory
Anthropological Methods:
ANTH 314 Principles of Forensic Anthropology
ANTH 401 Anthropological Data Analysis
ANTH 402 Advanced Anthropological Statistics
ANTH 412 Osteology
ANTH 413 Forensic and Mortuary Archaeology
ANTH 414 Human Identification
ANTH 416 Dental Anthropology
ANTH 431 Ethnographic Field Methods
ANTH 451 Cultural Resource Management
ANTH 452 Architecture of the Frontier West
ANTH 453 Cultural Resource Research Methods
ANTH 454 Lithic Technology
ANTH 455 Artifact Analysis
ANTH 456 Historic Sites Archaeology
ANTH 466 Archaeological Survey
Subarea I, II, III, IV, 6 Credits

Subarea I: Human Adaptation and Diversity
ANTH 101H Introduction to Anthropology
ANTH 205S Race and Ethnicity
ANTH 201 Human Sexuality
ANTH 211N Human Genetics
ANTH 310N Human Variation
ANTH 343S Culture and Population
ANTH 388 Native American Health and Healing
ANTH 417 Adaptation and Nutritional Anthropology
ANTH 418 Ecology and Genetic Variation in Human Populations
ANTH 420S Human Behavioral Ecology
ANTH 444 Culture, Health, and Healing

Subarea III: World Societies and Cultures
ANTH 251S Foundations of Civilization
ANTH 252H Archaeological Wonders of the World
ANTH 323H Native Peoples of Montana
ANTH 330H Peoples and Cultures of the World
ANTH 351H Archaeology of North America
ANTH 352 Archaeology of Montana
ANTH 354H Mesoamerican Prehistory
ANTH 357H Archaeology of the Southwest
ANTH 457 Archaeology of the Pacific Northwest
ANTH 458 Archaeology of Hunter-Gatherers

Subarea IV: Concepts and Issues
ANTH 266N Survey of Forensic Science
ANTH 311 Visual Anthropology of Primates
ANTH 326 Religious Belief Systems
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 385S Indigenous Peoples and Global Development
ANTH 411 Primatology
ANTH 422 Psychological Anthropology
LING 470 Introduction to Linguistic Analysis
LING 473S Language and Culture
LING 474 Language History, Variety, and Change
LING 476 Child Language Acquisition
LING 477 Bilingualism
LING 479 Pragmatics
LING 484 North American Indian Linguistics
LING 489 Language of the World

Anthropology or cognate electives, 12 Credits

Upper-Division Writing Expectation
The upper-division writing expectation must be met either by taking an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog (see index), or by taking one of the following courses: ANTH 314, 402, 404, 413, 420, 431, 450, 451, 453, 454, 455, or LING 475.

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 450
ANTH 455
ANTH 466

- 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 102S Race and Minorities
ANTH 211N Human Genetics
ANTH 310N Human Variation
ANTH 328S Culture and Identity
- 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.

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:
ANTH 286N Survey of the Forensic Sciences
ANTH 310N Human Variation
ANTH 312 Principles of Forensic Anthropology
ANTH 413 Forensic and Mortuary Archaeology
SOC 230S Criminology or 235 Criminal Justice System
- complete 12 credits in additional courses in subjects relevant to the forensic sciences chosen in consultation with the advisor, such as (but not limited to) archaeology, physical anthropology, biology, chemistry, criminology, drawing, geology, pharmacy, photography, public speaking, or psychology.

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
LING 473S Language and Culture
ANTH 484 North American Indian Linguistics

Suggested Course of Study
Anthropology is an interconnected 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:

First Year

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<th>Course</th>
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<tr>
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<td>ENEX 101 Composition</td>
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<td>MATH 117 Probability and Linear Mathematics</td>
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Second Year

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**Second Year**

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<td>ANTH 455 Artifact Analysis</td>
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<td>Statistics course</td>
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**Third Year**

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**Fourth Year**

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**Suggested course of study for students completing the archaeology option:**

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>ANTH 250S Introduction to Archaeology</td>
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<td>ENEX 101 Composition</td>
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<td>Elective</td>
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<tr>
<td>Total</td>
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**Certificate in Forensic Studies**

The certificate in forensic studies is designed so that students may complete the requirements either as resident students at UM-Missoula or completely online through UM-Missoula's online facility.

To earn a certificate in forensic studies the student must complete a minimum of 18 credits to include:

- 6 credits in core forensic science courses:
  - ANTH 286N Survey of the Forensic Sciences
  - ANTH 488 Forensic Science and Technology

- 6 credits in science:
  - Appropriate courses include any that have been designated as University of Montana-Missoula General Education Perspective 6 (Natural Science) courses or selected courses from Anthropology (forensics), Physical Anthropology, Archaeology (method and theory); Biology, Chemistry; Computer Science; Geology; Mathematical Sciences (statistics); Physics; Psychology; Sociology 110, Criminology.

- 3 credits in written, oral, or pictorial communication:
  - Appropriate courses include selected courses in Art (drawing, photography); Curriculum & Instruction (communication, multimedia); Communications (any numbered 100 or higher); Communication Studies; Computer Science; English 171, 181; English 100, 101; Forestry 220; Journalism; Linguistics 173, 271; and Media Arts.

- 3 credits in ethics:
  - An appropriate course is one that has been designated as a University of Montana-Missoula General Education Perspective 5 (Ethical and Human Values) course.

**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 Subarea II, III, or IV.

**Lower-Division Core Courses, 12 Credits**

- ANTH 210N Introduction to Physical Anthropology
- ANTH 220S Comparative Social Organization
- ANTH 250S Introduction to Archaeology
- LING 270 Introduction to Linguistics or LING 173, Introduction to Language

**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. Credits beyond this maximum do not count toward a degree.

**Anthropology (ANTH)**

- U 100H Introduction to Latin American Studies 3 cr. Offered autumn or spring. 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 102S Race and Minorities 3 cr. Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.

U 103 Food and Culture 3 cr. Offered spring. 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.

U 104 Orientation to the U.S. 2 cr. Offered spring. 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 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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 201 Human Sexuality 3 cr. Offered autumn. 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, sexuality determination, as well as gender development and current issues.

U 210N 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 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 230 Explorations in American Culture 2 cr. Offered intermittently. 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 comparative world-view for American students. Intended to give an understanding of the complexity and richness of cross-cultural ambiguity, dissonance, and convergence.

U 231 Indigenous World View Perspectives 3 cr. Offered spring. 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 North America from 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 252HArchaeological Wonders of the World 3 cr. Offered spring even numbered years. Major archaeological sites and discoveries and their impact on our understanding of prehistory and history.

U 286N Survey of the Forensic Sciences 3 cr. Offered autumn. 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 293 Omnibus Variable cr. (R-10) Offered intermittently. Independent work under the University omnibus option. 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 relating to current problems or new developments in the discipline.

U 310N Human Variation 3 cr. Offered every spring. Prereq., ANTH 210N 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.


U 314 Principles of Forensic Anthropology 3 cr. Offered spring. Prereq., ANTH 310N or 313 or consent of instr. A study of techniques for recovering skeletal material, identifying and interpreting human skeletal remains, keeping records, interacting with the law enforcement system and documenting human's rights abuses.

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

UG 324H Indians of Montana Since the Reservation Era 3 cr. Offered intermittently. Same as NAS 324H and HIST 354H. Examination of the history of Montana Indians since the establishment of the reservations and contemporary conditions and issues among both reservation and nonreservation 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 odd-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 even-numbered years. Prereq., ANTH 201. Same as WS 327. Comparative study of the history and significance of gender in social life.

UG 328S Culture and Identity 3 cr. Offered spring. Prereq., ANTH 220S or consent of instr. The comparative study of identity formation along and across racial, ethnic, and national lines. Emphasis on issues of ethnogenesis, 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 intermittently. 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. Study of the peoples of various geographic regions and their cultures.

UG 340H Contemporary Issues of Southeast Asia 3 cr. Offered spring. 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. Same as NAS 341S. An examination of the major issues that affect the contemporary experiences of
American Indians.
UG 343S Culture and Population 3 cr. Offered autumn. 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 intermittently. The origins, backgrounds and development of Pre-Columbian American peoples and cultures.
UG 352 Archaeology of Montana 3 cr. Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.
UG 354H Mesoamerican Prehistory 3 cr. Offered intermittently. The development of civilization and prehistoric states in the New World. Prehistoric lifeways and the effects of European contact on these cultures.
UG 357H Archaeology of the Southwestern United States 3 cr. Offered intermittently. 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 intermittently. In-depth research and discussion of selected areas in archaeology.
UG 388S Indigenous Peoples and Global Development 3 cr. Offered autumn odd-numbered years. 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 388 Native American Health and Healing 3 cr. Offered spring. 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.
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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
UG 401 Anthropoligical Data Analysis 3 cr. Offered autumn. Prereq., college algebra or consent of instr. An analysis of the foundations of anthropological scaling and measurement.
UG 402 Advanced Anthropological Statistics 3 cr. Offered spring. Prereq., introductory course in statistics or consent of instr. Focus on techniques used for microcomputer-based data management and multivariate analysis.
UG 403E Ethics and Anthropology 3 cr. Offered spring odd-numbered years. 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 404 Anthropological Museology 3 cr. Offered spring even-numbered years. Prereq., ANTH 101H. Introduction to anthropological museums, museum work and museum theory.
UG 410 Human Evolution 3 cr. Offered spring even-numbered years. Prereq., ANTH 210N. 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 411 Primatology 3 cr. Offered autumn odd-numbered years. Prereq., ANTH 210N. Review of the evolution, anatomy, and behavior of monkeys, apes, and other members of the order Primates.
UG 412 Osteology 4 cr. Offered autumn. Prereq., ANTH 314 and consent of instr. A detailed examination of the human skeleton with an emphasis on identifying individual bones and their structures. Specifically extended to fragmentary skeletal elements. Direct hands-on experience required.
UG 413 Forensic and Mortuary Archaeology 3 cr. Offered spring. Prereq., ANTH 412 and consent of instr. Practical approaches to locating, documenting and recovering human skeletal remains, including surface scatters and burials. Emphasis on interpretations of evidence for recovery scene formation and mortuary behavior.
UG 414 Human Identification 3 cr. Offered spring. Prereq., ANTH 412 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 415 The Emergence of Modern Humans 3 cr. Offered spring odd-numbered years. Prereq., ANTH 210N. An exploration of the emergence of "modern" humans and their relationships with Neanderthals. Exploration of what it means to be "a modern human" through an examination of human evolutionary history.
UG 416 Dental Anthropology 3 cr. Offered spring even-numbered years. Prereq., ANTH 210N. The use of information from teeth in investigating evolutionary trends, the relationships between human groups, subsistence change, and culture change.
UG 417 Adaptation and Nutritional Anthropology 3 cr. Offered autumn odd-numbered years. Prereq., ANTH 210N. An examination of the adaptation of human populations to the environment and food supply via evolutionary, physiological, and cultural mechanisms.
UG 418 Ecology and Genetic Variation in Human Populations 3 cr. Offered autumn even-numbered years. Prereq., ANTH 210N. Human genetic variation examined from an ecological perspective. Emphasis on the role of infectious disease as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.
UG 422 Psychological Anthropology 3 cr. Offered autumn even-numbered years. Prereq., ANTH 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.
UG 430 Social Anthropology 3 cr. Offered autumn. Prereq., ANTH 220S. The principles and theories of social organizations and institutions.
UG 431 Ethnographic Field Methods 3 cr. Offered spring. Prereq., ANTH 220S, 401, 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. 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 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 autumn. 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 intermittently. 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 454 Lithic Technology 3 cr. Offered autumn odd-numbered years. Prereq., ANTH 250S and consent of instr. Analysis of stone artifacts and debitage.

UG 455 Artifact Analysis 3 cr. Offered spring. Prereq., Anth 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.

UG 456 Historic Sites Archaeology 3 cr. Offered spring. Prereq., ANTH 250S and consent of instr. The location and evaluation of historic sites in the Northwest.

UG 457 Archaeology of the Pacific Northwest 3 cr. Offered autumn 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 autumn 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 spring even-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 466 Archaeological Survey Variable cr. (R-12) Prereq., ANTH 250S and consent of instr. Offered autumn. A field course in Montana archaeology.

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

UG 482 Preceptorship in Anthropology 1-3 cr. (R-6) Offered autumn and spring. Prereq., ANTH 210N, 220S, 250S, and 270 and consent of instr. Assisting a faculty member by tutoring, grading objective exams, conducting review sessions, and carrying out other class-related responsibilities. Open to juniors, senior, and graduate students with consent of the faculty member with whom they serve. Proposals must be approved by department chair.


UG 487 Anthropological Field Experience Variable cr. (R-12) Offered intermittently. Prereq., consent of instr. Organized field experience in anthropology.

UG 488 Forensic Science and Technology 3 cr. Offered spring odd-numbered years. Prereq., ANTH 286N or consent of instr. Examination of the forensic sciences with emphasis on the non-crime lab forensic sciences, new technologies, and new directions in the forensic sciences.

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 and spring. 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 501 Documentary Anthropological Research Methods 3 cr. Offered spring. The location, use, and value of written records in anthropological research.

G 502 Curatorial and Archival Management 3 cr. Offered intermittently. Theory and practice in the curation of anthropological collections and the maintenance of anthropological information and records.

G 503 Cultural Resource Interpretation 3 cr. Offered intermittently. Practice of presenting anthropological knowledge of cultural resources to the public, with an emphasis on writing.

G 510 Seminar in Human Variation and Evolution 3 cr. Offered autumn. Various topics related to fossil and genetic evidence of human biological evolution, morphological and genetic diversity of modern humans, and problems of "race".

G 511 Seminar in Physical Anthropology 3 cr. Offered autumn. Review of major concepts, theories, and recent publications in physical anthropology. Designed to prepare graduates to evaluate new hypotheses.

G 512 Advanced Forensic Anthropology 3 cr. (R-6) Offered spring. Prereq., ANTH 314 and 463 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 513 Seminar in Bioarchaeology and Skeletal Biology 3 cr. Offered spring. Theoretical and methodological approaches to the analysis of human skeletal remains derived from archaeological contexts. Demography, health and disease, diet and nutrition, growth, activity patterns, and measures of biological relatedness are interpreted within a biocultural framework.

G 520 Seminar in Ethnology 3 cr. (R-6) Offered autumn and spring even-numbered years. Topic varies.

G 521 Applied Anthropology 3 cr. Offered spring even-numbered years. Study of ways in which anthropological skills may be used in non-academic fields.

G 550 Seminar in Archaeology 3 cr. Offered autumn odd-numbered years. Topic varies.

G 551 Seminar in Historical Archaeology 3 cr. Offered autumn odd-numbered years. An exploration of theories, methods, and literature in historic archaeology.

G 552 Power, Prestige, and Things 3 cr. Offered autumn even-numbered years. Investigation of power, prestige, leadership, and inequality in past social systems as interpreted through artifacts and architecture.

G 570 Seminar in Linguistics 3 cr. (R-12) Offered autumn even-numbered years. Prereq., ANTH 470. Same as LING 570.
Advanced topics in linguistic analysis.
G 593 Professional Project Variable cr. (R-10) Offered every term.
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 597 Research Variable cr. (R-10) Offered every term.
G 598 Internship Variable cr. (R-6) Offered intermittently. Prereq., graduate standing and consent of faculty supervisor. Practical application of classroom learning through internship in a number of areas such as museology, cultural resource management and forensics. Written reports are required.
G 599 Thesis Variable cr. (R-10) Offered every term.
G 600 Issues in Cultural Heritage 3 cr. Offered autumn. A review of the range of topics that fall under the umbrella of cultural heritage and a review of theory and practice in one or more of these topics.
G 602 Cultural Heritage Policy and Practice 3 cr. Offered spring. Prereq., graduate standing. Exploration of critical issues in cultural heritage policy emphasizing the regulatory basis for federal CRM, public anthropology, and indigenous people's issues. Hands-on training in the design and production of federal planning documents.
G 694 Seminar in Cultural Heritage Variable cr. (R-6) Offered intermittently. Topic varies.
G 697 Advanced Research Variable cr. (R-6) Offered every term. Prereq., consent of instr. Independent research projects, other than dissertation.
G 699 Dissertation Variable cr. (R-10) Offered every term.

Doctoral dissertation research activities.

Faculty

Professors
Gregory R. Campbell, Ph.D., University of Oklahoma, 1987
John E. Douglas, Ph.D., University of Arizona, 1990 (Chairman)
Stephen Greymorning, Ph.D., University of Oklahoma, 1992
Randall R. Skelton, Ph.D., University of California, Davis, 1983
G.G. Weix, Ph.D., Cornell University, 1990

Associate Professors
Irene Appelbaum, Ph.D., University of Chicago, 1995
Kimber Haddix McKay, Ph.D., University of California, Davis, 1998
Anna M. Prentiss, Ph.D., Simon Fraser University, 1993

Assistant Professors
Kelly J. Dixon, Ph.D., University of Nevada-Reno, 2002
Ashley H. McKeown, Ph.D., University of Tennessee, Knoxville, 2000
Mizak Miyashita, Ph.D., University of Arizona, 2002
Noriko Seguchi, Ph.D., University of Michigan, 2000
Tully J. Thibeau, Ph.D., University of Arizona, 1999

Lecturer
D. Garry Kerr, M.A., University of Montana, 1994

Emeritus Professors
Frank B. Bessac, Ph.D., University of Wisconsin, 1963
Thomas A. Poor, Ph.D., University of California, Santa Barbara, 1982
Carling M. Foor, Ph.D., Columbia University, 1956
Anthony Mattina, Ph.D., University of Hawaii, 1973
Charlene G. Smith, Ph.D., University of Utah, 1970
Katherine M. Weist, Ph.D., University of California, Berkeley, 1970

Applied Science

Lynn Stocking, Advisor
The Bachelor of Applied Science program is available to students completing an Associate of Applied Science degree program at a regionally accredited institution. The College of Technology section of The University of Montana-Missoula catalog identifies Associate of Applied Science degree programs offered at The University of Montana.
Students considering a B.A.S. degree program must have completed an accredited A.A.S. degree program with a 2.50 grade point average. Because approval of a B.A.S. degree plan is required, students considering such a degree must meet with a designated B.A.S. advisor to identify a degree plan, to create a Degree Program Committee, and to identify the procedure required for degree plan approval.
Bachelor of Applied degree students must meet all the general university requirements for graduation. Fifty credits from an accredited A.A.S. program will count toward the total credits required for graduation. Student earning this degree will receive a diploma identifying the degree of Bachelor of Applied Science without designation of an area of concentration.

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

General Requirements:
A. Successful completion of an approved Associate of Applied Science program.
B. Successful completion of 70 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 two writing courses, at least one numbered 300 or above.
   c. Complete successfully the Upper-Division Writing
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 minor 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 387 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

College of Arts and Sciences - Asian Studies

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. Credits beyond this maximum do not count toward a degree.

Applied Science (APS)

U 396 Independent Study 1-6 cr. (R-6) Offered intermittently. Prereq., consent of instr.

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 102H.
3. Twelve credits in foundational Asian Studies courses (200-level courses), including Asian Studies 210H 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 or 102H.
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. Credits beyond this maximum do not count toward a degree.

Asian Studies (AS)

U 102H Introduction to Asian Studies 3 cr. Offered spring. An introduction to Asia, its geography, cultures and ways of thinking, presented in geographical and historical context. A cultural-geographical overview approached using different materials and emphases.

U 106 The Silk Road 3 cr. Offered autumn and spring. Same as AS and GEOG 106. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.

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 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 JPNS, 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, history, literature, religion, and philosophy.

U 212H Southeast Asian Culture and Civilization 3 cr. Offered intermittently. Same as LS and SOC 212H. 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 Asia: Peoples and Environments 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.

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

U 345 Central Asia and its Neighbors 3 cr. Offered spring. Same as GEOG 345 and HIST 346. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.

U 356 South Asian Traditions: Hinduism 3 cr. Offered spring even-numbered years. Same as LS and RELS 356. 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.

U 402 Cities and Landscapes of Central Asia 3 cr. Offered autumn. Same as GEOG and HIST 402. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.


U 457 Artistic Traditions of Central and Southwest Asia 3 cr. Offered autumn and spring. Same as GEOG and HIST 457. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.

U 460 Central Asia Seminar 3 cr. Offered spring. Same as GEOG 460 and HIST 462. Advanced analysis of the historical and contemporary issues involving the human communities, cultures, and economies in Central and Southwest Asia.

U 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

Timothy Bradstock, Ph.D., Harvard University, 1984 (Modern and Classical Languages and Literatures)

Alan Sponberg, Ph.D., University of British Columbia, 1979 (Liberal Studies)

Alan Sponberg, Ph.D., University of California, 1980 (Mansfield Center)

Ruth Vanita, Ph.D., Delhi University, 1992 (Liberal Studies)

G. G. Weix, Ph.D., Cornell University, 1990 (Anthropology)

Philip West, Ph.D., Harvard University, 1971 (Mansfield Center)

Terry Weidner, Ph.D., University of California, 1980 (Mansfield Center)

Timothy Bradstock, Ph.D., Harvard University, 1984 (Modern and Classical Languages and Literatures)

Alan Sponberg, Ph.D., University of British Columbia, 1979 (Liberal Studies)

Alan Sponberg, Ph.D., University of California, 1980 (Mansfield Center)

Ruth Vanita, Ph.D., Delhi University, 1992 (Liberal Studies)

G. G. Weix, Ph.D., Cornell University, 1990 (Anthropology)

Philip West, Ph.D., Harvard University, 1971 (Mansfield Center)

Astronomy

(See Physics and Astronomy)
Division of Biological Sciences

Charles H. Janson, 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, field ecology, human biology, 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 integrative biochemistry and 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).

Faculty

Professors

Fred W. Allendorf, Ph.D., University of Washington, 1975
Carol A. Brewer, Ph.D., University of Wyoming, 1993
Ragan M. Callaway, Ph.D. University of California at Santa Barbara, 1990
Kenneth P. Dial, Ph.D., Northern Arizona University, 1984
Kerry R. Foreman, Ph. D, University of Idaho, 1977
James E. Gannon, Ph.D., University of Houston, 1981
Willard O. Granath, Ph.D., Wake Forest University, 1982
Erick P. Greene, Ph.D., Princeton University, 1989
F. Richard Hauer, Ph.D., North Texas State University, 1980
William E. Holben, Ph.D., University of New York, Buffalo, 1985
Richard L. Hutto, Ph.D., University of California at Los Angeles, 1977
Charles H. Janson, Ph.D., University of Washington, 1985
Ralph C. Judd, Ph.D., The University of Montana, 1979
Michael F. Minnick, Ph.D., Washington State University, 1987
Jack H. Nunberg, Ph.D., Stanford University, 1979 (Director for the Montana Biotechnology Center)
Jack A. Stanford, Ph.D., University of Utah, 1975 (Bierman Professor; Director of the Biological Station)

Associate Professors

Douglas Emlen, Ph.D., Princeton University, 1994
Mark L. Grimes, Ph.D., University of Oregon, 1986
Jesse C. Hay, Ph.D., University of Wisconsin, Madison, 1994
J. Stephen Lodmell, Ph.D., Brown University, 1996
John L. Maron, Ph.D., University of California-Davis, 1996
L. Poss, Ph.D., Colorado State University, 1990
Matthias Rillig, Ph.D., San Diego State University, 1997
Frank Rosenzweig, Ph.D., University of Pennsylvania, 1997
Anna M. Sala, Ph.D., University of Barcelona, 1992
D. Scott Samuels, Ph.D., University of Arizona, 1991

Assistant Professors

Creagh W. Breuner, Ph.D., University of Washington, 1998
Vanessa O. Ezenwa, Ph.D., Princeton University, 2002
Lila Fishman, Ph.D., Princeton University, 1998
Winsor H. Lowe, Ph.D., Dartmouth College, 2002
Michele A. McGuirl, Ph.D., Montana State University, 1999
Scott R. Miller, Ph.D., University of Oregon, 1999
Scott A. Wetzel, Ph.D., Oregon Health and Science University, 2001
Arthur H. Woods, Ph.D., University of Washington, 1998

Lecturers

Kevin J. Murray, Ph.D., University of Nevada-Reno, 1994
Kathleen A. Westphal, Ph.D., University of Kentucky, 1985

Research Professors

Jerry J. Bromenshenk, Ph.D., Montana State University, 1973

William E. Holben, Ph.D., University of New York, Buffalo, 1985
Richard L. Hutto, Ph.D., University of California at Los Angeles, 1977
Charles H. Janson, Ph.D., University of Washington, 1985
Ralph C. Judd, Ph.D., The University of Montana, 1979
Michael F. Minnick, Ph.D., Washington State University, 1987
Jack H. Nunberg, Ph.D., Stanford University, 1979 (Director for the Montana Biotechnology Center)
Jack A. Stanford, Ph.D., University of Utah, 1975 (Bierman Professor; Director of the Biological Station)

Associate Professors

Douglas Emlen, Ph.D., Princeton University, 1994
Mark L. Grimes, Ph.D., University of Oregon, 1986
Jesse C. Hay, Ph.D., University of Wisconsin, Madison, 1994
J. Stephen Lodmell, Ph.D., Brown University, 1996
John L. Maron, Ph.D., University of California-Davis, 1996
L. Poss, Ph.D., Colorado State University, 1990
Matthias Rillig, Ph.D., San Diego State University, 1997
Frank Rosenzweig, Ph.D., University of Pennsylvania, 1997
Anna M. Sala, Ph.D., University of Barcelona, 1992
D. Scott Samuels, Ph.D., University of Arizona, 1991

Assistant Professors

Creagh W. Breuner, Ph.D., University of Washington, 1998
Vanessa O. Ezenwa, Ph.D., Princeton University, 2002
Lila Fishman, Ph.D., Princeton University, 1998
Winsor H. Lowe, Ph.D., Dartmouth College, 2002
Michele A. McGuirl, Ph.D., Montana State University, 1999
Scott R. Miller, Ph.D., University of Oregon, 1999
Scott A. Wetzel, Ph.D., Oregon Health and Science University, 2001
Arthur H. Woods, Ph.D., University of Washington, 1998

Lecturers

Kevin J. Murray, Ph.D., University of Nevada-Reno, 1994
Kathleen A. Westphal, Ph.D., University of Kentucky, 1985

Research Professors

Jerry J. Bromenshenk, Ph.D., Montana State University, 1973
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. Credits beyond this maximum do not count toward a degree.

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 486 Biochemistry Research Laboratory 3 cr. Offered spring. Prereq., BIOC 380 or 481. 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.

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 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 588 Biomolecular Structure and Dynamics 4 cr. Offered autumn. Prereq., BIOC 482 or equiv. or consent of instr. Fundamentals and current literature topics related to the structure, function, and dynamics of biologically important macromolecules.
with special emphasis on the physical properties and biochemistry of nucleic acids, proteins, and enzymes.

G 589 Cell Regulation and Genetic Mechanisms 4 cr. Offered spring. Prereq., BIOC 482 or equiv. or consent of instr. Fundamentals and exploration of scientific literature emphasizing molecular and cellular principles, current hypothesis, and experimental techniques used to answer research questions. Topics include membrane structure, membrane traffic, signal transduction, transcription and RNA processing, regulation of gene expression, DNA replication and dynamic processes in cells.

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 BMED 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. 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
- 449 Plant-Animal Interactions
- 453 Lake Ecology
- 454 River Ecology
- 494 Seminar in Ecology and Resource Management
- 495 Field Ecology: Methods and Analysis
- 497 Advanced Undergraduate Research

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/FLBS.

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 website 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/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@flbs.umt.edu
Web Page: www.umt.edu/biology/flbs
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 cellular and molecular biology, ecology, field ecology, and organismal biology, and human biological sciences allow specialization in biological subdisciplines and are appropriate background for certain employment opportunities and for continued graduate or professional study:

Cellular and molecular biology: For students interested in the cellular and molecular aspect of biology. This option is also appropriate for students interested in medical school.

Ecology and organismal biology: For students interested in the biology of organisms (plants and animals), and populations. This option is also appropriate for students interested in veterinary school.

Human biological sciences: Provides a strong background in the biological sciences for students interested in pursuing further study in a health sciences professional program.

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.

Teacher preparation in biology, Teacher preparation in general science: Two separate options designed for students interested in a career teaching biology or broad-field science at the secondary level.

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 in the cellular and molecular biology option must successfully complete MICB 404, 420 or three courses chosen from MICB 411, 412, or 450. Students in all other options must successfully complete BIOL 341 and one course chosen from BIOL 304, 306, 316, 366, 403, 405, 406, 410, 418, 445, 480, or a senior thesis (BIOL 499, minimum of 3 credits).

Option in Ecology and Organismal Biology

Forty-three credits in biology, biochemistry, and microbiology including BIOL 108N-109N, 110N, 221, 223, 340-341; one organismal course chosen from BIOL 301, 345, 403, 444-445; one course with a focus on a group of organisms chosen from BIOL 304, 306, 308, 316, 350, 400-401, 410, 418, MICB 300-301; one ecology course chosen from BIOL 366, 430, 446, 447, 448, 495 (Wildlife Disease Ecology), MICB 422, WBIOL 470; one evolutionary biology course chosen from 405, 406, 480, 482, 484. Other required courses include BIOL 380 or 481-482, MICB 423.

Also required: MATH 150 (or 152); one semester of statistics (MATH 241) or a full year of statistics (MATH 444-447, 445-448); one year of chemistry (CHEM 151N, 152N-154N); one year of physics (CHEM 240N, 242N); two years of English (CHEM 151N, 240S, 242S); PHYS 311N, 320N, 330N, 340N; or any four quarter courses in English, journalism, photography, art, foreign language, business management, or other appropriate field.

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 108N-109N, 110N, 221, 223, 340-341, 350, 410; one course chosen from 304, 306, or 356; one course chosen from 405 or 406. CHEM 151N-152N, 154N and GEOS 100N-101N are required. Students also must complete at least 20 credits in cognate areas of anthropology, chemistry (excluding CHEM 151N-152N, 154N), geography, geology (excluding GEOS 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 Cellular and Molecular Biology

Forty-four to forty-nine credits in biochemistry, biology and microbiology including BIOL 481-482; BIOL 108N-109N, 110N, 221, 223, 301, 340, and 466; MICB 300-301; one course chosen from MICB 410 or 420; one course chosen from BIOL 345, 444-445, MICB 404, or 450; and two lab courses chosen from BIOL 486, MICB 405, 411, 451, or 497.

MATH 150; CHEM 161N-162N, 221-222-223-224; one course chosen from CHEM 341, 370, 371; PHYS 121N-122N or 221N-222N also required.

Option in Human Biological Sciences

Forty-two to forty-three credits in biology, biochemistry, and microbiology including BIOL 108N-109N, 110N, 221, 223, 301, 312, 313, 340-341, 460 or 464. 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 biochemistry (CHEM 161N, 162N) are also required. 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 Parasitology; BIOL 380 or 481, 482, Biochemistry; SOC 111A, Introduction to Public Speaking; HHP 236N, Nutrition; HHP 377-378, Physiology of Exercise and Laboratory; HHP 330S, Principles of Sociology.

Option in Natural History

Forty-two to forty-three credits in biology, biochemistry, and microbiology including BIOL 108N-109N, 110N, 221, 223, 340-341, 350, 410; one course chosen from 304, 306, or 356; one course chosen from 405 or 406. CHEM 151N-152N, 154N and GEOS 100N-101N are required. Students also must complete at least 20 credits in cognate areas of anthropology, chemistry (excluding CHEM 151N-152N, 154N), geography, geology (excluding GEOS 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.

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 108N-109N, 110N, 221, 223, 340-341, 444-445; one of these classes also is required.

MATH 150 or 152 and 241 are required; however, the prerequisite courses MATH 117 and 121 may be taken. CHEM 151N-152N, 154N; PHYS 121N, 122N; and one course chosen from GEOS 100N-101N also are required.

For endorsement to teach biology, 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).

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 compete 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 108N-109N, 110N, 221, 223; MICB 300-301; C&I 426; GEOS 109N or GEOS 301; MATH 150 or 152, 241; and CHEM 151N-152N, 485. A student also must gain admission to Teacher Education and Student Teaching and must 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 108N-109N, 110N, 221, 223, 340-341; CHEM 152N, 161N-162N, 485; GEOS 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, and CHEM 426 also is 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 requirement for certification as a secondary teacher (see the School of Education section of this catalog).

Suggested Course of Study

### Biological Education Option

#### First Year

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<tr>
<th>Course</th>
<th>Credits</th>
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<td>BIOL 108N-109N Diversity of Life and Laboratory</td>
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<td>BIOL 110N Principles of Biology</td>
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<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>PSYC 1005 Introduction to Psychology</td>
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<td>CHEM 485 Laboratory Safety</td>
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<td>MICB 300-301 General Microbiology &amp; Laboratory</td>
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<td>BIOL 340-341 Ecology and Laboratory</td>
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<td>BIOL 345 Principles of Physiology (or BIOL 301 in spring)</td>
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<td>BIOL 444 Plant Physiology</td>
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<td>C&amp;I 200 Exploring Teaching</td>
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<td>C&amp;I 303 Educational Psychology and Measurement</td>
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<td>C&amp;I 306 Instructional Methods and Computer</td>
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<td>Applications</td>
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<td>C&amp;I 410 Exceptionality and Classroom</td>
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<td>Management</td>
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<td>GEOS 109N Environmental Geoscience (or GEOS 301 Environmental Geology)</td>
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<td>HHP 233 Health Issues of Children and Adults</td>
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<td>C&amp;I 426 Teaching Science in the Middle and</td>
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<td>Secondary School</td>
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<td>C&amp;I 427 Literary Strategies in Content Areas</td>
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<td>C&amp;I 482 Student Teaching: Secondary</td>
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<tr>
<td>C&amp;I 494 Professional Portfolio</td>
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<tr>
<td>PHYS 121N General Physics I</td>
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### Cellular and Molecular Biology Option

#### First Year

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<tr>
<td>BIOL 108N-109N Diversity of Life and Laboratory</td>
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<tr>
<td>BIOL 110N Principles of Biology</td>
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<tr>
<td>CHEM 161N-162N College Chemistry</td>
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<tr>
<td>ENEX 101 Composition</td>
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<td>MATH 150 Applied Calculus</td>
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<td>General Education</td>
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<tr>
<td>BIOL 223 Genetics and Evolution</td>
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<td>CHEM 221-222, 223-224 Organic Chemistry</td>
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<td>Chemistry and Laboratory</td>
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<td>MICB 300-301 General Microbiology and Laboratory</td>
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<td>Lower-division writing course</td>
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<td>BIOL 481-482 Biochemistry</td>
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<td>MICB 404 Microbial Genetics (or BIOL 345, 440, 444, 495; MICB 450)</td>
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<td>MICB 405 Molecular Genetics Laboratory (or 405, 411, 451, 497, or BIOL 486)</td>
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<td>PHYS 121N-122N or 221N-222N General Physics</td>
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<td>BIOL 340 Ecology</td>
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<td>BIOL 301 Development Biology</td>
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<td>CHEM 341 Quantitative Analysis and Instrumental Methods</td>
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### Ecology and Organismal Biology Option with One Year of Chemistry

#### First Year

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<td>BIOL 110N Principles of Biology</td>
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<td>CHEM 154N General Chemistry Laboratory</td>
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<td>MATH 150 Applied Calculus</td>
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<td>BIOL 110N Principles of Biology</td>
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<td>GEOS 100N-101N General Geology and Laboratory</td>
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<td>C&amp;I 247 Literary Strategies in Content Areas</td>
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### Ecology and Organismal Biology Option with Two Years of Chemistry

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### Ecology Option for Teacher Preparation in General Science

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**Field Ecology Option**

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### Human Biological Sciences Option with One Year of Chemistry

**First Year**
- BIOL 108N-109N Diversity of Life and Laboratory .................................................. 5  
- BIOL 110N Principles of Biology ................................................................................. 4  
- CHEM 151N General and Inorganic Chemistry ......................................................... 3  
- CHEM 152N Organic and Biological Chemistry ....................................................... 3  
- CHEM 154N General Chemistry Laboratory ............................................................. 2  
- ENEX 101 Composition ............................................................................................... 3  
- MATH 150 Applied Calculus ......................................................................................... 4  
- PSYC 100S Introduction to Psychology ....................................................................... 4  
- Elective ..................................................................................................................... 1  

**Second Year**
- BIOL 221 Cell and Molecular Biology ................................................................. 4  
- BIOL 223 Genetics and Evolution ............................................................................. 4  
- PHYS 121N-122N General Physics I, II ................................................................. 5  
- PSYC 330S Abnormal Psychology or PSYC 240S (if 240S, must have 3 more upper-division credits) .............................................................................. 3  
- Lower-division writing course .................................................................................. 3  
- MATH 241 Statistics .................................................................................................. 4  
- General Education .................................................................................................... 3  

**Third Year**
- BIOL 312, 313 Anatomy and Physiology I and II ................................................. 4  
- BIOL 301 Developmental Biology ............................................................................ 3  
- MICB 302 Medical Microbiology .............................................................................. 3  
- General Education .................................................................................................... 3  
- Upper-division elective .......................................................................................... 4  
- Elective ..................................................................................................................... 4  

**Fourth Year**
- BIOL 340-341 Ecology ............................................................................................. 5  
- BIOL 403 Vertebrate Design and Evolution or upper-division Biology or Microbiology elective that meets the UD biology Writing requirement .............................................................................. 5  
- BIOL 460 Medical Physiology .................................................................................. 3  
- Upper-division elective .......................................................................................... 2  
- General Education .................................................................................................... 3  
- Electives ..................................................................................................................... 3  

### Human Biological Sciences Option with Two Years of Chemistry

**First Year**
- BIOL 108N-109N Diversity of Life and Laboratory .................................................. 5  
- BIOL 110N Principles of Biology ................................................................................. 4  
- CHEM 161N-162N General Chemistry ..................................................................... 5  
- ENEX 101 Composition ............................................................................................... 3  
- MATH 150 Applied Calculus ......................................................................................... 4  
- PSYC 100S Introduction to Psychology ....................................................................... 4  

**Second Year**
- BIOL 221 Cell and Molecular Biology ................................................................. 4  
- BIOL 223 Genetics and Evolution ............................................................................. 4  
- CHEM 221-222-223-224 Organic Chemistry and Laboratory .................................... 5  
- MICB 300-301 Medical Microbiology and Laboratory ............................................. 4  
- Lower-division writing course ................................................................................. 3  
- MATH 241 Statistics .................................................................................................. 4  

**Third Year**
- BIOL 312, 313 Anatomy and Physiology I and II ................................................. 4  
- BIOL 301 Developmental Biology ............................................................................ 3  
- PHYS 121N-122N General Physics I, II ................................................................. 5  

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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 108N-109N, 110N, 221 and 223 and 8 credits in Biology 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. Credits beyond this maximum do not count toward a degree.

### Biology (BIOL)

- **U 100N The Science of Life** 3 cr. Offered every term. 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 110N.

- **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 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 108N Diversity of Life** 3 cr. Offered autumn and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals.

- **U 109N Diversity of Life Laboratory** 2 cr. Offered autumn and summer. Coreq., BIOL 108N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.

- **U 110N Principles of Biology** 4 cr. Offered spring and summer. Unifying principles of biological structure function relationships at different levels of organization and complexity. Consideration of reproduction, genetics, development, evolution, ecosystems, as well as the inter-relationships of the human species to the rest of life. Lab experiences illustrate biological principles underlying growth, reproduction, development, genetics and physiology. Credit not allowed for both BIOL 100N and 110N.

- **U 112 Introduction to Human Form and Function** 1 3cr. Offered autumn. Explores the fundamentals of structure and function at basic cellular and tissue levels, in addition to the anatomy and physiology of the integumentary, musculoskeletal, and nervous systems.

- **U 113 Introduction to Human Form and Function II** 3 cr. Offered spring. Explores the fundamental structures and functions of the endocrine, cardiovascular, respiratory, digestive, urinary and reproductive systems.

- **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** 3 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 Internship Variable cr.** 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

- **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 110N 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 240 Introduction to Biostatistics (Honors) 3 cr. Offered even-numbered years. Prereq., calculus and consent of instr. Same as WBI 240. Introduction to statistical ecology: distributions, hypothesis testing, and fitting models to data with emphasis on problems in ecological sampling.

U 265 Human Sexuality 3 cr. Offered spring. Same as ANTH 201. 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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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.


U 312 Anatomy and Physiology I 4 cr. Offered autumn. Prereq. or coreq., CHEM 151N or CHEM 161N; BIOL 110N or BIOL 112 or BIOL 113. 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 313 Anatomy and Physiology II 4 cr. Offered spring. Prereq., BIOL 312. 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., consent of instr. 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 341 Ecology Laboratory 2 cr. Offered autumn and spring.

Coreq., BIOL 340. Methods of describing and testing alternative explanations for patterns in nature. The use of scientific methodology in ecology.

U 342 Field Ecology 5 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 223 and one year of college math, including statistics. The principles and practices of the study of animals and plants in their natural environments, including human influences, with focus on the Crown of the Continent area of the Rock Mountains and taught entirely outdoors.

U 343 Ecological Methods and Analysis 5 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 342 or BIOL 340/341. The methods and tools for conducting observational and experimental research in field ecology with emphasis on experimental design, hypothesis testing, data gathering and analysis and presentation of scientific research in ecology.

U 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 347 Introduction to Neuroscience 3 cr. Offered autumn. Prereq., introductory chemistry and biology. Same as BMED 347. The molecular and cellular physiology of the human nervous system. Topics range from the basis of electrical and chemical signaling in neurons to the organization of the nervous system and its functions in generating behavior.

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 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 credit/no credit.

U 398 Internship 1-6 cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 400 General Parasitology 2 cr. Offered autumn. Prereq., BIOL 223. Same as MIBC 400. 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. Same as MIBC 401. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.

UG 403 Vertebrate Design and Evolution 5 cr. Offered autumn. Prereq., BIOL 108N, 109N 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 alternate years. 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 Behavior and Evolution 4 cr. Offered spring alternate years. Prereq., BIOL 223. Diversity of animal behavior in an evolutionary context including inheritance of behavior, diets, avoidance responses, mating systems and sexual selection, parental care, and evolution of animal groups and societies. Discussion sections examine both landmark and recent literature.


UG 410 Insect Biology 4 cr. Offered spring. Prereq., BIOL 108N, 109N and 223. 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 415 Field Methods in Fisheries Biology and Management 1-4 cr. Offered summer. Prereq., BIOL 308; consent of instr. Same as WBCI 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 108N-109N and 221-223 or MCB 300 or consent of instr. Same as MCB 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, Hyphochytriomycota, Labyrinthulomycota, Oomycota), and highlights the importance of fungi to human affairs (food production, fungal pathogens).

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 3 cr. Offered spring. Prereq., BIOL 108N-109N, 120N or 316. The chemical and physical basis of water relations, photosynthesis, mineral nutrition, respiration, vegetative and reproductive growth of plants.

UG 445 Plant Physiology Lab 1 cr. Offered spring. Prereq. or coreq., BIOL 444. Laboratory exercises designed to familiarize students with concepts and techniques in plant physiology.


UG 447 Terrestrial Ecosystem Ecology 3 cr. Offered autumn odd-numbered years. Prereq., BIOL 110N and any ecology-themed course or consent of instr. Same as MCB 447. Introduction to systems thinking and the ecosystem concept; review of water ad energy balance, carbon cycling and production processes, nutrient cycling, trophic dynamics, and species effects on ecosystem functioning.

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 451 Landscape Ecology 3 cr. Offered summers only at Flathead Lake Biological Station. Prereq. BIOL 342 or 340/341. Biophysical processes that determine landscape and ecosystem structure and function using remote sensing tools, geographic information systems and dynamic models to demonstrate landscape change.

UG 452 Conservation Ecology 3 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 342 or 340/341. Concepts and approaches for sustaining biodiversity and other natural goods and services provided by terrestrial and aquatic systems.

UG 453 Lake Ecology 3 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 342 or 340/341, CHEM 151N and 152N. The physical, chemical and biological characteristics of lake ecosystems with an emphasis on nutrient cycling, food web interactions and water quality.

UG 454 Stream Ecology 3 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 342 or 340/341. The biota and biogeochemical processes of running waters with unifying principles and contemporary research approaches.

UG 458 Ecology of Forests and Grasslands 3 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 342 or 340/341. Patterns and processes of the forests and grasslands of the northern Rocky Mountains in the context of principles of population community and ecosystem ecology.

UG 459 Alpine Ecology 3 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 342 or 340/341. Distribution, abundance and life cycles of plants and animals and their unique ecophysiological adaptations to life in the rigorous environments of the high mountains above the timberline, with emphasis on the Crown of the Continent area.

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

UG 464 Advanced Cellular Biology 3 cr. Offered spring. Prereq., BIOL 221 and BIOL 223; BIOL 380 strongly recommended. Cell structure and function, cell cycle, cellular signaling, molecular basis of cancer, regulated cell death, membrane transport, organelle dynamics, cytoskeleton, cell adhesion, and the molecular basis of learning and memory.

UG 471 Teaching Anatomy and Physiology I 3 or 4 cr. Offered autumn. Prereq., "A" or "B" in BIOL 312 and 313 or equiv. and consent of instr. This select group of students performs cadaver prosections; assists in preparation and grading of demonstrations and laboratory teaching materials; and provides laboratory anatomy and physiology instruction to undergraduate students enrolled in BIOL 312. Students enrolling for the 4 credit option will also provide occasional comparable assistance for BIOL 112.

UG 472 Teaching Anatomy and Physiology II 3 or 4 cr. Offered spring. Prereq., "A" or "B" in BIOL 312 and 313 or equiv. and consent of instr. This select group of students performs cadaver prosections; assists in the preparation and grading of demonstrations and laboratory teaching materials; and provides laboratory anatomy and physiology instruction to undergraduate students enrolled in BIOL 313. Students enrolling for the 4 credit option will also provide occasional comparable assistance for BIOL 113.

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 482 Evolution and Development 3 cr. Offered spring, alternate years. Prereq., BIOL 108N and 223. Lecture, reading and discussion of questions at the intersection of developmental and evolutionary biology. Questions include but are not restricted to: how novel traits arise; how diversity in animal form is generated;
and how phenotypic plasticity (environment-sensitive expression of traits) is produced.

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 492 Seminars in Ecology and Resource Management 1 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 342 or 340/341 or taken concurrently with BIOL 342. Seminar course that meets weekly for 2 hours in the evening. Includes seminar speaker and discussion.

U 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 credit/no credit.

U 498 Internship 1-6 cr. 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 Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit

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 510 Advanced 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 513 Community Ecology 3 cr. Offered alternate years. Prereq., BIOL 340 or equiv., consent of instr. Current concepts of species interactions, succession, food webs, temporal and spatial patterns and quantitative characteristics 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. Offered alternate years. Prereq., BIOL 340 and 444. 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 531 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 531 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 of a thesis or dissertation proposal.

G 598 Internship 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 Biologic 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. (ASCP).

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, BIOL 380; BIOL 221, 223, 312, 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)

**First Year**

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
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<td>+MATH 150 Applied Calculus</td>
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<td>+ENEX 101 Composition</td>
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<td>General Education</td>
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<td>Electives</td>
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**Second Year**

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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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<td>BIOL 223 Genetics and Evolution</td>
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<td>CHEM 221-222, 223-224 Organic Chemistry and Laboratory</td>
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<td>MICB 300-301 General Microbiology and Laboratory</td>
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<td>Lower-Division Writing Course</td>
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<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 312 Anatomy and Physiology I</td>
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<td>BIOL 380 Biochemistry</td>
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<td>MICB 406 Clinical Diagnosis</td>
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<td>MICB 420 Virology</td>
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<tr>
<td>PHYS 121N-122N or 221N-222N General Physics</td>
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**Fourth Year**

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<tr>
<td>CHEM 341 Quantitative Analysis and Instrumental Methods</td>
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<td>MICB 309 Hematology</td>
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<tr>
<td>MICB 407 Clinical Diagnosis Laboratory</td>
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**Option B (3+1)**

**First Year**

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<th>Course</th>
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<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
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<td>+ENEX 101 Composition</td>
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+ Depends on placement test.
### Third Year

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BIOL 400</td>
<td>Parasitology</td>
<td>2</td>
</tr>
<tr>
<td>MICS 410-411</td>
<td>Immunology and Laboratory Components</td>
<td>5</td>
</tr>
<tr>
<td>MICS 412-413</td>
<td>Medical Bacteriology and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>MICS 402</td>
<td>Virology</td>
<td>3</td>
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<td>MICS 415</td>
<td>General Education</td>
<td>3</td>
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<tr>
<td>Elective</td>
<td>Theory and laboratory for mechanisms of proteins, lipids, correlations</td>
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**Summer**

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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>CLS 460</td>
<td>Clinical Immunohematology</td>
<td>1</td>
</tr>
<tr>
<td>CLS 461</td>
<td>Clinical Chemistry Theory</td>
<td>2</td>
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<tr>
<td>CLS 462</td>
<td>Clinical Laboratory I</td>
<td>1</td>
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<tr>
<td>CLS 463</td>
<td>Clinical Hemostasis</td>
<td>1</td>
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<tr>
<td>CLS 464</td>
<td>Clinical Microscopy &amp; Urinalysis</td>
<td>1</td>
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<td>CLS 465</td>
<td>Clinical Body Fluids</td>
<td>1</td>
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<td>CLS 467</td>
<td>Clinical Immunohematology Theory</td>
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<tr>
<td>CLS 468</td>
<td>Clinical Microbiology &amp; Laboratory</td>
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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

**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 464 Clinical Microscopy and Urinalysis 2 cr.** Offered summer.
Prereq., consent of medical technology advisor. Theory, techniques and practice of routine urinalysis.

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

**U 468 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. Focus on performing phlebotomy techniques, hemostasis procedures and laboratory safety. Communication skills, attitude and work performance will be evaluated.

**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 hematology finds 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 1 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 1 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. 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.
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 microbiology 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 microbiology 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 accordance with American Society for Microbiology recommendations, the following courses must be completed in addition to the General Education requirements for the Bachelor of Science in Microbiology: Thirty-two upper-division credits (300-level or above) in biology, biochemistry and microbiology including BIOL 340; BIOL 380 or 481-482; MIB 300-301; 404-405, 422, 450-451; and at least 7-9 credits chosen from the following courses (with lab if available): MIB 309, 400-401, 406-407, 410-411, 412-413, 418, 420, 423, 497.

BIOL 108N-109N, 110N, 221, 223; MATH 150, 241; CHEM 161N-162N, 221-223, 222-224, 341; PHYS 121N-122N also are required.

Microbial Ecology Option: In addition to the General Education requirements and the Upper-Division Writing Expectation described below, the following must be completed for the Bachelor of Science in Microbiology with an option in microbial ecology: Thirty-two or more credits (300-level or above) in biology, biochemistry, microbiology including BIOL 340; BIOL 380 or 481-482; MIB 300-301, 404-405, 422, 450-451, and at least 7-9 credits chosen from the following courses (with lab if available): MIB 400-401, 410-411, 418, 420, 423, 497; BIOL 341, 345, 413, 444, 453, 454, 455.

BIOL 108N/109N, 110N, 221, 223; MATH 150 or 152, 241; CHEM 161N-162N, 221-223, 222-224 or CHEM 151N, 152N, 154N; PHYS 121N also are required. In addition, choose at least 6 credits from: CHEM 341; CS 131i; FOR 210N; GEO 301, 382, 480; MATH 153, 251, 444, 445, 447, 448; PHYS 122N.

Upper-Division Writing Expectation: To meet the Upper-Division Writing Expectations of Bachelor of Science in Microbiology, students must successfully complete one of MIB 404 (note: also required for degree), 418, or 420 or complete three courses selected from MIB 410, 411, 412, or 450.

Suggested Course of Study

Microbiology

First Year

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<tr>
<th>Course</th>
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<tr>
<td>BIOL 108N-109N Diversity of Life and Laboratory</td>
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<tr>
<td>BIOL 110N Principles of Biology</td>
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<tr>
<td>CHEM 161N-162N, College Chemistry and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>+MATH 150 Applied Calculus</td>
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<td>+ENEX 101 Composition</td>
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<tr>
<td>MATH 241 Statistics</td>
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Second Year

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<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
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<td>BIOL 223 Genetics &amp; Evolution</td>
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<td>CHEM 221-222, 223-224 Organic Chemical and Laboratory</td>
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<td>MIB 300-301 General Microbiology and Laboratory</td>
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Third Year

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<td>MIB 410-411 Immunology and Laboratory</td>
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<td>MIB 422 Microbial Diversity and Ecology</td>
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<td>PHYS 121N-122N or 221N-222N General Physics</td>
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Fourth Year

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<td>MIB 340 Ecology</td>
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<td>CHEM 341 Quantitative Analysis and Instrumental Methods</td>
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<td>MIB 404-405 Microbial Genetics and Laboratory</td>
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<td>MIB 420 Virology*</td>
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<td>MIB 450-451 Microbial Physiology and Laboratory</td>
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Microbiology with Microbiology Ecology Option

First Year

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<td>BIOL 110N Principles of Biology</td>
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+Depends on placement exam.
**College of Arts and Sciences - Division of Biological Sciences - Microbiology - 65**

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<td>BIOL 221 Cell and Molecular Biology</td>
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<td>MICB 300-301 General Microbiology and Laboratory</td>
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**Third Year**

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<td>BIOL or MICB*</td>
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<td>BIOL 340 Ecology</td>
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<td>MICB 400-401 General Parasitology and Laboratory</td>
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**Fourth Year**

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<td>GEOS 301 Environmental Geology</td>
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<td>MICB 404-405 Molecular Genetics and Laboratory</td>
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<td>MICB 423 Applied and Environmental Microbiology*</td>
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<td>MICB 450-451 Microbial Physiology and Laboratory</td>
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*Choose 7 credits from BIOL 341, 366, 440, 444; MICB 400-401, 410-411, 418, 420, 423, 497.
+Choose 6 credits from CHEM 341; CS 131; FOR 210N; GEOS 301; 382 or 480; MATH 153, 251, 444-447, 445-448; PHYS 122N.

**Requirements for a Minor**

To earn a minor in microbiology, the student must complete MICB 300-301, 404-405, 422, and 450-451, as well as at least three additional credits at the 300 or 400-level in Microbiology.

**Courses**

**Microbiology (MICB)**

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

**U 300 General Microbiology 3 cr.** Offered autumn and spring. Prereq., MICB 107N. Basic microbiology procedures and techniques.

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

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

**U 309 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.

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

**U 401 General Parasitology Laboratory 2 cr.** Offered autumn. Coreq., MICB 400. Same as BIOL 401. Taxonomy, morphology and identification of parasitic protozoa, helminths and arthropods.

**U 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.

**U 405 Experimental Microbial Genetics Laboratory 1 cr.** Offered spring. Prereq. or coreq., MICB 404. Experiments in microbial genetics: Analysis of genes and genomes.

**U 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.

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

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

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

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

**U 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.

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

**U 418 Fungal Biology 3 cr.** Offered autumn even-numbered years. Prereq., BIOL 108N-109N and 221-223 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, Hyphochytriomycota, Labyrinthulomycota, Oomycota), and highlights the importance of fungi to human affairs (food production, fungal pathogens).

**U 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.

**U 422 Microbial Diversity and Ecology 3 cr.** Offered spring. Prereq., BIOL 221-223, MICB 300-301 or consent of instr. A broad overview of their physiological, phylogenetic and genomic diversity and ecology of microorganisms within a framework of general ecological principles. Focuses on microbial interactions with their environment at the level of the individual, population and community, including intimate associations with plants and animals. Surveys current methods for studying microbial ecology and diversity in the environment.

**U 423 Applied and Environmental Microbiology 3 cr.** Offered spring odd-numbered years. Prereq., MICB 300 or consent of instr. Study of microorganisms and their relation to environment including foods, water and wastewater treatment, bioremediation and industrial processes. Includes field trips and
specialized laboratory exercises.

UG 447 Terrestrial Ecosystem Ecology 3 cr. Offered autumn odd-numbered years. Prereq., BIOL 110N and any ecology-themed course or consent of instr. Same as BIOL 447. Introduction to systems thinking and the ecosystem concept, review of water ad energy balance, carbon cycling and production processes, nutrient cycling, trophic dynamics, and species effects on ecosystem functioning.

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.

U 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 credit/no credit.

U 498 Internship 1-6 cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 credit/no credit.

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 520 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. Stresses 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 1 cr. (R-2) Offered autumn and spring. Prereq., graduate standing. Required course for biochemistry and microbiology graduate students. Instruction in basic research techniques, research equipment and reading in the relevant scientific literature. Students conduct research projects under faculty mentors of their choosing.

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

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**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. 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.

Central and Southwest Asian Studies

Jeffrey A. Gritzner  (Professor of Geography), Advisor

The Central and Southwest Asian Studies program offers undergraduates an interdisciplinary perspective on the region through course work in geology, geography, history, cultural studies and language. The minor in Central and Southwest Asian Studies provides students the opportunity to complement their principal disciplinary foci with area-based knowledge and to extend their substantive studies beyond the offerings of a single department.

Requirements for a Minor

To earn a minor in Central and Southwest Asian Studies, students must successfully complete 18 credits as follows:

a) GEOG 106 The Silk Road 3 cr.

b) 6 cr. in approved 200-level foundational Central and Southwest Asian Studies courses: GEOG/HIST/A.S. 213S, GEOG/HIST/A.S. 214SA, GEOG/HIST/A.S. 283H, GEOG/HIST/A.S. 284H


In addition, it is expected that students will study one of the following languages: Turkish, Persian, Arabic, Russian or Chinese.

A list of approved Central and Southwest Asian courses is available from advisors.

Department of Chemistry

Mark S. Cracolice, Chair

Chemistry is the central science that 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.umd.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 2.00 GPA must be earned in all credits attempted in the major. In addition, courses taken to satisfy the requirements of the major or minor must be completed with a grade of C- or better.

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 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 452-453 Inorganic Chemistry 6
BIOC 481 Biochemistry or equivalent 3
CHEM 455 Inorganic Chemistry Laboratory 2
Advanced Electives (from CHEM 395, 442, 445, 465, 495; 3 credits maximum of 497; or 3 credit maximum of 499, or with consent of chemistry advisor, from advanced courses in chemistry, physics, geology, biochemistry or mathematics) 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.

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<td>CHEM 223 Organic Chemistry Laboratory</td>
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<td>CHEM 264 Organic Chemistry Laboratory for Chemistry Majors (preferred) or 224 Organic Chemistry Laboratory</td>
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<td>CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)</td>
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<td>CHEM 452 Inorganic Chemistry</td>
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<td>BIOC 481-482 Biochemistry</td>
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<td>BIOC 486 Biochemistry Research Laboratory or equivalent laboratory experience</td>
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<tr>
<td>Advanced electives in chemistry or biochemistry (from CHEM 395, 442, 445, 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)</td>
<td>3</td>
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<tr>
<td>Cognate courses: CS 172—Computer Modeling (or similar computing experience with approval of chemistry advisor)</td>
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<tr>
<td>MATH 152-153 and 251 Calculus I, II, III</td>
<td>12</td>
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<tr>
<td>PHYS 221N-222N (preferred) or 121N-122N General Physics I and II</td>
<td>10</td>
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**Bachelor of Science with a major in Chemistry, Option in Forensic Chemistry**

The Chemistry B.S. degree with the option in Forensic Chemistry forms a solid base for students interested in careers in forensic chemistry or advanced work in chemistry including graduate school.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
<td>10</td>
</tr>
<tr>
<td>CHEM 221-222 Organic Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 223 Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 264 Organic Chemistry Laboratory for Chemistry Majors or 224 Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 342 Instrumental Analysis &amp; Physical Measurements</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry I</td>
<td>3-4</td>
</tr>
<tr>
<td>CHEM 452 Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>BIOC 481 Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>BIOC 486 Biochemistry Research Laboratory or equivalent laboratory experience</td>
<td>3</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>GEOS 100N-101N General Geology and Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>GEOS 327 Geochemistry</td>
<td>3</td>
</tr>
<tr>
<td>Electives from CHEM 371, 372, 442, 445, 453, 455, 465, 466; 3 credits maximum of 497; BIOL 340, 453, 454, 455, 497; 3 credits maximum of 497; GEOS 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)</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 153, Calculus II</td>
<td>3-4</td>
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<tr>
<td>MATH 444, 447 Statistics</td>
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<tr>
<td>PHYS 121N-122N or 221N-222N General Physics I, II</td>
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For B.S. Degree (American Chemical Society Certified)

**First Year**

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<th>Course</th>
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<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry</td>
<td>10</td>
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<tr>
<td>CHEM 221-222 Organic Chemistry and Laboratory</td>
<td>6</td>
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<tr>
<td>CHEM 223 Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 264 Organic Chemistry Laboratory</td>
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</tr>
<tr>
<td>CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
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<tr>
<td>CHEM 342 Instrumental Analysis &amp; Physical Measurements</td>
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<tr>
<td>CHEM 371-372 Physical Chemistry</td>
<td>8</td>
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<tr>
<td>BIOL 211N College Chemistry</td>
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</tr>
<tr>
<td>COMM 111A Public Speaking</td>
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</tr>
<tr>
<td>MATH 152-153 Calculus I, II</td>
<td>8</td>
</tr>
<tr>
<td>MATH 444 Statistical Methods</td>
<td>3</td>
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<td>MATH 447 Computer Data Analysis</td>
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</tr>
<tr>
<td>PHYS 21N-222N Fundamentals of Physics I &amp; II</td>
<td>10</td>
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<tr>
<td>SOC 230S Criminology</td>
<td>3</td>
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<tr>
<td>SOC 235 Criminal Justice</td>
<td>3</td>
</tr>
<tr>
<td>Electives from CHEM 465, 466, 542; ANTH 488; BIOL 223, 440; PHAR 110.</td>
<td>11</td>
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</tbody>
</table>

(at least 8 of these credits must be in courses numbered 300 and above)

**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 Requirements**

- **Credits**: 17
- **Electives**: 3
- **B.A. Preparation**: 4
- **B.S. Preparation**: 12

**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, 454, 455, 465, 466, 3 credits maximum of 497; BIOL 3 credits maximum of 497; PHAR 421, 422, 3 credits maximum of 497. Cognate courses: MATH 152 Calculus II. 4

**Sophomore Year**

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<td>CHEM 221-222 Organic Chemistry and Laboratory</td>
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<td>CHEM 223 Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 264 Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 342 Instrumental Analysis &amp; Physical Measurements</td>
<td>4</td>
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<tr>
<td>CHEM 371-372 Physical Chemistry</td>
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<td>BIOL 211N College Chemistry</td>
<td>12</td>
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<td>COMM 111A Public Speaking</td>
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<td>MATH 152-153 Calculus I, II</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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<tr>
<td>PHYS 21N-222N Fundamentals of Physics I &amp; II</td>
<td>10</td>
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<tr>
<td>SOC 230S Criminology</td>
<td>3</td>
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<tr>
<td>SOC 235 Criminal Justice</td>
<td>3</td>
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<tr>
<td>Electives from CHEM 465, 466, 542; ANTH 488; BIOL 223, 440; PHAR 110.</td>
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(at least 8 of these credits must be in courses numbered 300 and above)

**Bachelor of Science with a major in Chemistry, Option in Pharmacology**

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry</td>
<td>10</td>
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<tr>
<td>CHEM 221-222 Organic Chemistry and Laboratory</td>
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<tr>
<td>CHEM 223 Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 264 Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 342 Instrumental Analysis &amp; Physical Measurements</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry I</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 452 Inorganic Chemistry</td>
<td>3</td>
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<tr>
<td>BIOL 481-482 Biochemistry</td>
<td>6</td>
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<tr>
<td>BIOL 481N Principles of Biology or equivalent</td>
<td>4</td>
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<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
<td>3</td>
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<tr>
<td>MICB 302 Medical Microbiology</td>
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<tr>
<td>PHAR 341-342 Applied Anatomy and Physiology</td>
<td>8</td>
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<tr>
<td>PHAR 443-444 Pharmacology and Toxicology</td>
<td>8</td>
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<tr>
<td>Electives from CHEM 371, 372, 442, 444, 453, 455, 465, 466, 3 credits maximum of 497; BIOL 3 credits maximum of 497; PHAR 421, 422, 3 credits maximum of 497. Cognate courses: MATH 150 Calculus or 152 Calculus I. 4</td>
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<tr>
<td>MATH 158 Applied Differential Equations or MATH 153 Calculus II</td>
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<tr>
<td>PHYS 121N-122N or 221N-222N General Physics I, II</td>
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<td>Section</td>
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<tr>
<td><strong>Second Year</strong></td>
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<tr>
<td>CHEM 221-222</td>
<td>Organic Chemistry</td>
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<tr>
<td>CHEM 223</td>
<td>Organic Chemistry Laboratory</td>
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<tr>
<td>CHEM 264 (or 224)</td>
<td>Organic Chemistry Laboratory</td>
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<tr>
<td>MATH 251</td>
<td>Calculus III</td>
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<tr>
<td>MATH 311</td>
<td>Ordinary Differential Equations and Systems or MATH 221 Linear Algebra</td>
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<tr>
<td>PHYS 221N-222N</td>
<td>General Physics</td>
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<td>Electives and General Education</td>
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<tr>
<td><strong>Third Year</strong></td>
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<tr>
<td>CHEM 334</td>
<td>Chem Literature &amp; Scientific Writing</td>
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<tr>
<td>CHEM 341</td>
<td>Quantitative Analysis &amp; Instrumental Methods</td>
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<tr>
<td>CHEM 342</td>
<td>Instrumental Analysis and Physical Measurements</td>
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<tr>
<td>CHEM 371-372</td>
<td>Physical Chemistry I, II</td>
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<td>General Education (one upper-division)</td>
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<td><strong>Fourth Year</strong></td>
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<tr>
<td>CHEM 452-453</td>
<td>Inorganic Chemistry</td>
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<td>CHEM 455</td>
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<tr>
<td>BIOC 481</td>
<td>Biochemistry</td>
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<tr>
<td>Advanced CHEM elective</td>
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<td>Upper-division elective</td>
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<tr>
<td><strong>For B.S. Degree, Option in Biological Chemistry</strong></td>
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<tr>
<td>First Year</td>
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</tr>
<tr>
<td>CHEM 161N-162N</td>
<td>College Chemistry</td>
</tr>
<tr>
<td>MATH 150</td>
<td>Applied Calculus or 152 Calculus I</td>
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<tr>
<td>MATH 155</td>
<td>Applied Differential Equations or MATH 153 Calculus II</td>
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<tr>
<td>BIOL 110N</td>
<td>Principles of Biology or equivalent</td>
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<tr>
<td>ENEX 101</td>
<td>Composition</td>
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<tr>
<td>Electives and General Education</td>
<td></td>
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<tr>
<td>Total</td>
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<td>Second Year</td>
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</tr>
<tr>
<td>CHEM 221-222</td>
<td>Organic Chemistry</td>
</tr>
<tr>
<td>CHEM 223</td>
<td>Organic Chemistry Laboratory</td>
</tr>
<tr>
<td>CHEM 264 (or 224)</td>
<td>Organic Chemistry Laboratory</td>
</tr>
<tr>
<td>PHYS 121N-122N or 221N-222N</td>
<td>General Physics I and II</td>
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<tr>
<td>BIOL 221</td>
<td>Cell and Molecular Biology</td>
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<tr>
<td>Third Year</td>
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</tr>
<tr>
<td>CHEM 334</td>
<td>Chem Literature &amp; Scientific Writing</td>
</tr>
<tr>
<td>CHEM 341</td>
<td>Quantitative Analysis &amp; Instrumental Methods</td>
</tr>
<tr>
<td>CHEM 342</td>
<td>Instrumental Analysis and Physical Measurements</td>
</tr>
<tr>
<td>CHEM 370</td>
<td>Physical Chemistry I or 371 Physical Chemistry I</td>
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<tr>
<td>BIOC 300</td>
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<tr>
<td>Fourth Year</td>
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</tr>
<tr>
<td>BIOC 481-482</td>
<td>Biochemistry</td>
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<tr>
<td>CHEM 452</td>
<td>Inorganic Chemistry</td>
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<tr>
<td>Electives and General Education</td>
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<td>Total</td>
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<tr>
<td><strong>For B.S. Degree, Option in Forensic Chemistry</strong></td>
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</tr>
<tr>
<td>First Year</td>
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</tr>
<tr>
<td>CHEM 161N-162N</td>
<td>College Chemistry</td>
</tr>
<tr>
<td>MATH 152-153</td>
<td>Calculus I, II</td>
</tr>
<tr>
<td>BIOL 110N</td>
<td>Principles of Biology or equivalent</td>
</tr>
<tr>
<td>COMM 111A</td>
<td>Public Speaking</td>
</tr>
<tr>
<td>ENEX 101</td>
<td>Composition</td>
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<td>Electives and General Education</td>
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<td>Second Year</td>
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</tr>
<tr>
<td>CHEM 221-222</td>
<td>Organic Chemistry</td>
</tr>
<tr>
<td>CHEM 223 and CHEM 264 (or 224)</td>
<td>Organic Chemistry Laboratory</td>
</tr>
<tr>
<td>PHYS 221N-222N</td>
<td>Fundamentals of Physics with Calculus I and II</td>
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<tr>
<td>BIOL 221</td>
<td>Cell and Molecular Biology</td>
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<td>SOC 2308</td>
<td>Criminology</td>
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<tr>
<td>ANTH 286N</td>
<td>Survey of Forensic Science</td>
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<td>CHEM 334</td>
<td>Chem Literature &amp; Scientific Writing</td>
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<td>CHEM 341</td>
<td>Quantitative Analysis &amp; Instrumental Methods</td>
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<td>CHEM 342</td>
<td>Instrumental Analysis and Physical Measurements</td>
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<tr>
<td>CHEM 370</td>
<td>Applied Physical Chemistry</td>
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<td>MATH 444/447</td>
<td>Statistical Methods</td>
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<td>SOC 235</td>
<td>Criminal Justice</td>
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<td>CHEM 488/498</td>
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<td>CHEM 489</td>
<td>Forensics Seminar</td>
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### For B.S. Degree, Option in Pharmacology

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<td>CHEM 161N-162N</td>
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<td>Applied Calculus or 152 Calculus I</td>
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<tr>
<td>MATH 158</td>
<td>Applied Differential Equations</td>
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<tr>
<td>or MATH 153</td>
<td>Calculus II</td>
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<td>BIOL 110N</td>
<td>Principles of Biology or equivalent</td>
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<tr>
<td>ENEX 101</td>
<td>Composition</td>
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<tr>
<td>CHEM 221-222</td>
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<td>CHEM 223</td>
<td>Organic Chemistry Laboratory</td>
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<tr>
<td>CHEM 264</td>
<td>(or 224) Organic Chemistry Laboratory</td>
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</tr>
<tr>
<td>PHYS 121N-122N</td>
<td>or 221N-222N General Physics</td>
<td>5</td>
</tr>
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<td>PHAR 221</td>
<td>Cell and Molecular Biology</td>
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<td>CHEM 334</td>
<td>Chem Literature &amp; Scientific Writing</td>
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<td>Quantitative Analysis &amp; Instrumental Methods</td>
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<tr>
<td>CHEM 342</td>
<td>Instrumental Analysis and Physical Measurements</td>
<td>-</td>
</tr>
<tr>
<td>CHEM 370</td>
<td>Applied Physical Chemistry</td>
<td>-</td>
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<tr>
<td>or 371 Physical Chemistry I</td>
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<tr>
<td>MICB 302</td>
<td>Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 341-342</td>
<td>Applied Anatomy and Physiology</td>
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### Fourth Year

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<td>Modern Foreign Language</td>
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### Requirements for a Minor

To earn a minor in chemistry the student must complete

CHEM 161N-162N, CHEM 221-222, 234, 341, 370 or 371, and at least two courses from one of the following groups:

(a) CHEM 342, 372, 442, 445, 452, 453, 465

(b) if the student's major does not require biochemistry, BIOL 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. Credits beyond this maximum do not count toward a degree.

#### 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. Prereq., "C-" or equiv., in CHEM 151N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.

**U 153 General and Inorganic Chemistry Laboratory I** 1 cr. Offered autumn and spring. Prereq., Enrolled in the College of Technology ASRN program. Prereq., or coreq., CHEM 151 or equivalent. A laboratory course emphasizing inorganic chemistry, quantitative relations and synthesis of inorganic and organic compounds.

**U 154N Organic and Biological Chemistry Laboratory 2** 2 cr. Offered autumn and spring. Prereq., or coreq., CHEM 152N. Laboratory to accompany CHEM 152N.

**U 161N College Chemistry** 5 cr. Offered autumn and spring. Prereq., high school algebra. For science majors and other students intending to take more than one year of chemistry. Properties of elements, inorganic compounds, liquid solutions, chemical equilibria and chemical kinetics. Includes laboratory.

**U 162N College Chemistry** 5 cr. Offered spring and summer. Prereq., "C-" or better in CHEM 161N or consent of instr. A continuation of CHEM 161N. Includes Laboratory.

**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 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.
U 224 Organic Chemistry Laboratory 2 cr. Offered spring. Prereq., CHEM 223; 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 larger-scale 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 online 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 titrimetric 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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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, bulbs, ring or inner seals, condensers.

UG 442 Aquatic Chemistry 3 cr. Offered autumn odd-numbered years. Prereq., CHEM 341 or consent of instr. Application of chemical equilibria theory for understanding and modeling chemical processes in natural waters with an emphasis on spreadsheet computations. In-depth examination of concepts such as pH, alkalinity, buffering, and solubility as they apply to natural waters.

UG 445 Industrial Chemistry and Its Impact on Society 3 cr. Offered every other autumn semester. Prereq., Chem 162 or Chem 152. A course based on local Montana chemical industries involving field trips to chemical plants, visits by company personnel and an overall evaluation of the company’s economic and environmental impact on the community.

UG 452 Inorganic Chemistry 3 cr. Offered autumn. Prereq., CHEM 222 and 370 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 and 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 488 Forensic Research 3 cr. Offered autumn, spring and summer. Prereq., consent of instr. Laboratory investigations and research on forensic chemistry topics under the direction of a faculty member.

UG 489 Forensic Science Seminar 1 cr. Offered autumn. Prereq., CHEM 342 and ANTH 286N. Seminar speakers on forensic science topics in the areas of ethics, law, anthropology and criminology; tours of the Montana State Crime Laboratory.

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 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.

UG 498 Internship 1-6 cr. Prereq., consent of department. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 499 Senior Thesis 3 cr. Offered autumn and spring. Prereq., CHEM 497 or consent of instr. and senior standing. Students complete and report on undergraduate research initiated as CHEM 497 or equivalent research experience. Reports are both oral and written.
G 501 Teaching University Chemistry 1 cr. Offered autumn. Preparation for teaching chemistry at the college level. A survey of teaching fundamentals and educational psychology as applied to chemistry instruction.

G 541 Environmental Chemistry 3 cr. Offered intermittently. Prereq., CHEM 370 or 371. Chemical principles and reactions in natural systems: Fate of chemical contaminants in the environment; partitioning of contaminants between phases (air/water/soil); chemistry of atmospheric pollutants; computer modeling of equilibrium and kinetic processes; degradation and transformation of organic contaminants.

G 542 Separation Science 3 cr. Offered autumn odd-numbered years. Prereq., CHEM 342, CHEM 370 or 371. Theory, method development, and application of analytical separations; solvent extraction; solid phase extraction; various forms of chromatography; electrophoresis.

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 intermittently. 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 intermittently. 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, carbanions, radicals and carbenes as reactive intermediates.


G 564 Organic Reactions 3 cr. Offered intermittently. Prereq., one year of organic chemistry. Reactions such as alkylation of nucleophilic 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, 22; BIOL 380 or equiv. Same as BMED 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 intermittently. 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 PNAs (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 department. 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.

Faculty

Professors

Bruce E. Bowler, Ph.D., Massachusetts Institute of Technology, 1986
Mark S. Cracolice, Ph.D., University of Oklahoma, 1994 (Chair)
Michael D. DeGrandpre, Ph.D., University of Washington, 1990
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 Arizona, 1986
Christopher P. Palmer, Ph.D., University of Arizona, 1991
Nigel D. Priestley, Ph.D., Southampton University, 1991

Associate Professors

Mark S. Cracolice, Ph.D., University of Oklahoma, 1994
Donald E. Kiely, Ph.D., University of Connecticut, 1965
Edward Rosenberg, Ph.D., Cornell University, 1970
Garon C. Smith, Ph.D., Colorado School of Mines, 1983
Edward E. Waali, Ph.D., University of Wyoming, 1970
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 (does not count toward 35 credits in Communication)
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 421, COMM 422, COMM 424, COMM 441, 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 5 courses from the following: COMM 240S
   (Communication in Small Groups), COMM 321 (Introduction to
   Public Relations), COMM 322 (Public Relations Writing),
   COMM 412S (Communication and Conflict), COMM 421
   (Communication in Nonprofit Organizations), COMM 422
   (Communication and Technology in Organizations), COMM 423
   (Practical Issues in Organizational Communication), COMM 424
   (Risk, Crisis, and Communication), and COMM 451S (Intercultural
   Communication).
3. 3 courses from the following list: ANTH 220S, BADM 100S,
   MGMT 340S, MGMT 344, 368, 440; MKTG 360, 363 495; SOC
   110S, 306S, 320; PSC 361, 460, 466 and 467.
   Students may petition to count appropriate special topics or
   transfer courses upon recommendation of the student’s advisor.
   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), 311 (Family Communication), 380
   (Gender and Communication), 410S (Communication in Personal
   Relationships), 412S (Communication and Conflict), 451S
   (Intercultural Communication), and
3. At least 4 courses from the following list:
   ANTH 201N, 327, 328S; C&I 355; HFD 412; NAS 342H; PSYC 240S, 245, 350S,
   351S, 385; SOC 210S, 275S, 300, 330S, 340, 421; SW 300, 420,
   422, 460.
   Students may petition to count appropriate special topics or
   transfer courses upon recommendation of the student’s advisor. 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), 377 (Rhetoric, Nature and
   Environmentalism), 379 (Consumption, Media, and the
   Environment), 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.
   Students may petition to count appropriate special topics or
   transfer courses upon recommendation of the student’s advisor. All
   courses should be selected in consultation with a faculty advisor.

*Suggested Course of Study*

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>COMM 110S Introduction to Interpersonal Communication</td>
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<td>COMM 111A Introduction to Public Speaking</td>
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<td>COMM elective</td>
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<td>ENEX 101 Composition</td>
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<td>MATH 117 Probability and Linear Mathematics</td>
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**Second Year**

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<td>COMM electives</td>
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<td>COMM 230 Organizational Communication</td>
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<td>COMM 250L Introduction to Rhetorical Theory</td>
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<td>MATH 241 or PSYC 220 or SOC 202</td>
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<tr>
<td>or HHP 486</td>
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<td>General Education</td>
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**Third Year**

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<td>COMM 460 Communication Research Methods</td>
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**Fourth Year**

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**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 graduate or
  graduate credit, G =for graduate credit. R after the credit
  indicates the course may be repeated for credit.
- Credits beyond this maximum do not count toward a
  degree.

**Communication Studies (COMM)**

- U 110S Introduction to Interpersonal Communication 3 cr.
  Offered yearly. 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
  or 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 yearly.
  Same as LING 173. A survey of the elements of language
The many uses of communication in the endeavor of public mass communication are applied to explore the functional and theoretical aspects of communication in personal, organizational, and public contexts.

U 250L Introduction to Rhetorical Theory 3 cr. Offered yearly. Prereq., COMM 111A. An introduction to rhetorical theory including an exploration of classical rhetoric, British and Continental rhetorical theory, and contemporary theories of language and persuasion.

U 260 Communication in the Workplace 3 cr. Offered yearly. Addresses communication skills needed in business and professional contexts. Focus on developing a working knowledge of theory and skills for interpersonal communication, group communication, and business writing. Concepts include communication processes, diversity in the workplace, nonverbal communication, technical communication, communication with customers, and employment communication. Course objectives are met via Blackboard, the University's online course management system.

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 311 Family Communication 3 cr. Offered yearly. 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.

U 321 Introduction to Public Relations 3 cr. Offered yearly. 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 yearly. 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 yearly. Prereq., COMM 111A. The persuasive process through the criticism and creation of speeches and other rhetorical artifacts emphasizing the role of persuasion 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 intermural 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 every other year. 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 379 Consumption, Media, and Environment 3 cr. Offered every other year. Same as EVST 379. Analyzes consumption as a communication practice and investigates discourses that promote consumption, and illuminates environmental impacts on consumption.

U 380 Gender and Communication 3 cr. Offered yearly. 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 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 410S Communication in Personal Relationships 3 cr. Offered yearly. 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 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 421 Communication in Nonprofit Organizations 3 cr. Offered yearly. Prereq., COMM 230S. Focuses on issues in nonprofit organizational communication at macro and micro levels. Topics include: organizational identity, change processes, public relations, fund-raising, advocacy, socialization, stress and burnout, board management and professionalization.

UG 422 Communication and Technology in Organizations 3 cr. Offered every other year. Prereq., COMM 230S. This course takes a critical look at the influence of communication technologies on organizational communication. Students will examine how the world of work is changing due to new technologies and explore the social and ethical implications of technical innovation, adoption and use.

UG 423 Practical Issues in Organizational Communication 3 cr. Offered every other year. Prereq., COMM 230S. Emphasis on the theoretical and practical issues involved in communication training and consultation. Overview of theoretical models followed by the “nuts and bolts” of communication training and consultation. Students will carry out a consultation project (e.g., planning, execution, and evaluation) to sharpen the issues explored.

UG 424 Risk, Crisis and Communication 3 cr. Offered every other year. This course explores the communicative dynamics that
both prevent and cause organizational crisis. Through case studies, the class examines how people plan, communicate and make good decisions in high risk situations, as well as how to manage crisis public relations effectively.

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 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, and 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 every other year. Topics include the early women's rights movements, debates over marriage and divorce, social feminism, women's suffrage in Montana, and intersections between gender and race.

G 481 The Rhetoric of U.S. Women's Activism, 1960- Present 3 cr. Offered every other year. Explores the rhetoric surrounding contemporary women's social "activism" in the U.S. Topics include women's rights, women's liberation, consciousness raising as a rhetorical form, reproductive rights, sexuality, and intersections between gender, race, and class.

G 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 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 yearly. Prereq., consent of instr. Examination of theory and research on the process and functions of communication in personal relationship contexts. Interdisciplinary reading illuminate the dynamics of communication in the development, maintenance, and deterioration of romantic relationships, friendships, and family relationships. Discussion and assignments center around theoretical, methodological, and practical issues in research on communicative activities and events in personal relationships.

G 511 Survey of Interpersonal Communication 3 cr. Offered every other year. 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 every other year. (R-6) Prereq., consent of instr.

G 540 Seminar in Instructional Communication 3 cr. (R-6) Offered every other year. 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 every other year. Introduction to contemporary issues in rhetorical criticism and theory. Topics include classical criticism, dramatism, close textual analysis, ideological criticism, narrative criticism, feminist criticism, and postmodern criticism.

G 561 Qualitative Research Methods 3 cr. Offered every other year. 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 every other year. 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 585 Communication Across the Sciences 3 cr. Offered yearly. Focus on communication practices that facilitate interdisciplinary interactions across the sciences and result in more competent communication. Offered to graduate student trainees enrolled in the M-EID program.

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
Sara E. Hayden, Ph.D., University of Minnesota, 1994
Alan L. Sillars, Ph.D., University of Wisconsin, 1980 (Chair)
Betsy Wackernagel Bach, Ph.D., University of Washington, 1985

Associate Professors
Greg Larson, Ph.D., University of Colorado, 2000
Steve Schwarze, Ph.D., The University of Iowa, 1999
Stephen M. Yoshimura, Ph.D., Arizona State University, 2002

Assistant Professors
Jennifer Considine, Ph.D., Texas A&M University, 2006
Christina Yoshimura, Ph.D., Arizona State University, 2004

Adjunct Instructors
Phyllis Bo-yuen Ngai, Ed.D., The University of Montana, 2004
Art Luse, J.D., St. Louis University School of Law, 1970
Mary Morrison, M.Ed., The University of Michigan, 1976

Emeritus Professor
William W. Wilmot, Ph.D., University of Washington, 1970

Emeritus Associate Professor
Comparative Literature

Robert Baker (Assistant Professor of English),
Chair, Comparative Literature Committee

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 alden.wright@umontana.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.

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 are open on a first-come, first-served basis to all students who have the prerequisites. Students taking computer science courses to satisfy a general education symbolic system sequence should normally take CS 101-131 or CS 131-132.

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 in to the department when declaring computer science as a major or minor.

Special Degree Requirements

To locate graduation requirements in addition to those of the Computer Science Department, see “graduation requirements” in the index of this catalog.

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 (2.00 grade point average required):

Computer Science. CS 121, CS 131-132, CS 241, CS 242, CS 281, CS 332, CS 344, CS 346, CS 365, CS 415E, CS 441, CS 442, CS 488, and nine credits of CS electives selected from courses numbered 300 and above.

Mathematics. MATH 125-135, 221 or 225, 226 and 341.

Writing/Communication. Students must take FOR 220. Students must also take COMM 111A or COMM 242.

Science. Students must take one of the sequences BIOL 108N-109N, 110N; CHEM 161N, 162N; or 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 106N/107N, BIOL 108N/109N, BIOL 110N, CHEM 161N, CHEM 162N, EVST 101N, FOR 201, GEOS 100N/101N, GEOS 202, GEOS 226. 
Bachelor of Science degree with a combined major in Computer Science-Mathematical Sciences

The purpose of 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-" and a 2.0 grade point average is required in all courses which follow:

The computer science requirements are: 121, 131-132, 241-242, 281, 352, 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 (not including courses numbered 390-399 and 490-499).

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: One of the sequences BIOL 108N-109N, 110N; or CHEM 161N, 162N; or PHYS 221N-222N. In addition, 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, 446, 471, 477 and 486.
- Combinatorics and Optimization-Artificial Intelligence: MATH 381, 382; two courses chosen from MATH 325, 341, 414, 485; and MATH 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, 457, 458 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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</thead>
<tbody>
<tr>
<td>CS 121 Careers in Computer Science</td>
<td>1</td>
</tr>
<tr>
<td>CS 131-132 Fundamentals of Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 152-153 Calculus I, II</td>
<td>4</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>14</td>
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</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CS 241 Data Structures</td>
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</tr>
<tr>
<td>CS 242 Programming Languages</td>
<td>4</td>
</tr>
<tr>
<td>CS 281 Computer Architecture</td>
<td>3</td>
</tr>
<tr>
<td>MATH 225 Discrete Math I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 221 Linear Algebra</td>
<td>4</td>
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Science sequence: 5
Electives and General Education: 15
Third Year

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CS 332 Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CS 344 Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>CS 346 Software Science</td>
<td>3</td>
</tr>
<tr>
<td>CS 365 Database Design and DBMS</td>
<td>3</td>
</tr>
<tr>
<td>CS 488 Computer Networks</td>
<td>3</td>
</tr>
<tr>
<td>FOR 220 Technical Writing</td>
<td>2</td>
</tr>
<tr>
<td>MATH 341 Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>Science Electives</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>15</td>
</tr>
</tbody>
</table>

Fourth Year

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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</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 442 Theory and Practice II</td>
<td>3</td>
</tr>
<tr>
<td>Computer electives</td>
<td>6</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>6</td>
</tr>
</tbody>
</table>

Course Notes:

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. Credits beyond this maximum do not count toward a degree.

Computer Science (CS)

Students taking CS classes with computer programming components should expect to use 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 102 Introduction to Object-Oriented Programming 1 cr. Offered every term. Classes are held for 2 hours/week in the first half of the semester. Introduction to object-oriented programming
using a visual programming environment. Students create programs using drag-and-drop and these programs control animated on-screen characters and objects. Course is designed as a supplement to CS 131-132 which teaches object-oriented programming in a more traditional manner.

U 111 Fluency with Information Technology 3 cr. Offered every term. Introduces the skills and concepts of information technology, both from practical and more theoretical points of view. During lectures and interactive computer labs, students explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security.

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 inst. CS 102 highly recommended as prereq. or coreq. Fundamental computer science concepts using the high level structured programming language, Java.

U 132 Fundamentals of Computer Science II 3 cr. Offered autumn, spring, and summer. Prereq., CS 131; coreq., MATH 121 or consent of inst. 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 172 and this course.

U 173 Computer Modeling 2 cr. Offered autumn and spring. Prereq., MATH 100 or equiv. score on the math placement test, and considerable experience is using spreadsheets. Problem solving with spreadsheets and databases using the computer to analyze data. Presentation of results of the analysis. Credit not allowed for both CS 172, CRT 280 or CRT 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 Internship Variable cr. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning through placements on and off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 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 241 Data Structures 4 cr. Offered autumn. Prereq., CS 132; coreq., MATH 225 or consent of instr. Abstract data types, recursion, linked lists, trees, hashing, graphs, and applications of data structures in algorithm development. Emphasis on object oriented programming techniques. Credit not allowed for CS 331 and this course.

U 242 Programming Languages 4 cr. Offered spring. Prereq., CS 241 and MATH 225. Concepts and principles of programming languages with an emphasis on C, C++, and object-oriented programming. Syntax and semantics of object-oriented languages. Principles and implementation of late binding, memory allocation and de-allocation, type-checking, scope, polymorphism, inheritance. Credit not allowed for CS 335 and this course.


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 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 332 Algorithms 3 cr. Offered autumn. Prereq., CS 241 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 344 Operating Systems 3 cr. Offered autumn. Prereq., CS 241, 242, CS 281, 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 241 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 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 415E Computers, Ethics, and Society 3 cr. Offered autumn. 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 241 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.

UG 441 Theory and Practice I 3 cr. Offered autumn. Prereq., CS 242, 344, 346, 365 and MATH 225, or consent of instr. Automata, regular and context free languages, entity/relational systems, with applications in requirements analysis, system design, and language processing.

UG 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 242 or consent of instr. Using the computer to solve problems that require intelligence. Representation of knowledge, search techniques, symbolic programming in LISP, expert systems.

UG 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.

UG 458 Introduction to Bioinformatics 3 cr. Offered autumn. Introduction and use of biological data sources available in the post human genome project era. Topics include basic algorithms for alignment of genome sequences and prediction of protein structures, as well as more advanced representational and algorithmic issues in protein structure, genome sequence computation, and systems biology. Credit not allowed for CS 558 and this course.

UG 452 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.


UG 476 User Interface Design 3 cr. Offered spring. Prereq., CS 241 or consent of instr. Introduction to usability and key concepts of human behavior. Focus on the process of user-centered design, including requirements specification, prototyping, and methods of evaluation. Incorporation of regular design critiques of classmates' work, and emphasis on both oral and written communication skills. Credit not allowed for CS 576 and this course.

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, multi-grid techniques. Discrete methods for solution, renormalization group method, critical phenomena. Emphasis on presentation of results and interactive programs. Credit not allowed for CS 577 and this course.

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 Internship Variable cr. (R-3) Offered Internationally. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 511 Analysis, Modeling, and Design 3 cr. Offered spring. Prereq., CS 152 or 211 or significant programming experience; MATH 117 or 121; CS 346 or software engineering experience; CS 365 or database experience. Software requirements analysis, modeling, and specification. Human computer interface issues as they relate to usability, process support, productivity, and organizational goals.

G 512 Software Quality Assurance 3 cr. Offered spring. Prereq., CS 132 or 221 or significant programming experience; MATH 117 or 121; CS 346 or software engineering experience. Software quality assurance concepts and implementation Planning, execution, and assessment of quality assurance activities throughout the software project life cycle.

G 521 Information Technology Infrastructure 3 cr. Offered intermittently. Prereq., CS 488 or IS 372 or consent of instr. Identification and classification of background environment, hardware, software, and service components in an enterprise IT environment; management and security concerns for each component; consideration of how the components fit together to form an enterprise information technology environment.

G 522 Globalization and Outsourcing 3 cr. Offered spring. Prereq., CS 346 or IS 373 or consent of instr. Development of information technology on a global basis and the associated dynamics of outsourcing relating to intellectual property and national economics in a global context. Project sessions
coordinated across two campuses, one at UM and one in an outsourcing environment such as a tribal college, an Indian technical college or Chinese technical college with the purpose of engaging both groups in understanding and resolving cross-cultural and technical problems.


G 541 Software Science I: Requirements and Specifications 3 cr. Offered intermittently. Prereq., MATH 225; CS 241 and 242 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 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 558 Introduction to Bioinformatics 3 cr. Offered autumn. Prereq., consent of instr. Introduction and use of biological data sources available in the post human genome project era. Topics include basic algorithms for alignment of genome sequences and prediction of protein structures, as well as more advanced representational and algorithmic issues in protein structure, genome sequence computation, and systems biology. Discussion of state of the art in bioinformatics projects that are best developed between the Department of Computer Science and the School of Pharmacy.

G 565 Database Systems 3 cr. Offered intermittently. Prereq., CS 242, 344, and 365, or consent of instr. Relational database theory, data models, user interfaces and query languages, security, and concurrency.

G 576 Human-Computer Interactions 3 cr. Offered spring. Prereq., CS 241 or consent of instr. Principles of good 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. Advanced HCI research project.

G 577 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, multi-grid techniques. Discrete methods for solution, renormalization group method, critical phenomena. Emphasis on presentation of results and interactive programs. Engagement with current scientific literature. Planning and execution of small scale modeling project derived from scientific literature. Model testing and validation.

G 580 Parallel Processing 3 cr. Offered intermittently. Prereq., CS 241, 242, 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 598 Internship 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.

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 (Chairman)
Joel E. Henry, Ph.D., Virginia Polytechnic Institute and State University, 1993

Associate Professors

Donald J. Morton, Jr., Ph.D., Louisiana State University, 1994
Yolanda J. Reiner, Ph.D., University of Oregon, 2002

Assistant Professors

Jesse V. Johnson, Ph.D., University of Maine, Orono, 2002
Changwon Yoo, Ph.D., University of Pittsburgh, 2002

Lecturer

Mike O’Connor, 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

Jerry D. Esnay, M.S., University of Texas, El Paso, 1971
Gene F. Schiedermayer, M.S., Southern Methodist University, 1971
Ronald E. Wilson, Ph.D., University of Chicago, 1975

Research Professor

David W. Opitz, Ph.D., University of Wisconsin, Madison, 1995
## Department of Economics

**Douglas Dalenberg, 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. See index. Thirty-six credits in economics must be earned. Within the 36 credits the student must include ECON 111S, 112S, 311, 313, 460, 487, 488, 489; and fourteen elective economics credits numbered 300 or above. Three credits of ECON 100S may be counted toward the additional fourteen credits of upper-division economics courses if taken before attaining junior status. A maximum of four credits of ECON 486 and none of the ECON 398 credits may count toward the 36-credit requirement. The following courses may be counted as part of the 36 economics credits required for the undergraduate degree: GEOG 315, PSC 365, FOR 320, FOR 520.

The student should take ECON 311 and 313 before the senior year.

Non-economics courses required for the undergraduate degree are: MATH 117 and MATH 150 or MATH 152 and 153; MATH 241 (or equivalent). The student must pass ENEX 101 with a grade of "C" or above. MATH 117 and MATH 150 should be taken in the freshman year. Students planning graduate study in economics should take MATH 152-153 and consider MATH 221, MATH 305 and ECON 511, 513, and 560.

The Upper-division Writing Expectation must be met by successfully completing the Senior Economics Thesis (ECON 487-489).

### Teacher Preparation in Economics

Students who want to be licensed to teach economics at the high school level must complete the BA degree requirements in economics. They also must complete a teaching minor in a second field of their choice and the professional licensure program in the School of Education. Students may also earn a teaching minor in economics. See the Department of Curriculum & Instruction for information about admission to the Teacher Education Program and completion of these licensure programs.

### Suggested Course of Study

#### First Year

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<td>MATH 117 Probability and Linear Math</td>
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<td>MATH 150 Applied Calculus</td>
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<td>ECON 315 Intermediate Macroeconomics</td>
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<td>MATH 241 Statistics I</td>
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<td>ECON 488 Research Methods &amp; Thesis Design</td>
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<td>ECON 489 Senior Thesis</td>
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### Requirements for a Minor

To earn a minor in economics the student must complete ECON 111S, 112S, 311, 313, and six additional credits of economics classes numbered 300 or above, only three of which may be in ECON 486.

### Courses

**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. Prereq., ECON 111S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and 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 304 Public Finance: Expenditures** 3 cr. Offered autumn. Prereq., ECON 111S and 112S. Rational for governmental expenditure; public goods; public choice. Analysis of expenditure policy. Intergovernmental relations.

**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 intermittently. 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 with 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 intermittently. 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 Wild Land 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.


UG 393 Omnibus Variable cr. (R-9) Offered intermittently. Independent work under the University omnibus option. 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 Variable cr. (R-9) Offered intermittently. Prereq., six credits in economics and consent of instr.

UG 398 Internship Variable cr. (R-6) 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 credit for this course cannot count in the 36 credit minimum requirement for the major. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 431 International Trade 3 cr. Offered intermittently. 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 intermittently. Prereq., ECON 111S, 112S. Same as ENV 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.

UG 450 Advanced Topics in Economic Development 3 cr. Offered intermittently. Prereq., ECON 111S, ECON 350, or permission of instructor. Advanced treatment of the processes of economic growth and development in the less developed world.

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; senior standing in economics. Capstone course for economics majors. Advanced topics in economic methodology, theory and/or public affairs.

UG 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.

UG 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 Seminar cr. (R-6) Offered autumn and spring.


G 513 Macroeconomic Theory 3 cr. Offered spring. Prereq., ECON 313. Advanced theoretical treatment of national income determination, unemployment and inflation.


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 Internship 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
Douglas Dalenberg, Chair, Ph.D., University of Oregon, 1987
Amanda Dawsey, Ph.D., University of Maryland at College Park, 2001
Richard D. Erb, Ph.D., Stanford University, 1967
Thomas M. Power, Ph.D., Princeton, 1971 (Chairman)
Dennis J. O'Donnell, Ph.D., Pennsylvania State University, 1974

Casey Charles, Chair

The department has several components: 1) Literature; 2) Creative Writing; 3) Expository Writing; 5) Film; 6) Linguistics; and 7) 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 renowned, 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.

The Film Studies program is designed to give students a solid background in film history and the various approaches to film criticism. Students will be exposed to films from other cultures and traditions, and will acquire the theoretical sophistication need to acquire a solid grasp of the various approaches to film theory. Students in Film Studies will become media literate by sharpening their ability to critically assess images.

The Department, in conjunction with the College of Arts and Sciences and the School of Fine Arts, also sponsors a minor in Irish Studies which provides students with access to instruction in the fields of language, history, literature, and culture. This academic and artistic approach to the subject of Irish culture involves an interdisciplinary and inter-collegiate collaboration that brings together leading scholars in the humanities and in the creative arts.

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, he/she 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-credit major requirement. ENEX 100 and 101 do not count toward the major or minor.

Majors in English may not take any course required for the English major on a credit/no credit basis.

2. Transfer students must complete a minimum of 9 credits of advisor-approved upper-division English courses at The University of Montana to receive a B.A. with a major in English.

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; ENLT 431; one additional 400-level ENLT class on ENLI course other than ENLT 431; 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: Students choose one of two curricula. General Linguistics: ENLT 222L; two courses from ENLT 223L, 224L, 225L; 301; 320; ENLT 349 or 350; ENLI 465; LING 470, 471, 472, 473, 474 and 476; LING 489; either LING 477 or 478; either LING 475 or 476; and two years of a foreign language. Teaching ESL: ENLT 222L; two courses from ENLT 223L, 224L, 225L; ENLT 440, 442; ENLI 465; LING 466, 470, 471, 472; one course from LING 473, 475, 476; either LING 477 or 478; LING 489, 481, 491; one upper-division LING elective; 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 223L, 224L, 225L, 301, 320; two courses 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; ENLT 439, 440, 441, 442; 6 credits of English electives; secondary school teaching certification courses. This program requires a minimum of 128 credits.

E. Film Studies: Students must take ENFM 180, 227L, 330, 427; ENLT 301, 320; and 27 credits from the following: MARY 101, MCLG 222/LS 361, MCLG 338/LS 338, MCLG 358/LS 358, SPAN 359, ENLT 325/LS 356, ENFM/LS 381, PHIL 340, PHIL 444, NAS/ENFM 344, ENLT 380, or ENLT 442.

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; ENLT 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.)

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.

Minor in Irish Studies: For an endorsement in the field of Irish Studies, a student must complete at least 18 credits, including 12 from the required core courses (4 courses) and six credits from the elective courses (2 courses). A student must complete IRSH 101, IRSH 102, HIST/IR 249, and ENLT/IR 322, Irish and/or Northern Irish Literature (in English) or ENLT/IR 395, Special Topics in Irish Literature and Culture. A student wishing to begin the Irish Studies Minor must contact the Director of Irish Studies and complete the requisite paperwork.

Sample Course of Study

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<th>Literature Option</th>
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Creative Writing Option

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Second Year | 3 | 3 | 3 | 3 |
| ENLT 224L and 225L American Literature | 3 | 3 | 3 | 3 |
| ENLT 301 Applied Literary Criticism | 3 | - | - |
| Electives or General Education | 4 | - | - |
| ENLT 320 Shakespeare | 3 | 3 | 3 | 3 |
| Electives or General Education | 15 | 15 | 15 | 15 |

Third Year | 3 | 3 | 3 | 3 |
<p>| ENCR 310A or 311A Creative Writing | (3) | (3) | (3) | (3) |
| ENLT 320 Shakespeare | 3 | 3 | 3 | 3 |</p>
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<td>Electives and General Education</td>
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<tr>
<td><strong>English Teaching Option</strong></td>
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<tr>
<td>ENX 101 Composition</td>
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<tr>
<td>One of ENLT 121L, 222L or ENCR 211A</td>
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<tr>
<td>ENLT 223L British Literature</td>
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<tr>
<td>ENLT 224L American Literature</td>
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<td><strong>Second Year</strong></td>
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<tr>
<td>ENLT 225L American Literature</td>
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<tr>
<td>ENLT 301 Applied Literary Criticism</td>
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<td>ENLT 520 Shakespeare</td>
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<td>English elective</td>
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<td><strong>Third Year</strong></td>
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<tr>
<td>One 300-level ENLT course concentrating in American literature</td>
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<td>One 300-level ENLT course</td>
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<td>ENT 439 Studies in Young Adult Literature</td>
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<td>ENLI 465 Structure and History of English for Teachers</td>
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<td>ENT 440 Teaching Writing</td>
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<td>General Education and certification requirements</td>
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<td><strong>Fourth Year</strong></td>
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<tr>
<td>ENT 441 Teaching Reading and Literature</td>
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<td>ENT 442 Teaching Oral Language &amp; Media Literacy</td>
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<td>Certification of C&amp;I 494 Teaching Professional Portfolio</td>
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<td>Certification requirement of C&amp;I 494 Teaching</td>
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<td><strong>Film Option</strong></td>
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<td>ENX 101 Composition</td>
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<tr>
<td>ENFM/LS 180 Introduction to Film</td>
<td>3</td>
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<tr>
<td>MAR 111A Fundamentals of Integrated Digital</td>
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<td>Foreign Language</td>
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<td>ENFM 227 Film as Literature, Literature as Film</td>
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<td>ENFM 327 National Cinema Course</td>
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<td>ENFM 381 Studies in Film</td>
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<td>ENLT 301 Applied Literary Criticism</td>
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<td>National Cinema Course</td>
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<td>ENLT 325 Studies in Literature and Film</td>
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<tr>
<td>ENFM Film Theory</td>
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**College of Arts and Sciences - Department of English - 87**

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<tr>
<th>Course</th>
<th>Credit Hours</th>
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<tbody>
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<td><strong>ENLT 340 Aesthetics</strong></td>
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<tr>
<td><strong>ENLT 444 Topics in Philosophy of the Arts</strong></td>
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<td><strong>ENT 442 Teaching Oral Language and Media Literacy</strong></td>
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<td>ENX 101 Composition</td>
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<td>ENLT 222L British Literature</td>
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<td><strong>Linguistics Option (General Linguistics)</strong></td>
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<td>ENLT 222L British Literature</td>
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<td>ENLT 225L, 224L or 225L American Literature</td>
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<td>ENLT 225L, 224L or 225L American Literature</td>
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<td>LING 270 Introduction to Linguistics</td>
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<tr>
<td>LING 471 Phonology-Morphology</td>
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<td><strong>Third Year</strong></td>
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<tr>
<td>ENLT 445 Structure and History of English for Teachers</td>
<td>3</td>
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<tr>
<td>ENLT 349L Studies in Medieval Literature or</td>
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<tr>
<td>ENLT 350L Chaucer</td>
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<td>LING 471 Phonology and Morphology</td>
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<td>LING 472 Syntax-Semantics</td>
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<td>LING 474 Language, History, Variety, and Change</td>
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<td><strong>Fourth Year</strong></td>
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<tr>
<td>LING 473S Language and Culture or 475 Linguistic Field Methods</td>
<td>3</td>
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<td>LING 475 Linguistic Field Methods or LING</td>
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<td>484 North American Indian Linguistics</td>
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<tr>
<td>LING 476 Child Language Acquisition</td>
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<td>LING 477 Bilingualism or 478 Second Language Acquisition</td>
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<tr>
<td>LING 489 Languages of the World</td>
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<td>Electives</td>
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<td><strong>Linguistics Option (Teaching ESL)</strong></td>
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<td>ENX 101 Composition</td>
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<tr>
<td>ENLT 222L British Literature</td>
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<td>ENLT 223L, 224L or 225L American Literature</td>
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<tr>
<td>LING 470 Introduction to Linguistics</td>
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<td>ENLT 445 Structure and History of English for Teachers</td>
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<tr>
<td>LING 471 Phonology and Morphology</td>
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<tr>
<td>LING 472 Generative Syntax and Semantics</td>
<td>3</td>
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<tr>
<td>LING 477 Bilingualism or 478 Second Language Acquisition</td>
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<tr>
<td>LING 489 Teaching ESL</td>
<td>3</td>
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<td>Electives and General Education</td>
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Fourth Year

ENT 440 Teaching Writing ........................................ 3 -
ENT 442 Teaching Oral Language and Media
Literacy ........................................................................... - 3
LING 466 Pedagogical Grammar ...................................... 3 -
LING 473S Language and Culture ................................. 3 -
Field Methods or 476 Child Language Acquisition .......... 3 -
LING 481 ESL Professional ........................................... - 3 -
LING 491 ESL Practicum ............................................ - 1 -
Electives ........................................................................... 6 8

Irish Studies Minor

First or Second Year
ENIR 101 Introduction to Modern Irish ....................... 3 -
ENIR 102 Intermediate Modern Irish ......................... 3 (3)

Second Year
HIST/IR 249 The Irish and Irish Americans ............... 3 (3)

Third Year
ENLT/IR 322 Irish and/or Northern Irish Literature .... 3 (3)
Electives ........................................................................... 3 (3)

Fourth Year
Electives ........................................................................... 3 (3)

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. Credits beyond this maximum do not count toward a degree.

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.

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 such 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 suggest or require a student to attend 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 3 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. Credit not allowed for ENEX 100 and WRTS 100. Grading A-F, or NC (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-F, or NC (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 196 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 200 Advanced Composition 3 cr. Offered autumn, spring, and summer semesters. Prereq., placement or C or better in ENEX 101. Designed for first year students with advanced writing ability and students who seek a lower-division writing course. Offers opportunities for instruction in rhetorical reading and writing, particularly the study and practice of written argumentation in different academic and civic contexts. Grading by traditional letter system or NC (no credit).

U 300 Practicum: Tutoring Composition 1-3 cr. (R-6) Offered autumn and spring. Prereq., EN 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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 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 expository writing. Only one 496 may be taken per semester.

G 540 Teaching College Level Composition 3 cr. Offered autumn and spring. Restricted to graduate students teaching expository writing at The University of Montana. Theory and pedagogy of teaching college 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.

G 596 Graduate Independent Study 1-3 cr. (R-9) Offered every term. Prereq., consent of instr. and chair. Special projects in expository writing. Only one 596 may be taken per semester.

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 21A 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 will also 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 during 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 312A Introduction to Creative Nonfiction 3 cr. Offered autumn. Prereq., 3 or more credits of creative writing and consent of instr. Study of various forms of nonfiction with emphasis on memoir, personal essay, lyrical essay, travel and nature writing and interactive journalism. Writing assignments.

U 390 Supervised Internship 1-3 cr. (R-9) Offered intermittently. Prereq., consent of faculty supervisor and department chair.

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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 criticized. 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.

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.

Film (ENFM)

U 180L Introduction to Film 3 cr. Offered every term. Same as LS 180. The history and development of the film medium. Emphasis on critical analysis of selected classic or significant films.

U 227L Film as Literature, Literature as Film 3 cr. (R-6) Offered autumn and/or spring. Same as ENLT 227L and LS 227L. Studies of the relationship between film and literature. Topics vary.

U 330 History of Film 3 cr. Offered every year. Prereq., ENFM 180, 227. Survey of film history.

U 344 Native Americans and Film 3 cr. Offered once each year. Same as NAS 344. Surveys the image of Native Americans in American film with an emphasis on "revisionist," or "breakthrough" films. Ultimate focus will be on films featuring Native American writers, directors and actors.

UG 381 Studies in the Film 3 cr. Offered autumn and spring. Prereq., ENFM/MLS 180 or consent of instr. Same as LS and MCLG 381. Studies in genres, directors, movements, problems, etc.

UG 427 Film Theory 3 cr. Offered yearly. This course examines key approaches to film theory and criticism, and the theoretical roots of each. Classic and contemporary films will be assessed in the light of the theories covered.

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.

G 270 Introduction to Linguistics 3 cr. Offered every term. Same as 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.

G 295 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.

G 396 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.

G 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.

G 470 Introduction to Linguistic Analysis 3 cr. Offered every term. Same as LING 470. An introduction to the field of modern linguistics and to the nature of language. Emphasis on
UG 480 Teaching English as a Foreign Language 3 cr. Offered spring. Prereq., ENLI 270 or equiv. 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.

UG 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.

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 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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 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 3 cr. Offered autumn and spring. Prereq., C&I 303, senior standing and consent of instr. Emphasis on teaching writing in grades 5-12. Research about development and maturity of writers, overview of schools of writing/history of writing instruction, strategies for teaching writing as a process, elements of writing craft, criteria for assessing and responding to writing, peer-coaching methods, writing/reading workshops, the role of grammar in improving writing, writing/reading connections, assignment characteristics, and grading practices. Required of students pursuing secondary English major and minor teaching certificates.

UG 441 Teaching Reading and Literature 3 cr. Offered autumn and spring. Prereq., ENT 439, admission to teacher education and consent of instr. Emphasis on various approaches to teaching reading and literature in grades 5-12. Research about the development and maturity of readers, strategies for teaching reading comprehension and vocabulary, strategies for diagnosing reading abilities and criteria for reading assessment, reading workshops/literature circles. 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. Focus on the design of lesson plans and curriculum using traditional, young adult, and multicultural literature in grades 5-12. Required of students pursuing secondary English major and minor teaching certificates.

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.

UG 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 542 Theories and Pedagogies of Rhetoric and Composition 3 cr. Offered intermittently. Exploration of contemporary theories and practical strategies for teaching rhetoric and composition grades 5-16.

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. Exploration of creative drama as a learning skill to teach literature and language.

G 545 Theories and Pedagogies of Literacy 3 cr. Offered spring odd-numbered years. Exploration of contemporary theories and practical strategies for teaching literacy grades 5-16.

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. Exploration 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 9 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 551 Writing the Professional Paper 3 cr. Offered every term. Guidelines and mentoring for individual research projects that culminate in writing the professional paper for completion of the M.A. in English Teaching.

G 552 Montana Writing Project Leadership Training 7 cr. Offered intermittently Prereq., ENT 440, special application, and consent of director. Intensive leadership training for Montana Writing Project teacher-consultants in responding to peer writing, organizing professional development institutes, honing strategies for curriculum development and institute design to provide professional development statewide that increases the effectiveness of teaching and learning of writing in all levels of education, pre-20.

G 553 Niitsitapi Ways of Knowing and Teaching: An Institute for Writing, Inquiry and Reflection 7cr. Offered summer at Blackfeet Community College. Focus is on writing across the curriculum in the context of participants'
teaching assignments alongside the essential component of Niitsitapi (Blackfeet) culture and ways of knowing. Participants develop a theoretical articulation of what it means to write in their disciplinary area(s) of endorsement and with predominantly Blackfeet students. Participants design and critique writing curriculum and instruction in their disciplines with attention to theory and research on writing in the content areas and Blackfeet ways of knowing.

G 593 Professional Paper (Teacher) Variable cr. (R-4) Offered autumn and spring. 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 Internship 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 autumn and/or spring. Same as ENFM 227L and LS 227L. Studies 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.

U 320 Shakespeare 3 cr. Offered autumn and spring. 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.

U 321 Studies in a Major Author 3 cr. (R-9) Offered autumn and spring. 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).

U 322 Studies in Literary History 3 cr. (R-9) Offered autumn and spring. 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 autumn and spring. 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 autumn and spring. 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 autumn. Selected works by African-American writers, exploring literary approaches to themes of illness and healing. Authors include Anton Chekhov, William Carlos Williams, Richard Selzer, Dannie Abse and others.

U 327 U. S. Writers of Color 3 cr. Offered autumn or spring. Prereq., ENLT 301 or consent of instructor. Selected readings from African American, Asian American, Chicano/a, Latino/a, and Native American literatures.

UG 329 Native American Literature 3 cr. Offered autumn. 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 alternate years. 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 333 Modern Poetry 3 cr. Offered alternate years. Prereq., ENLT 301 or consent of instr. Study 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 alternate years. 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 autumn or spring. Prereq., ENLT 224L or 225L and prereq. or coreq., 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 alternate years. 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 337 African-American Literature 3 cr. Offered alternate years. Prereq., ENLT 301 or consent of instr. Selected readings by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc.

U 338L Montana Writers 3 cr. Offered alternate years. 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
placements provides 6 credits of graduation.

Prereq., ENLT 301 or consent of instr. Exploration of literature from the medieval period (400-1500), focusing on the major cultural and intellectual influences on the emergence of vernacular writing. Topics will vary, but will regularly include Anglo-Saxon literature and Middle English literature (excluding Chaucer).

U 350L Chaucer 3 cr. Offered alternate years. 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 alternate 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 353 Milton 3 cr. Offered alternate years. Prereq., ENLT 301 or consent of instr. Selected study of poetry and prose of Milton.

U 355 Studies in British Romanticism 3 cr. Offered alternate years. Prereq. or coreq., ENLT 301. Introduction to the major texts, themes, and authors of British literature from 1790-1815, focusing on poets such as Blake, Barbauld, Wordsworth, Coleridge, and P.B. Shelley but attending also to prose writers from Austen to Mary Shelley.

U 357 Victorian Literature and Culture 3 cr. Offered alternate years. Survey of British Victorian literature from a cultural perspective, focusing on the connections between literary texts and their social-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 369 Short Fiction 3 cr. Offered alternate years. Prereq., ENLT 301 or consent of instructor. Study of selected short stories and novellas from mid-19th century to the present.

U 370 Science Fiction 3 cr. Offered alternate 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 alternate 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 alternate years. 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 alternate years. Prereq., ENLT 224L or 225L and ENLT 301.

U 375L Gender and Sexuality in 20th Century Fiction 3 cr. Offered alternate 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 396 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 420 History of Criticism and Theory 3 cr. Offered autumn or spring. 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 or 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, and 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.

U 431 Capstone Seminar in Literature 3 cr. Offered autumn and spring. Prereq., ENLT 301 and nine credits in literature courses numbered 300. Required for completing the English literature option, this seminar will allow students to conduct advanced studies in literary figures and topics chosen by faculty to engage a broad range of interests. A long research paper is required.

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 autumn and spring. Prereq., consent of instructor. Topics will vary.

G 521 Seminar in American Literature 3 cr. (R-9) Offered autumn and spring. 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 524 Nature, Language and Politics 3 cr. Offered intermittently. Same as 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 Internship 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.

Irish Studies (ENIR)

U 101 Elementary Irish 1 3 cr. Offered autumn or spring.
Same as IRSH 101. This course represents an introduction to modern Irish in both its spoken and written forms; basic principles of grammar and sentence structure are covered. Emphasis is placed on the application of these principles in every-day situations. The GenEd Foreign Language requirement can be fulfilled by successful completion of 101, 102 and 103.

U 102 Elementary Irish II 3 cr. Offered autumn or spring. Same as IRSH 102. The primary objective of this course is to build on the foundations laid in Beginning Irish I. Students will expand their vocabulary with a special focus on verbs; they will also engage new themes that demand a corresponding increase in their store of nouns, adjectives, idioms and expressions. The GenEd Foreign Language requirement can be fulfilled by successful completion of 101, 102 and 103.

U 103 Elementary Irish III 3 cr. Offered autumn or spring. Same as IRSH 103. The primary objective of this course is to build on the foundations laid in Beginning Irish I. Students will expand their vocabulary with a special focus on verbs; they will also engage new themes that demand a corresponding increase in their store of nouns, adjectives, idioms and expressions. The GenEd Foreign Language requirement can be fulfilled by successful completion of 101, 102 and 103.

U 249 The Irish and Irish-Americans 3 cr. Offered autumn odd-numbered years. Same as HIST 249. Ireland, the Irish people, and the Irish diaspora, from first settlement to contemporary troubles.

UG 321 Studies in a Major Author: Joyce 3 cr. (R-9) Offered autumn and spring. Same as ENLT 321 when the topic is Joyce. 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: Irish/Northern Irish Literature 3 cr. (R-9) Offered autumn and spring. 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 325 Studies in Literature and Other Disciplines: Poetry and Partition 3 cr. (R-9) Offered autumn and spring. Prereq., nine credits in ENLT or LS or consent of instr. Same as ENLT 325 and 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 345 Literature in the Irish Language 3cr. Offered autumn or spring. This course acknowledges Irish as the oldest documented vernacular in Europe and its literature as a voice that is over 1500 years old. Examines the response of Gaelic Ireland to invasion, conquest, and colonization as articulated by its literature.

U 360 Irish/Northern Irish Literature 3 cr. Offered autumn or spring. Examines (in English) an exciting and provocative selection of fiction, poetry, drama, film, and music from the Irish and/or Northern Irish literary traditions. Students will seek to understand how artists respond to the burdens of history, identity, and political conflict, and how they articulate the possibilities afforded by Ireland’s changing position in the world.

U 380 Topics in Irish Studies 3 cr. Offered alternate years. A rotating variety of special topics in Irish Studies, including Irish and Irish-American cinema, major Irish/N. Irish authors, Irish cultural studies, and transatlantic and comparative studies.

U 395 Special Topics in Irish Studies 3 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics;

UG 430 Studies in Comparative Literature: Multicultural British Literature 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Same as ENLT 430, 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.

U 431 Senior Seminar in Literature: James Joyce 3 cr. 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.

Professors

Kevin Canty, M.F.A., University of Arizona, 1993
Casey Charles, Ph.D., State University of New York, Buffalo, 1992 (Chair)
Beverly Ann Chin, Ph.D., University of Oregon, 1973
Phillip R. Fandelozzi, Ph.D., University of Hawaii, 1974
John Glendenning, Ph.D., Indiana University, 1992
Brady Harrison, Ph.D., University of Illinois, 1994
Christopher J. Knight, Ph.D., New York University, 1982
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
Jill Bergman, Ph.D., University of Illinois, 1999
Heather Bruce, Ph.D., University of Utah, 1997
Nancy Cook, Ph.D., State University of New York, Buffalo, 1991
Debra Magpie Earling, M.F.A., Cornell University, 1991
John Hunt, Ph.D., Stanford University, 1984
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

Assistant Professors

Louise Economides, Ph.D., Indiana University, 2003
John Itagaki, Ph.D., University of California at Los Angeles, 2004
Ashby Kinch, Ph.D., University of Michigan, 2000
Eric Reimer, Ph.D., University of Oregon, 2002
Kathleen J. Ryan, Ph.D., University of North Carolina, Greensboro, 2001

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
Robert B. Hausmann, Ph.D., University of Wisconsin, 1972
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

Len Broberg, 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 school's 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, one of the following two courses, 302 or 367 and one of the following two courses 305L or 420 and at least 12 credits selected from 300 and/or 400 level courses offered by EVST.

Required courses outside Environmental Studies: BIOL 100N or 110N or 108N; CHEM 151N; MATH 241.

The Upper-division Writing Experience 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 Areas of Study

Students are encouraged to select a minor or double major from another campus discipline or to focus in on of the following areas of study:

Environmental Management: In addition to satisfying the general requirements for a degree in environmental studies, students desiring environmental management must complete ACCT 201, ACCT 202, BADN 257, IS 270, FIN 322, MGMT 340S, IS 341, MKTG 360, and MGMT 445 or MGMT 446 or IS 448.

Environmental Writing and Literature: In additon to satisfying the general requirements for a degree in environmental studies, students desiring to focus in this area must complete EVST 305L and EVST 373A; at least one 3 credit course at the 200-level or above in either ENCR or ENLT or JOUR; at least one internship credit with either Campus magazine, the Environmental Writing Institute, Wild Mercy reading series, or some other environmental publication; and at least one independent study credit (EVST 496) in either original nature writing or in nature literature study.

Pre-Law: In addition to satisfying the general requirements for a degree in environmental studies, students desiring to focus in environmental law must consult with the pre-law faculty advisor within environmental studies to design a suitable pre-law program. The pre-law study area 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 to focus in this area 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, students desiring to focus an emphasis in water resources must complete 20 credits of advisor-approved courses or internships. These could include such courses as BIOL 308, 366, 408, 415, 453, 454; CHEM 442; GEOS 260, 301, 320, 327, 460, 480; FOR 210, 385, 386, 415, 455, 485. Note: Some of these course require prerequisites not in the environmental studies core requirements. Students can also work with the UM Watershed health Clinic.

Suggested Course of Study

First Year

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<tr>
<th>Course</th>
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<tr>
<td>BIOL 101N The Science of Life</td>
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<td>ENEX 101 Composition</td>
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<td>EVST 101N Environmental Science</td>
<td>3</td>
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<tr>
<td>EVST 167H Nature and Society</td>
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<td>MATH 117 Probability and Linear Mathematics</td>
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<td>UNC 180 Environmental Studies Freshman Interest</td>
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Second Year

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<td>CHEM 151N General and Inorganic Chemistry</td>
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<td>EVST 201 Environmental Information Resources</td>
<td>3</td>
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<tr>
<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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<td>EVST 302 Introduction to Environmental Regulation</td>
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<td>EVST 360 Applied Ecology</td>
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<tr>
<td>EVST 367 Environmental Policies and Politics</td>
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<td>EVST 420 U.S. Environmental Movement</td>
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<td>EVST upper-division courses</td>
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Fourth Year

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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. Credits beyond this maximum do not count toward a degree.

Environmental Studies (EVST)

U 101N Environmental Science 3 cr. Offered autumn. An introduction to the scientific principles that underpin environmental science and how these inform social policies and individual action. Features local approaches to solving environmental problems using environmental science.

U 167H Nature and Society 3 cr. Offered spring. 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 learn to conduct comprehensive literature research, analyze sources critically and write a research paper on a current environmental issue. Focus on critical thinking and communication.

U 204 Sustainable Economic Development 3 cr. Offered intermittently autumn or spring. Prereq., EVST 167H. Review of the concept of sustainable development in the context of the current American economic system and the extent applications of sustainability principles to private enterprise.

U 225 Community and Environment 3 cr. Offered autumn. 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 as well as that literature’s response to and influence on environmental events, figures, and movements.

U 311 Field Studies in Human/Ecological Communities and Public Land Issues 2-3 cr. (R-12) Offered every term. Via extended backcountry travel, experiential examination of cultural history and public lands management, and how these affect ecosystem integrity. Investigation of personal roles in and relationships with human and ecological communities. Offered by the Wild Rockies Field Institute.

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 autumn. Prereq., EVST 167H or consent of instr. Environmentalism as social movement, political and electoral issue. Focus is domestic illustrated by case studies.

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 the environment to include natural history, personal narrative, science interpretation, advocacy/editorial, place-based essay, and others. Examination of concepts, forms, and approaches to writing about environmental concerns, awareness and sensitivity. Reading and responding to published work, 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 Internship PEAS Variable cr. (R-8) 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 Internship Variable cr. Offered autumn and spring. Prereq., six credits in EVST and consent of instr. Practical application of classroom learning through internship with government, organizations or industry. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 410 Environmental Justice in Latin America 3cr. Offered summer. Two week travel seminar to one or more Latin American countries to examine Latin American perspectives on environmental justice and efforts toward sustainable development within the context of the global economy and U.S. foreign policy. Required one-credit seminar offered spring semester to provide background readings.

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., PHIL 200, 202, or 300. 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 327E and EVST/PHIL 427E.

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.
UG 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 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 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.

UG 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.

UG 465 Restoration Ecology 3 cr. Offered intermittently. Prereq., senior standing and a course in 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.

UG 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.

UG 477 Environmental Justice Issues and Solutions 3 cr. Offered autumn. Examination of social inequality in the distribution of environmental risks and in access to natural resources and environmental amenities.

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.

UG 494 Seminar 3 cr. (R-6) Prereq., EVST 101N or consent of instr. A seminar on a current environmental topic.

UG 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 Nature Writing 3 cr. Offered spring. Study of nature, environmental, and place-based writing, from classical times to the present, with emphasis on the American tradition and its relationship to twentieth-century environmental concerns, challenges, and opportunities, and to the current practice of nature writing and natural history.

G 513 Natural Resource Dispute Resolution 3 cr. Offered spring. Same as LAW 613 and FOR 513. 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. Focus is on watersheds of the Northern Rockies & Northern Plains.

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 spring. 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 criticizing 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 619. Collaborative work on practical problems arising in public land and resources law and individual research and writing projects.

G 567 Water Law 2 cr. Offered spring. Same as LAW 663. Interstate water problems; federal/state powers; federal/Indian water rights; Montana water law.

G 573 Environmental Writing 3 cr. Offered autumn. Prereq., graduate standing. Writing workshop designed to improve skills in writing on environmental topics for general audiences. Approaches include personal narrative, natural history, science interpretation, advocacy/argument, place-based essays. Includes analysis of published work from the perspective of technique and craft.

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 579 Advanced Natural Resources Conflict Resolution 3 cr. (R-4) Offered autumn. Same as FOR 579 and LAW 679. Prereq., EVST 513 or consent of instr. Current topics in theory and practice. Development and discussion of research topics. Topics vary.

G 590 Supervised Internship PEAS Variable cr. (R-3) 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 Internship 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

Leonard Broberg, Ph.D., University of Oregon, 1995 (Director)
Thomas M. Roy, M.A., University of Chicago, 1966
Vicki Watson, Ph.D., University of Wisconsin, 1981

Associate Professors

Fletcher Brown, Ph.D., Miami University, 1994
Neva Hassanein, Ph.D., University of Wisconsin, 1997

Assistant Professors

Robin Saha, Ph.D., University of Michigan, 2002
Daniel Spencer, Ph.D., Mater of Divinity, Union Theological Seminary, New York, 1994, 1983

Department of Geography

Sarah Halvorson, Chair

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 populations 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) physical geography (geomorphology, palaeo-environments, climate and global change); 2) human–environment interaction (environmental rehabilitation, water policy, and environmental hazards); 3) geography and society (geography of towns and settlements, economic geography, and migration and population change); 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) geographical techniques (remote sensing, cartography and GIS, transport planning and GIS-T, field methods, quantitative and qualitative method).

The Department of Geography offers the Bachelor of Arts and Master of Arts degrees in geography. For a B.A. in geography, options in physical geography, community and environmental planning, Central and Southwest Asian studies; and cartography and GIS 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, planning, cartography, 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—community and environmental planning, Central and Southwest Asian studies, and cartography and GIS. See the graduate catalog for more information concerning the M.A. program.

A certificate in GIS Sciences and Technologies, jointly offered by the Department of Geography, the Department of Geosciences (College of Arts and Sciences), and the Department of Forest Management (College of Forestry and Conservation) is also available. This GIS Certificate is a complement to an existing major or to a bachelor’s degree already obtained. For details, please see the College of Arts and Science and the College of Forestry and Conservation sections of the catalog.

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 an option, or with the Central and Southwest Asian Studies 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 an option other than that in Central and Southwest Asian Studies must meet the university-wide symbolic system requirement by taking MATH 117 and MATH 241. Students obtaining a degree in geography with option in Central and Southwest Asian Studies must meet the university-wide symbolic systems requirements by taking one year of one of the following five languages: (100-level or higher): Arabic, Chinese, Persian, Russian, or Turkish. 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 105, GEOG 385, GEOG 387 and 389, GEOG 103S or other regional course, three 300- or 400-level courses, one each from the systematic emphases of physical geography, human-environment interaction, and geography and society.

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 physical geography, in community and environmental planning, in Central and Southwest Asian Studies, or in cartography and GIS 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 (physical geography, human-environment interaction or geography and society).

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 ecology, and three credits of upper-division coursework 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).

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 13 additional credits as follows: GEOG 465, at least one of the following two courses: GEOG 468 or GEOG 483 (with corequisite laboratories GEOG 469 or GEOG 489), 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.

Central and Southwest Asian Studies Option

In addition to completing the requirements for the geography major, students electing the Central and Southwest Asian studies option must complete a minimum of 15 credits. The courses include GEOG 106, 402, and 460, plus six courses from the following seven: GEOG 213S, GEOG 214S, GEOG/HIST 283H, GEOG/HIST 284H, GEOG 345, GEOG 457, or FOR 495. Students pursuing the Central and Southwest Asian Studies option must meet the university-wide symbolic systems requirement by taking one year of one of the following five languages (100-level or higher): Turkish, Persian, Arabic, Russian, or Chinese. Participation in a study abroad program is strongly recommended.

The University of Montana also offers a minor in Central and Southwest Asian Studies. Please see the Asian Studies page in the catalog.

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 18-20 additional credits as follows: CS 101, GEOG 487 and 489, GEOG 488 and 489, plus two courses from the following four: GEOG 468 and 469, GEOG 483 and 489, GEOG 484 and 485 and 489.

Certificate in GIS Sciences and Technologies

The Certificate in GIS Sciences and Technologies, jointly offered by the Departments of Geography, Geosciences, and Forest Management, is aimed at future or present professionals or scientists who require skills in GIS technologies. The purpose of this program is to provide undergraduate students or individuals possessing undergraduate degrees the training, knowledge, and
understanding necessary to acquire, process, analyze, and properly display geographic data.

**Teacher Preparation in Geography**
Students who want to be licensed to teach geography at the middle and high school level must complete the BA degree requirements in geography (general geography, no option required). They also must complete a teaching minor in a second field of their choice and the professional licensure program in the School of Education. Students may also earn a teaching minor in geography. See the Department of Curriculum & Instruction for information about admission to the Teacher Education Program and completion of these licensure programs.

**Additional Information**
Advisor
Every geography major will be assigned a geography faculty member to act as advisor. The advisor offers assistance 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, as well as 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 strongly encouraged to explore study-abroad options and field experiences. Geography credits obtained through approved studies abroad will be applied toward the geography degree. With approval of the student’s advisor, additional credits obtained through studies abroad and field experiences may count toward geography electives.

**Suggested Course of Study**

**Geography major: General Geography without option:**

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<th>Year</th>
<th>Course Code</th>
<th>Credits</th>
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<tr>
<td>First</td>
<td>GEOG 101S Introduction to Human Geography</td>
<td>3</td>
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<tr>
<td>First</td>
<td>GEOG 102N Introduction to Physical Geography</td>
<td>3</td>
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<tr>
<td>First</td>
<td>ENEX 101 Composition</td>
<td>3</td>
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<tr>
<td>First</td>
<td>MATH 101 Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>First</td>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
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<tr>
<td>First</td>
<td>ENEX 103S Geography</td>
<td>3</td>
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<td>First</td>
<td>Electives and General Education</td>
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**Second Year**

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<th>Course Code</th>
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<td>GEOG 103S Geography of World Regions or other regional geography course</td>
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</tr>
<tr>
<td>MATH 241 Statistics</td>
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**Third Year**

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<tr>
<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>Upper-division courses in Geography &amp; Society, Physical Geography and Human-Environment Interaction</td>
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<td>Electives including study abroad/internship</td>
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**Fourth Year**

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**Geography with option in Community and Environmental Planning:**

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<td>GEOG 101S Introduction to Human Geography</td>
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<td>First</td>
<td>GEOG 102N Introduction to Physical Geography</td>
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<td>First</td>
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**Third Year**

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<td>GEOG 465 Planning Principles and Processes</td>
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<tr>
<td>GEOG 468 and 469 Community &amp; Regional Analysis and Laboratory or GEOG 483 and 489 Transport, Planning, and GIS and Laboratory</td>
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<tr>
<td>Upper-division courses in Geography &amp; Society, Physical Geography and Human-Environment Interaction</td>
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<td>Electives including study abroad/internship</td>
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**Fourth Year**

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**Geography with option in Physical Geography**

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<td>First</td>
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<td>First</td>
<td>GEOG 102N Introduction to Physical Geography</td>
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<td>First</td>
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<td>First</td>
<td>MATH 117 Probability and Linear Math</td>
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<td>MATH 121 Precalculus</td>
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**Second Year**

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<tr>
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<tr>
<td>MATH 241 Statistics</td>
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<tr>
<td>Electives and General Education</td>
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<tr>
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<tr>
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<tr>
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**Geography with option in Central and Southwest Asian Studies:**

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<tr>
<td>First</td>
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<td>First</td>
<td>GEOG 102N Introduction to Physical Geography</td>
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<td>First</td>
<td>MATH 117 Probability and Linear Math</td>
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<td>MATH 121 Precalculus</td>
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<tr>
<td>GEOG 460</td>
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<td>senior thesis</td>
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**Geography with option in Cartography and GIS:**

**First Year:** Same as General Geography

**Second Year:**
- GEOG 103S Geography of World Regions, or other regional geography course - 3
- MATH 241 Statistics - 3
- CS 101 Introduction to Programming - 3
- General Education and electives - 9
- Total - 15

**Third Year:** Same as General Geography

**Fourth Year:**
- GEOG 487 and 489 Remote Sensing and Raster GIS & Image Analysis and Laboratory - 3
- GEOG 488 and 489 Thematic Cartography and GIS Laboratory - 4
- GEOG 466 and 469 Community & Regional Analysis and Laboratory or 484 Spatial Analysis in GIS - 4
- GEOG 483 and 486 Transport, Planning and GIS and Laboratory or GEOG 485 and 489 Internet GIS and Laboratory - 4
- Electives including study abroad/internship/ senior thesis - 8
- Total - 15

**Requirements for the Certificate in GIS Sciences and Technologies**

To earn a Certificate in GIS Sciences and Technologies, students must either complete or have completed an undergraduate degree and complete a minimum of twenty semester credit hours of course work, including 10 to 12 required credits and 8 to 10 elective credits as described below. Students must achieve at least an overall grade point average of 3.0 for courses within the program in order to earn a certificate. The certificate will be awarded upon the successful completion of all of the requirements of the certificate and the undergraduate degree.

- It is recommended that students complete the University symbolic systems requirements before beginning this program, as these courses promote basic qualitative reasoning (MATH 117, MATH 241, FOR 201, SOC 202). CS 101, Introduction to Programming, is also strongly recommended.

**Required Courses (10-12 cr):**
- FOR 303 Introduction to Geographic Information Systems, or GEOG 387 Principles of Digital Cartography and GEOG 389 Digital Cartography Lab
- FOR 351 Photogrammetry and Remote Sensing or GEOG 487 Remote Sensing and Raster GIS and GEOG 489 Cartography/GIS Lab
- GEOG 488 Thematic Cartography and GIS and GEOG 489 Cartography/GIS Lab
- Elective Courses (8-10 cr):
  - Raster GIS, Remote Sensing, and Image Analysis
  - GEOG 587 Digital Image Analysis and Modeling and GEOG 589 Cartography/GIS Lab
  - FOR 551 Digital Image Processing
  - Vector GIS and Networks
  - GEOG 483 Transport Planning and GIS and GEOG 489 Cartography/GIS Lab
  - GEOG 580 Seminar in GIS and Cartography
  - GEOG 588 VECTOR GIS and GEOG 589 Cartography/GIS Lab
  - Data Management and Collection
  - GEOG 468 Community and Regional Analysis and GEOG 489 Lab

- Total - 15

**Additional Requirements:**

- 489 Cartography/GIS Lab
- FOR 503 Sampling Methods
- GIS Applications
- GEOG 385 Field Techniques
- GEOG 495 GIS in Geology
- GEOG 495 Planning Decision Support Systems
- GEOG 564 Planning Design
- FOR 503 GIS: methods and Applications I
- FOR 504 GIS: Methods and Applications II

(Although elective courses are organized by topical specialty, no specialization is necessary)

**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. Credits beyond this maximum do not count toward a degree.

**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 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.

U 498 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 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.

**Physical Geography**

UG 322N Weather and Climate 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 Geomorphology 3 cr. Offered intermittently. Prereq., GEOG 102N 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 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 intermittently. Prereq., GEOG 102N or equiv. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, 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 Cultural Ecology 3 cr. Offered spring. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of 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.

U 338 Mountains 3 cr. Offered autumn. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, The Ring of Fire and South Asia. Emphasis on combining the physical landscape with an overview of the indigenous peoples who inhabit the world’s heights.

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.

**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.

UG 417 Cultural and Global Competence--Key Components for Success in Global Economy and Society 3 cr. Offered autumn. Prereq., upper-division or graduate standing. Designed to increase awareness of student’s own culture and increase cross-cultural sensitivity. Understanding the perspectives of other cultures and resolving possible conflicts. Examination of the role of perception, belief systems, social structures and culture practices.

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.

**Regional Geography**

U 106 The Silk Road 3 cr. Offered autumn and spring. Same as AS and HIST 106. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.

U 2015 Montana 3 cr. Offered autumn. The physical, cultural, economic and historical geography of the state including Montana’s mountains, the prairie, Indian Reservations, cultural sites, newspapers and politics.

U 202S South Asia 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 Asia: Peoples and Environments 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 283H Islamic Civilization: The Classical Age 3 cr. Offered
autumn. Same as HIST 283H. 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.

U 284H Islamic Civilization: The Modern Era 3 cr. Offered
spring. Same as HIST 284H. History of the Islamic world and
particularly the Persian, Arabian, and Turkish-speaking lands
between 1453 and 1952.

U 301 North America 3 cr. Offered autumn. Physiographic
regions of North America; highlights of historical geography blended
with physical and cultural aspects of the continent. Lesser
known places are explored.

UG 306S China 3 cr. Offered intermittently. The spatial
integration and arrangement of the physical, cultural and economic
traits of China.

U 307 Field Studies in Geography 3 cr. (R-12) Offered
autumn and spring. Through extended backcountry travel,
experimental examination of regional landforms, climate,
hydrology, soils and patterns of vegetation and wildlife. Local
landscapes, natural-resource endowment, and societies with
particular emphasis on human-environmental interaction.
Geographical skills and techniques including map reading and
navigational skills. Offered by the Wild Rocks Field Institute as
part of a semester-long 12-credit field experience with corequisite
courses in allied fields.

UG 308 Geography of a Selected Region 3 cr. (R-9) Offered
intermittently. Selected regions will be listed as appropriate in each
class schedule.

U 345 Central Asia and Its Neighbors 3 cr. Offered spring.
Same as AS 345 and HIST 346. Analysis of the human
communities and cultures of Central and Southwest Asia, with
particular emphasis on the importance of relationships with
neighboring countries and civilizations since ancient times.

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 402 Cities and Landscapes of Central Asia 3 cr. Offered
autumn. Same as AS and HIST 402. Analysis of the main cities
of civilization and culture, rich sites and monuments of Central
Asia and Southwest Asia since ancient times.

UG 408 Advanced Regional Geography 3 cr. (R-9) Offered
intermittently. Prereq., consent of instr. In-depth treatment of a
regional geographic region, a particular regional problem, or the
methodology of regional geography. Topics vary.

UG 457 Artistic Traditions of Central and Southwest Asia 3
cr. Offered autumn and spring. Same as AS and HIST 457.
Analysis of the study of human artistic creativity and scientific
innovations of various cultures in Central and Southwest Asia since
ancient times.

UG 460 Central Asia Seminar 3 cr. Offered spring. Same as
AS 460 and HIST 462. Advanced analysis of the historical and
contemporary issues involving the human communities, cultures,
and economies in Central and Southwest Asia.

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. One hour of lecture and four
hours of field/lab-based work.

UG 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.

UG 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 issues in urban and rural
environments. Attention is devoted to Montana, state planning
programs in the U.S., and federal programs and policies that
influence land use planning. Emphasizes skills and techniques
used in plan development and implementation.

UG 466 Community and Regional Analysis 3 cr. Offered
autumn. Prereq., MATH 117 (or higher) or consent of instr.
Coreq., GEOG 469. Socio-demographic analysis of communities
and regions: population, employment, and spatial interaction.
Hands-on course devoted to state, regional, and metropolitan
GIS analysis, and others interested in socio-demographic change.

UG 469 Planning and Analysis Laboratory 1 cr. Offered
autumn. Coreq., GEOG 468. Lab to accompany GEOG 468.

UG 471 Workshop in Teaching Geography 2-3 cr. Offered
summer. Prereq., upper-division or graduate standing. Modern
courses 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 483 Transport, Planning, and GIS 3 cr. Offered spring.
Prereq., MATH 117 or higher or consent of instr. Coreq., GEOG
489. A project-oriented course focusing on patterns and trends in
urban passenger transportation, on principles of transport planning
and on modeling in GIS-T.

UG 484 Spatial Analysis and GIS 3 cr. Offered
intermittently. Prereq., GEOG 387 and GEOG 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 intermittently. Prereq.,
GEOG 387; coreq., GEOG 489. Principles and techniques for
distributing GIS and mapping applications via the Internet.

UG 487 Remote Sensing and Raster GIS 3 cr. Offered
autumn. Prereq., GEOG 387 and MATH 241 (or higher) or consent of instr.
Coreq., GEOG 489. Basic principles of remote sensing and analyzing images within a raster Geographic
Information System (GIS). Review current data sources.

UG 488 Thematic Cartography and GIS 3 cr. Offered
spring. Prereq., GEOG 387 or consent of instr.; coreq., GEOG
489. Communicating and analyzing topological 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-4) Offered
autumn and spring. Coreq., GEOG 483, 485, 487 or 488. Lab to
accompany cartography and GIS core classes.

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 504 Introduction to Geographical Research 1 cr. Offered
autumn. To be taken during first semester of graduate studies.
Understanding of diverse research approaches in geography and
development of a thesis topic. To be continued in spring in GEOG
505.

G 505 Research Design 2 cr. Offered spring. Prereq., graduate
standing and GEOG 504. Preparation of a thesis proposal:
research design, data collection, analysis, interpretation, and
presentation. 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
graphy and society, human-environmental interaction, physical
ography, regional geography, or geographical techniques.

G 560 Seminar in Planning 3 cr. Offered spring odd-numbered
years. A critical analysis of land planning history, theory,
approaches, and practice. Emphasis is on the United States and
England.

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 578 Preceptorship in Geography 1-3 cr. (R-6) Offered
autumn and spring. Prereq., graduate standing, suitable
coursework, and consent of instr. Assisting a faculty member by
tutoring, helping students with research projects, and carrying out
other class-related activities.

G 580 Seminar in GIS and Cartography 3 cr. (R-9) Offered
spring. Prereq., consent of instr. Seminar topics in cartography and
graphic information systems. Applications to advanced studies in
human and physical geography.

G 587 Digital Image Analysis and Modeling 3 cr. Offered
spring. Prereq., GEOG 487 or FOR 351 or consent of instr.;
coreq., GEOG 589. Advanced topics in image analysis (e.g.,
hyperspectral images and pattern-recognition-based classification)
and foundations of simple raster-based models.

G 588 Vector GIS 3 cr. Offered autumn. Prereq., consent of
instr.; coreq., GEOG 589. Applications of GIS in human
geography. Mapping and map analysis methods employing
census data, TIGER files, city and county data bases, county
surveyors maps, and others. Theory, concepts, and practices of
GIS focusing on the vector data model.

G 589 Cartography/GIS Laboratory 1 cr. (R-4) Offered
autumn and spring. Laboratory to accompany GEOG 587 or 588.

G 598 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 Internship 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. Gritzmmer, Ph.D., The University of Chicago, 1986
Mehrdad Kia, Ph.D., University of Wisconsin-Madison, 1986
Paul B. Wilson, Ph.D., University of Nebraska, 1972

Associate Professor

Sarah J. Halvorson, Ph.D., University of Colorado-Boulder,
2000 (Chair)
Christian von Reichert, Ph.D., University of Idaho, 1992

Assistant Professors

Ulrich Kump, Doktor der Naturwissenschaften, Technical
University of Berlin, 1999
Ardehsh Kia, Ph.D., University of Wisconsin-Madison, 1988
Anna Klene, Ph.D., University of Delaware, 2005
David D. Shively, Ph.D., Oregon State University, 1999

Adjunct

Udo Fluck, Ph.D., University of Montana, 2003 (Director,
Multicultural Learning Solutions)
Richard Grezit, D.H.L. (Hon), University of Montana, 2004
Nicholas Kaufman, M.S., University of Montana, 1984
Thomas Sullivan, M.A., University of Montana, 1995

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 Geosciences

Steven D. Sheriff, Chairman

An understanding of geosciences 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 atmo-
sphere, 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 laboratory 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, 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
fossils. 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 Geosciences 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 Geosciences 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 GEOS 499. See index.

The Geosciences 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: GEOS 100N, GEOS 101N, GEOS 130, and GEOS 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 list level or higher or equivalent: MATH 117, CHEM 151N, PHYS 121N, ASTR 131N, CS 172, BIOL 110N, 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 Geology option is flexible. For example, for those interested in community affairs, planning and environmental relations or policy, GEOS 352, 432, and 480 are recommended. For a broad interest in evolution of Earth, GEOS 310, 330, 430, 432 and 429 are recommended. Students are encouraged to consult with departmental advisors regarding available choices.

**Professional Options**

The Geosciences 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 Geosciences Department.

**Option in Geology**

The following courses are required: GEOS 100N, 101N, 130, 226, 330, 429. One course also must be selected from each of the following four categories: (1) GEOS 480; (2) GEOS 437, 438, 430; (3) GEOS 316, 327, 437, 438; (4) GEOS 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: GEOS 100N, 101N, 105N, 130, 301, 226, 320N or 327, 480, 499 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: CS 203, 204, 344, 365; MATH 158, 251, 311, 312, 341; CHEM 261, 262, 263, 264, 342, 344, 348, 370, 371, 452, 476.

**Option in Earth Science Education**

Major Teaching Field of Earth Science: A student must complete GEOS 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 GEOS 330N, ASTR 131N-132N, MATH 121, 341, CS 101, CHEM 485, and C&IT 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**

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<thead>
<tr>
<th>First Year</th>
<th>Second Year</th>
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<td>A</td>
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<td>S</td>
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</tr>
<tr>
<td>CHEM 151N General and Inorganic Chemistry or 162N College Chemistry</td>
<td>3-5</td>
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<td>ENEX 101 Composition</td>
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<tr>
<td>GEOS 100N-101N General Geology and Lab</td>
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<tr>
<td>GEOS 130 Introductory Field Geology and Maps</td>
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<td>*MATH 121 Precalculus</td>
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<td>General Education</td>
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<tbody>
<tr>
<td>BIOL 121N Introductory Ecology</td>
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<tr>
<td>CHEM 152N Organic and Biological Chemistry or 162N College Chemistry</td>
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<tr>
<td>GEOS 202 Stratigraphy-Sedimentology</td>
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<tr>
<td>GEOS 226 Earth Materials</td>
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<td>Additional science course</td>
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<td>Electives and General Education</td>
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<td>GEOS any 300 and above</td>
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| Suggested, a total of 30 additional science credits are required. See special degree requirements. |

**Geology Option**

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<tbody>
<tr>
<td>GEOS 100N-101N General Geology and Lab</td>
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<td>GEOS 130 Introductory Field Geology and Maps</td>
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<tr>
<td>CHEM 161N-162N-College Chemistry and Lab</td>
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<tr>
<td>MATH 152 and 153 Calculus I, II or 150 and 158</td>
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<td>ENEX 101 Composition</td>
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<td>Electives and General Education</td>
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<th>Second Year</th>
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<tr>
<td>GEOS 202 Stratigraphy-Sedimentology</td>
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<tr>
<td>GEOS 226 Earth Materials</td>
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<tr>
<td>CS 172 Introduction to Computer Modeling or equivalent</td>
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### College of Arts and Sciences - Department of Geosciences - 105

<table>
<thead>
<tr>
<th>Third Year</th>
<th>Fourth Year</th>
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<tbody>
<tr>
<td>GEOS 330 Structural Geology</td>
<td>GEOS 429 Field Geology</td>
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<td>Two courses from Category 1, 2, 3, or 4</td>
<td>Four courses as needed</td>
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<td>Geology and non-geology electives and General Education</td>
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<th>Option in Environmental Geology</th>
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<tr>
<td>GEOS 100N-101N General Geology and Lab</td>
<td>GEOS 301 Environmental Geology</td>
</tr>
<tr>
<td>GEOS 130 Introduction to Field Methods</td>
<td>GEOS 226 Earth Materials</td>
</tr>
<tr>
<td>CHEM 161N, 162N College Chemistry and Lab</td>
<td>PHYS 221N-222N College Physics</td>
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<tr>
<td>MATH 152, 153 Calculus I, II or 150 and 158</td>
<td>Other science electives</td>
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<tr>
<td>CS 172 Introduction to Computer Modeling or equivalent</td>
<td>General Education and electives</td>
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<tr>
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<tbody>
<tr>
<td>Credits from 300-level or above geology courses</td>
<td>GEOS 320 Global Water or 327 Geochemistry</td>
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<tr>
<td>Other science electives</td>
<td>GEOS 480 Hydrogeology</td>
</tr>
<tr>
<td>General Education and electives</td>
<td>GEOS 499 Undergraduate Thesis</td>
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<td></td>
<td>General Education and electives</td>
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### Earth Science Education Option

<table>
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<tr>
<td>CS 172 Introduction to Computer Modeling or equivalent</td>
<td>ASTR 131N-132N Elementary Astronomy I, II</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>CHEM 151N General and Inorganic Chemistry</td>
</tr>
<tr>
<td>GEOS 100N-101N General Geology and Laboratory</td>
<td>GEOS 226 Earth Materials</td>
</tr>
<tr>
<td>GEOS 105 Oceanography</td>
<td>GEOS 301 Environmental Geology</td>
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<tr>
<td>GEOS 130 Introductory Field Geology and Maps</td>
<td>GEOS any 100</td>
</tr>
<tr>
<td>MATH 121 Precalculus</td>
<td>*Electives and General Education</td>
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<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>*Electives and General Education</td>
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</table>

### Courses

**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 GEOS 100N and 109.

**U 101N General Geology Laboratory** 1 cr. Offered autumn and spring. Prereq. or coreq., any geology courses below GEOS 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 GEOS 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 108N 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 108N Climate Change–Past and Future** 3 cr. Offered autumn. The geoscience perspective on the earth’s climate system. Climate processes and feedbacks, climate history from early earth to the ice ages, present and future changes due to natural processes and human activities.

**U 109 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 GEOS 100N and 109.

U 130 Introductory Field Geology and Maps 3 cr. Offered autumn and spring. Prereq., GEOS 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 Earth Materials 4 cr. Offered autumn and spring. Prereq., any 100-level lecture course, GEOS 101N, CHEM 151 or CHEM 161. Study of minerals and rocks utilizing an Earth Systems approach: mineral identification and paragenesis; survey of the distribution of minerals from the interior to the surfaces of planets and the processes that led to their formation.

U 260 River Systems 3 cr. Offered spring alternate years. Hydrologic and geomorphic basis of environmental management problems concerning river systems. Analysis of the processes of flooding, sedimentation, and morphological change in channels, flood plains, deltas, and alluvial fans. Effects of climate, land use and engineering.

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., GEOS 100N-101N, 130; MATH 117 or 121; CS 172 or equiv. Experience with spread sheets 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.

UG 302 Sedimentary Geology Field Trip 2 cr. Offered spring. Prereq., GEOS 100N; coreq., GEOS 130. Examination of modern and ancient depositional systems in the field through a 9-day spring break field trip. Possible areas of focus include the Permain Reef Complex of West Texas, the California convergent margin, Ocean coastal processes, geology of the Basin and Range, Death Valley Region, Colorado Plateau, and Oklahoma Anadage.

U 304E Science and Society 3 cr. Offered autumn. Role of scientific knowledge in human societies from the pre-Classical to the present. Discussion of tools for integrating science into ethical, political, and social decisions, including analyses of modern case studies from physical sciences.

U 306 Igneous and Metamorphic Petrology 4 cr. Offered spring. Prereq., GEOS 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.

UG 310 Invertebrate Paleontology 3 cr. Offered autumn. Prereq., GEOS 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., GEOS 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.

U 320 Global Water 4 cr. Offered spring. Prereq., one semester of college chemistry, ENEX 101 or equiv. Study of the chemistry of water as it moves through the hydrological cycles; discussion of how water chemistry evolves through atmospheric water, precipitation, ground water, and surface water.

U 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.

U 330 Structural Geology 3 cr. Offered autumn. Prereq., GEOS 130 and 226. Structures of deformed rocks; mechanical principles; graphical interpretation of structural problems, tectonic principles.

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 Internship Variable cr. 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 GEOS 398 may be applied to the geology minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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., GEOS 100N. Narrative discussion of the evolutions of the Pacific Northwest from Archean time to present.


UG 430 Global Tectonics 3 cr. Offered spring. Prereq., GEOS 330, MATH 150, and 2.25 or better overall GPA in geology courses. Examination of large scale structural features of earth's surface and their relation to tectonic processes as well as
active tectonic phenomena including seismiticity, volcanism, and crustal deformation.

UG 432 Architecture of Sedimentary Deposits 4 cr. Offered spring. Prereq., GEOS 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 GEOS 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, GEOS 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, GEOS 100N-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 Modeling in the Physical Sciences with Matlab 3 cr. Offered spring alternate years. 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., GEOS 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 1-8 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 522 Metamorphic Terrain Analysis 3 cr. Offered autumn. Introduction to techniques used to analyze burial and uplift histories of metamorphic terrains. Topics include: geochronology, including closure temperature theory and the use of geochronologic systems as thermochronometers; geothermometry and geobarometry; quantitative thermodynamic modeling of P-T paths; heat flow and the thermal structure of orogenic belts.
consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: field methods, soil survey, and pedological 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
William W. Woessner, Ph.D., University of Wisconsin (Madison), 1978

Associate Professor
Nancy W. Himman, Ph.D., University of California (San Diego), 1987

Assistant Professors
Julia A. Baldwin, Ph.D., Massachusetts Institute of Technology, 2003
Rebecca O. Bendick, Ph.D., University of Colorado, Boulder, 2000
Joel T. Harper, Ph.D., University of Wyoming, 1997

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
Graham R. Thompson, Ph.D., Case Western Reserve, 1971
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

Richard Drake, 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 analysts to research analysts. Many teach history in Montana or in other states while 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 approved history 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. Any single course at or above the 102 or 112 level in any foreign language.
3. 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 (2) or (3) above.

III. Upper-Division Writing Expectation
The Upper-division Writing Expectation must be met by successfully completing an upper-division history writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Teacher Preparation in History
Students who want to be licensed to teach history at the middle and high school level must complete the BA degree requirements in history. They also must complete a teaching minor in a second field of their choice and the professional licensure program in the School of Education. Students may also earn a teaching minor in history. See the Department of Curriculum & Instruction for information about admission to the Teacher Education Program and completion of these licensure programs.

Teacher Preparation in History and Government
Students who want to be licensed to teach history, government, and one additional social science at the middle and high school level must complete the BA degree requirements for the combined academic major in history and political science. In completing this combined degree, students simultaneously satisfy the Comprehensive Social Science teaching major and the professional licensure program in the School of Education. See the Department of Curriculum & Instruction for information about admission to the Teacher Education Program and completion of this licensure program.

Suggested Course of Study

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<tr>
<th>Year</th>
<th>Course Description</th>
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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 6 must be in European 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 = 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. Credits beyond this maximum do not count toward a degree.

History (HIST)

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 autumn. A comprehensive, introductory history of western civilization from 1715 to the present. Lecture-discussion. Credit not allowed for both 105H and 108H.

U 106 The Silk Road 3 cr. Offered autumn and spring. Same as AS and GEOG 106. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.

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-honors discussion. Credit not allowed for both 107H and 104H.

U 108H Honors Course in European Civilization: Modern Europe 4 cr. Offered autumn. Limited enrollment by consent of instr. only. A comprehensive introductory history of western civilization from 1715 to the present. Lecture-honors discussion. Credit not allowed for both 108H and 105H.

U 151H The Americans: Conquest through Reconstruction 4 cr. Offered autumn. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-discussion. Credit not allowed for both 151H and 154H.

U 152H The Americans: 1877 to the Present 4 cr. Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both 152H and 155H.

U 154H Honors The Americans: Conquest through Reconstruction 4 cr. Offered autumn. Enrollment by consent of instructor. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1877. Lecture-honors discussion. Credit not allowed for both 154H and 151H.

U 155H Honors The Americans: 1877 to the Present 4 cr. Offered spring. Enrollment by consent of instructor. A comprehensive introductory history of the U.S. since 1877. Lecture-honors discussion. Credit not allowed for both 155H and 152H.

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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 Asia: Peoples and Environments 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.

U 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.

U 240H History and Philosophy of Science 3 cr. Offered intermittently. Same as PHIL 240H. The epistemological and metaphysical developments of natural philosophy or science. The origins of science in ancient Greece and it's subsequent development during the scientific revolution. Developments in biology, especially Darwinism and genetics, as well as developments in physics.

U 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.

U 252 The American Revolution, 1763-1801 3 cr. Offered spring. Dissent within the revolutionary movement; the different revolutionary traditions.

U 269 Montana 3 cr. Offered autumn. An introductory and interpretive history from Lewis and Clark to 2000.

U 283H Islamic Civilization: The Classical Age 3 cr. Offered autumn. Same as GEOG 283H. 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.

U 284H Islamic Civilization: The Modern Era 3 cr. Offered spring. Same as GEOG 284H. History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.

U 286H Colonial Latin America 3 cr. Offered autumn. Latin America from the conquest to wars for independence. Focus on social relations, imperial and local politics, hegemony, resistance, and change.

U 287H Modern Latin America 3 cr. Offered spring. Latin American history from wars of independence to the present. Focus on social relations, development models, politics, and popular movements.

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.

Although the department has no official prerequisites for 300-level courses, they generally rest on a modicum of survey knowledge or ability.

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 intermittently. Same as MCLG 301H. Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians.

UG 302H Classical Greece II: Individual, Family, and Civic Life in Ancient Greece 3 cr. Offered intermittently. 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 intermittently. 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 306H 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 307H 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 310H 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 Reformation, 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 unified Italy, the triumph of fascism and contemporary Italian society.

UG 330H European International Relations: Origins of the State System to 1870 3 cr. Offered intermittently. The nature, evolution, and functions of the European diplomatic system from the Ancient World to 1870.

UG 331H Foreign Relations of the Great Powers, 1870-Present 3 cr. Offered intermittently. Begins with a discussion of the classical system of diplomacy and then moves into the causes and results of the First World War, the rise of Hitler and the Second World War, America's emergence as a superpower, the Cold War, the influence of Asia, the implications of the 9/11 attack and terrorism, and the continuing search for peace and stability in a world of conflict.

UG 332H The Global Diplomacy of the Cold War 3 cr. Offered intermittently. Deals with the emergence of the Cold War, confrontations like the Cuban Missile Crisis, wars like those in Korea and Vietnam, strategies of deterrence, the rise of Gorbachev, the collapse of the Iron Curtain and the Cold War itself; and the long term implications of the Cold War on contemporary international relations.

UG 334E War, Peace, and Society 3 cr. Offered intermittently. 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 338H European Social and Intellectual History: 1450-1789 3 cr. Offered autumn. The influence of the
transformed the United States during this period and study the profound social, cultural and economic change. In an effort to retool their ideologies, and improve the nation's institutions, retooled their ideologies, and improved the nation's infrastructure. The order they created is, in modified form, still with us today. Students will explore the myriad changes that transformed the United States during this period and study the social, political, and cultural struggles that shaped the emergence of Modern America.


UG 341 Britain from Reforma to Revolution, 1485-1688 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 1881 3 cr. Offered autumn. Emphasis on the autocratic political tradition, Westernization, and territorial expansion.

UG 345 Russia Since 1881: War, Revolution and Reform 3 cr. Offered spring. Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.

UG 346 Central Asia and Its Neighbors 3 cr. Offered spring. Same as AS 345 and GEOG 345. Analysis of the human communities and cultures of Central and Southwest Asia, with particular emphasis on the importance of relationships with neighboring countries and civilizations since ancient times.

UG 348 European History 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 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 354H Indians of Montana Since the Reservation Era 3 cr. Offered autumn odd-numbered years. Same as ANTH 324H and NAS 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.

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 The Birth of Modern America, 1877-1919 3 cr. Offered autumn odd-numbered years. The history of the U.S. from 1877 to 1920 is largely the story of Americans responding to profound social, cultural and economic change. In an effort to bring order to their changing world, Americans created new institutions, retooled their ideologies, and improved the nation's infrastructure. The order they created is, in modified form, still with us today. Students will explore the myriad changes that transformed the United States during this period and study the social, political, and cultural struggles that shaped the emergence of Modern America.

UG 357 America in Crisis, 1920 to 1952 3 cr. Offered autumn. This era in U.S. history was marked by a series of crises: the contested transition to modernity during the 1920s, the Great Depression, and World War II and its aftermath. This course will explore how Americans responded to these crises, why they responded to them the way they did, and how their responses altered the society in which they lived.

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 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 Western World 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 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 spheres; 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.

U 375 U. S. Immigration and Ethnicity 3 cr. Discussion-
Based course on immigration, assimilation, and social diversity in U.S. history. Students will study the waves of immigration that have peopled America from colonial times to the present, the shifting intellectual and policy responses to immigration, the social histories of different immigrant and ethnic/racial groups, and contemporary debates about multiculturalism.

UG 376 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 377 American Constitutional History Since 1864 3 cr. Offered intermittently. The development of the American Constitution from the Civil War to the present.

U 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 African American experience as the fight against Jim Crow, the struggle for civil rights, and post-civil rights economic, political, social and cultural developments and challenges.

UG 380H Modern China 3 cr. Offered autumn. China since 1800, 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.

U 385 Latin America: Reform and Revolution 3 cr. Offered spring. Different ideologies and projects in Latin America aimed at gradual or radical transformation of political systems and/or socio-economic relations. Case studies range from the Haitian Revolution to the Bolivarian vision of Hugo Chavez.

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 to 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. 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.

UG 396 Independent Study Variable cr. (R-12) Offered intermittently.

UG 398 Internship Variable cr. Offered intermittently. Prereq., consent of depart. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 402 Cities and Landscapes of Central Asia 3 cr. Offered autumn. Same as AS and GEOG 402. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.

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 445 The World of Anna Karenina 3 cr. Offered fall. Tolstoy's classic novel as a point of entry into a multifaceted examination of imperial Russian culture and society. Topics include family life, social relations, modernization, politics, religion and spirituality, gender and sexuality.

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 457 Artistic Traditions of Central and Southwest Asia 3 cr. Offered autumn and spring. Same as AS and GEOG 457. Analysis of the study of human artistic creativity and scientific innovations of various cultures in Central and Southwest Asia since ancient times.

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 462 Central Asia Seminar 3 cr. Offered spring. Same as AS and GEOG 462. A seminar on various aspects of the historical and contemporary issues involving the human communities, cultures, and economies in Central and Southwest Asia.

UG 464H History of Indian Affairs to 1776 3 cr. Offered...
annually. Same as NAS 464H. A study of American Indian relations with Europeans and the United States from first contact to 1776.

UG 465H History of Indian Affairs in the Nineteenth Century 3 cr. Offered autumn. Same as NAS 465H. A study of tribal encounters and adjustments to the American nations in the nineteenth century.

UG 466H History of Indian Affairs from 1890 3 cr. Offered spring. Same as NAS 466H. A study of tribal encounters and adjustments to the American nation from 1890.

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 Latin America: Memories of Politics and Politics of Memory 3cr. Offered spring alternate years. Individual and collective memories of social and political conflict, activism, and repression in Latin America. Battles over memory (and its relation to truth) in forums ranging from academic panels to human rights tribunals. Relations between memory, politics and history in select case studies.

UG 486 Latin America: Workers and Labor History 3 cr. Offered spring alternate years. Structures, experiences, and agency of working people in Latin America, with emphasis on the modern period. Influence or race, ethnicity, gender, religion, and generation on working class identity and movements. Labor organizations and politics in historic context.

UG 490 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. Offered intermittently.

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. Offered intermittently.

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 Internship 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

George M. Dennison, Ph.D., University of Washington, 1968 (President)
Richard R. Drake, Ph.D., University of California, Los Angeles, 1976 (Chair)
John A. Eglin, Ph.D., Yale University, 1996
William E. Farr, Ph.D., University of Washington, 1971
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
Anya Jobour, Ph.D., Rice University, 1995
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

Assistant Professor

Robert H. Greene, Ph.D., University of Michigan, 2004
Jody Pavilack, Ph.D., Duke University, 2003
Kyle G. Valk, Ph.D., University of Chicago, 2007 (expected)
Jeff Wiltse, Ph.D., Brandeis University, 2002

Emeritus Professor

David M. Emmons, Ph.D., University of Colorado, 1969
Harry W. Fritz, Ph.D., Washington University at St. Louis, 1971
Frederick W. Skinner, Ph.D., Princeton University, 1973
Human and Family Development

Paul Silverman (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 discipline in the human development areas; and (4) to provide students with 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 498 Internship (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.

Early Intervention
HFD 411 Infant and Toddler Development and Variability
HFD 412 Family Development/Families of Young Children with Disabilities
HFD 413 Assessment and Program Planning
HFD 414 Community Service Delivery
HFD 415 Implementation and Program Evaluation
HFD 416 Data-Based Decision Making
HFD 498 Internship

Early Childhood
C&I 330 Early Childhood Education/Curriculum
C&I 355 Child in the Family
C&I 357 Introduction to Special Education Law and Policy
C&I 367 Preschool Practicum
C&I 410 Exceptionality and Classroom Management
C&I 420 Curriculum in Early Childhood Special Education
C&I 421 Issues in Early Childhood Special Education
C&I 494 Practicum in Special Education Preschool
C&I 495 Special Topics in Special Education
HFD 498 Internship (must complete all course work prior to taking course)

School-Age
C&I 303 Educational Psychology/Measurements
C&I 357 Introduction to Exceptionality
C&I 410 Exceptionality/Classroom Management
PHAR 110N Use and Abuse of Drugs
PSYC 397 Research Experience
PSYC 335 Fundamentals of Clinical Psychology

Extraordinary electives: PSYC 335 Fundamentals of Clinical Psychology
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PSYC 336S Child and Adolescent Psychological Disorders
PSYC 337 Principles of Cognitive Behavior Modification
PSYC 340 Current Topics in Developmental Psychology
SOC 321 Issues in Sociology of the Family
SOC 330 Juvenile Delinquency
SW 300 Human Behavior and Social Environment
SW 420S Child Abuse and Neglect

Adolescence
C&I 303 Educational Psychology/Measurements
C&I 357 Introduction to Exceptionality
C&I 410 Exceptionality/Classroom Management
PHAR 110N Use and Abuse of Drugs
PSYC 335 Fundamentals of Clinical Psychology
PSYC 336 Child and Adolescent Psychology
PSYC 337 Principles of Cognitive Behavior Modification
PSYC 340 Current Topics in Developmental Psychology
SOC 321 Issues in Sociology of the Family
SOC 330S Juvenile Delinquency
SW 300 Human Behavior and Social Environment
SW 450S Children and Youth at Risk

Gerontology
HS 325 Clinical Issues in Geriatrics
HS 327 Montana Gerontology Society Annual Conference
HS 495 Special Topics: Health Aspects of Aging
PSYC 245 Adult Development and Aging
SOC 495 Sociology of Aging
SW 455S Social Gerontology

Family Development
COMM 410 Communication in Personal Relationships
COMM 411 Family Communication
C&I 355 Child in the Family
C&I 452E Ethics and Consumer Economics
PSYC 385 Family Violence
SOC 300 The Family
SOC 321 Issues in Sociology of the Family
SW 422 Services to Changing Families
SW/PSYC/SOC 432 Addiction Studies
SW 450 Domestic Violence

Human and Family Development Committee
Dan Doyle, Ph.D., University of Washington, 1984 (Professor, Sociology)
Christine Fiore, Ph.D., University of Rhode Island, 1990
(Professor, Psychology)
Ann Garlinke, Ph.D., University of Washington, 1995
(Associate Professor, Education)
Shannon Guiffoye, M.Ed., The University of Montana, 2002
(COTEACH Preschool Coordinator, Education)
Susan Harper-Whalen, Ed.M., Harvard University, 1984
(Research Faculty, Education)
Lynne S. Koester, Ph.D., University of Wisconsin, Madison, 1976
(Professor, Psychology)
Ted Maloney, M.A., Adjunct Assistant Professor, Rural Institute; Center for Excellence in Disability Education, Research and Service
Susie Morrison, Ed.S., The University of Montana, 1995
(Assistant Research Professor, Psychology)
Lucy Hart Paulson, M.S., University of Illinois, 1980
(Research Assistant Professor, Education)
Audrey Peterson, M.S., Pennsylvania State University, 1970
(Professor, Education)
Alan Sillars, Ph.D., University of Wisconsin, 1980
(Professor, Communication Studies)

Paul Silverman, Ph.D., University of Georgia, 1977
(Professor, Psychology)
John Snow, Ph.D., University of Michigan, 1976 (Professor, Social Work)
Meg Tracy, Ph.D., The University of Montana, 2000 (Project Director, Rural Institute; Center for Excellence in Disability Education, Research and Service)
Richard van den Pol, Ph.D., Western Michigan University, 1981 (Professor, Education)
Kimberly A. Wallace, Ph.D., University of Notre Dame, 1999
(Associate Professor, Psychology)
Celia Winkler, Ph.D., University of Oregon, 1996 (Professor, Sociology)

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. Credits beyond this maximum do not count toward a degree.

Human and Family Development (HFD)
U 298 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
U 398 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
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 infant and toddler assessments and family information gathering. Primary focus on birth through two years of age.
UG 414 Community Service Delivery 12 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 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

International Development Studies

Peter Koehn (Professor of Political Science), Advisor

International Development Studies is an interdisciplinary field of study focusing on the interconnected processes of social, political, economic, cultural, and environmental change taking place in poor countries and poorer regions of wealthy countries. Coursework in the minor emphasizes a global perspective on the process of change and development, critical analysis of the role of internal and external influences on the development process, and applications to local (including Montana) situations and challenges. The IDS minor takes advantage of existing faculty expertise and courses to offer an interdisciplinary experience for those students interested in either international or domestic development work. Students minoring in IDS will develop knowledge and skills appropriate for graduate study and for working in non-governmental organizations, international and bilateral government development organizations, the U.S. Peace Corps and other national/international equivalents, and/or community-development groups.

Requirements for a Minor

To earn a minor in International Development Studies the student must successfully complete a minimum of 21 credits (at least 7 upper-division). Of the 21 credits, 12 must be core courses and 9 must be content courses chosen from the following lists. Specialized independent study and internship credits can be counted as core or content as applicable and approved by the advisor.

Core Courses:
- ANTH 329S Social Change in Non-Western Societies
- ECON 350 Economic Development
- FOR 170N International Environmental Change
- FOR 474 Sociology of Environment and Development
- FOR 424 Community Forestry and Conservation
- PSC 463S Development Administration
- SOC 270 Introduction to Rural and Environmental Change
- SOC 370S Social Change and Global Development
- SW 323 Women and Social Action in the Americas
- SW 465 Social Work in a Global Context

Content Courses:
- ANTH 330H Peoples and Cultures of Africa
- ANTH 343S Culture and Population
- ANTH 385S Indigenous Peoples and Global Development
- COMM 420 Communication and Nonprofit Organizations
- COMM 451S Intercultural Communication
- EVST 410 Environmental Justice and Sustainable Development
- ECON 100S Introduction to Political Economy
- GEOG 101S Introduction to Human Geography
- GEOG 103S Geography of World Regions
- GEOG 202S South Asia/Land and People
- GEOG 207S Africa
- GEOG 213S The Middle East
- GEOG 214S Central Asian Culture and Civilization
- GEOG 333S Culture and Environment
- GEOG/EVST 432 Human Role in Environmental Change
- GENV/EVST 440 Environmental Economics
- HIST 287H Latin America, 1800-1990s
- PSC 120S Introduction to Comparative Government
- PSC 130E International Relations
- PSC 325 Politics of Latin America
- PSC 326H Politics of Africa
- PSC 327 Politics of Mexico
- PSC 343 Politics of Social Movements
- PSC 430 Inter-American Relations
- PSC 431 Politics of Global Migration
- SOC 212S Southeast Asian Culture and Civilization
- SOC 322 Sociology of Poverty
- SOC 340 The Community
- SOC 346 Rural Sociology
- SW 324 Gender and the Politics of Welfare

Faculty

Jill Belsky, Ph.D., Cornell University, 1991 (Professor, Sociology and Conservation)
Jeff Bookwalter, Ph.D., University of Utah, 2000 (Assistant Professor, Economics)
Janet Finn, Ph.D., University of Michigan, 1995 (Associate Professor, Social Work)
Paul Haber, Ph.D., Columbia University, 1992 (Professor, Political Science)
Sarah Halvorson, Ph.D., University of Colorado, Boulder, 2000 (Associate Professor, Geography)
Peter Koehn, Ph.D., University of Colorado, Boulder, 1973 (Professor, Political Science)
Kimber Haddix McKay, Ph.D., University of California, Davis, 1998 (Associate Professor, Anthropology)
Phyllis B. Ngai, Ed.D., The University of Montana, 2004 (Adjunct Assistant Professor, Communication Studies)
Rebecca Richards, Ph.D., Utah State University 1990 (Professor, Sociology)
Steve Siebert, Ph.D., Cornell University, 1990 (Professor, Forest Management)
Teresa Sobieszczyk, Ph.D., Cornell University, 2000 (Assistant
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 America 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 Colonial Latin America 3 cr.
HIST 287H Modern Latin America 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

David Aronofsky, J.D., University of Texas, 1982 (Law)
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
Hippolito 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)
Patricia O. Covarrubias, Ph.D., University of Washington, 1999 (Communication Studies)
Jammine Montauban, Ph.D., Rutgers University, 2000 (Modern and Classical Languages and Literatures)
Jody Pavilack, Ph.D., Duke University, 2003 (History)
Daniel Spencer, Ph.D., Union Theological Seminary, 1994 (Environmental Studies)
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 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.unm.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 Composition (coreg. or preq. to LS 151L-152L) 3
- Foreign language (2 years of one language) 18
- Liberal Studies 151L, 152L Introduction to Humanities 8
- American Literature 3
- American History 3-4
- 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. The student elects upper-division courses in either the General option or one of the Area Studies options.

General Option

- 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 Spenberg, 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 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 year abroad in Asia experience.

B. Women's Studies (Anyia Jarron, Professor of History, and Sarah Hayden, Professor of Communication Studies, Co-Directors): Students who choose the Women's Studies option must register with the Women's Studies advisor, who will supervise their program. 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 Women's Studies office, LA 138A, (406) 243-2584.

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

- ENEX 101 Composition 3
- ENLT 201L British Literature through 18th Century or 223L British Literature 19th and 20th Centuries 3
- Foreign language 101-102 Elementary 5
- HIST 104H or 105H European Civilization 4
- LS 151L-152L Introduction to Humanities 4
- Lower-division Native American Studies course 3

Second Year

- Foreign language 201, 202 Intermediate 4
- ENLT 224L American Literature to 1865 or 225L American Literature since 1865 3
- HIST 151H The Americans or 152H 4
- PHIL 200E Ethics or lower-division Political
Science course ........................................ 3  
Lower-division course in Asian Studies .............. 3  
Lower-division course in Religious Studies ........... 3  
General Education .................................... 3  

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. Credits beyond this maximum do not count toward a degree.

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 Greco-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 mythology of the Greeks and Romans in a small group setting.

U 180L Introduction to Film 3 cr. Offered every term. Same as ENFM 180. 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, history, literature, religion, and philosophy.

U 212H Southeast Asian Culture and Civilization 3 cr. Offered intermittently. Same as AS and SOC 212H. 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, 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 Asia: Peoples and Environments 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 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 222L. 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.

U 305L Introduction to Russian Literature I 3 cr. Offered autumn alternate years. 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.

U 306L Introduction to Russian Literature II 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 307L Introduction to Russian Literature III 3 cr. Offered autumn alternate years. Same as MCLG 307L and RUSS 307L. Survey of Russian literature through the 20th century and into the 21st.

U 309 Reading the City: Rome 3 cr. Offered autumn. Same as MCLG 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.

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 literature.

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, CHIV, 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 intermittently. 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 330H. Overview of major events and currents in German culture from 1900 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 331H. 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 301 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 thinking in the original writings of Greek writers 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, Realism, 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 intermittently. Prereq., ART 150H or 151H or consent of instr. 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 341H Roman and Early Christian Art in Context 3 cr. Offered intermittently. Prereq., ART 150H or 151H or consent of instr. Same as ART 381H and MCLG 361H. A survey of the various media used in Roman art; the social, political, and economic contexts in which the media were developed; and the transition (technical, iconographic, and contextual) to the art of the Early Christian period.

UG 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).

UG 358 Latin American Civilization Through Literature and Film 3 cr. Offered 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.

U 362H Ancient Greek and Roman Philosophy 3 cr. Offered intermittently. Same as MCLG 362H and PHIL 362H. Examination of the thought of the philosophers of Greece and Rome as expressed in original works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting.

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 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 intermittently. 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. Same as ENLT and MCLG 381. Studies in genres, directors, movements, problems, etc.

UG 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).

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 Variable cr. (R-12) Offered intermittently.

UG 397 Research Variable cr. (R-6) Offered intermittently.

UG 398 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.


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 or spring. 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 autumn or spring. 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
College of Arts and Sciences - Linguistics - 121

Linguistics Program

Tully J. Thibeau, 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 and 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. Cree, 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 a master’s degree in anthropology. The University does not offer an undergraduate degree in linguistics, but students can earn baccalaureate degrees in anthropology, English and French 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 English as a Second Language. The University offers a sequence of courses (24 credits) that will lead to a Certificate of Accomplishment in 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, 473, 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.

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 pass/not pass basis.

Courses

U = for undergraduate credit only, UC = 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. Credits beyond this maximum do not count toward a degree.

English as a Second Language (EASL)

U 250 Intermediate English for Academic Purposes: I 3 cr. (R-6) Offered autumn and spring. 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. 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. 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. 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. 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. Grading A, B, C, D, or F.

LINGUISTICS (LING)

U 173 Introduction to Language 3 cr. Offered every term. Same as COM 173. A survey of the elements of language (structure, meaning, and sound) including language use in its social and cultural context.

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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 270 Introduction to Linguistics 3 cr. Offered every term. Same as 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 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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 Structural 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 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 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 470. 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 4735 Language and Culture 3 cr. Offered autumn odd-numbered years. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view.

UG 474 Language History, Variety, and Change 3 cr. Offered autumn. Prereq., LING 470. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change.

UG 475 Linguistic Field Methods 3 cr. Offered autumn even-numbered years. Prereq., LING 470. 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 470. The development of speech and language: phonology, prosodic, semantic, pragmatic, and morphosyntactic systems.

UG 477 Bilingualism 3 cr. Offered autumn even-numbered years. Prereq., LING 270 or equiv. Societal and individual bilingualism: topics include language policy, maintenance, interference, code switching and mixture, and bilingual education.

UG 478 Second Language Acquisition 3 cr. Offered autumn odd-numbered years. Prereq., LING 470. Discussion of theories of SLA, analysis of the development of Interlanguage and study and use of the research methods in SLA.

UG 479 Pragmatics 3 cr. Offered spring odd-numbered years. Prereq., LING 270 or equiv. 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 equiv. Same as ENLI 483. 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., 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, and electronic and print media resources for the language teaching profession.

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 470. Same as ANTH 484. Analysis and characteristics of American Indian languages in historical perspective.

UG 489 Languages of the World 3 cr. Offered spring. Prereq., LING 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 major 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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

G 570 Seminar in Linguistics 3 cr. (R-12) Offered autumn and spring. Prereq., LING 470. 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’ needs and interests in teaching English as a 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 Independent Study 1-3 cr. (R-6) Offered every term.

G 598 Internship 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 (Linguistics)

Anthony Beltramo, Ph.D., Stanford University, 1972, Professor Emeritus (Modern and Classical Languages and Literatures)

Bary Bevington, Ph.D., University of Massachusetts at Amherst, 1970, Adjunct Professor (Linguistics)

Albert Borgmann, Ph.D., University of Munich, 1963, Professor (Philosophy)

Merle D. Clubb, Jr., Ph.D., University of Michigan, 1953, Professor Emeritus (English)

Stephen Greymorning, Ph.D., University of Oklahoma, 1997, Associate Professor (Anthropology)

Anthony Mattina, Ph.D., University of Hawaii, 1973, Professor, (Director of Linguistics)

Nancy Mattina, Ph.D., Simon Fraser University, 1996, Writing Center

Donna Mendelson, Ph.D., State University of New York at Binghamton, 1997, Adjunct Professor

Miyashita Mizuki, Ph.D., University of Arizona, 2002, Assistant Professor (Linguistics)

O.W. Rolfe, Ph.D., Stanford University, 1967, Professor Emeritus (Modern and Classical Languages and Literatures)

Tully J. Thibeau, Ph.D., University of Arizona, 1999, Assistant Professor (Linguistics)

Department of Mathematical Sciences

David Patterson, 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), MATH 300 (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). The following courses do not count toward the six additional 3- or 4-credit courses: MATH 444 and 445, and courses numbered 390-399 and 490-499. 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**

Four courses chosen from MATH 351, 421, 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**

MATH 381, 382, 485; and one course chosen from 341, 414, 471, or CS 332.

**Applied Mathematics 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 101, 131, 132, 201, 207.

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 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-" and a 2.0 grade point average 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 (not including courses numbered 390-399 and 490-499).

**The computer science requirements are:** 121, 131-132, 241-242, 281, 332 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:** One of the sequences BIOL 108N, 109N, 110N; CHEM 161N, 162N; or PHYS 221N-222N. In addition, POR 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 advisors.

**Suggested Curricula:**

- **Applied Math-Scientific Programming:** MATH 311, 412, 414, and one course chosen from MATH 341, 451, 452, 471. Three courses chosen from CS 344, 446, 471, 477, 486.
- **Combinatorics and Optimization-Artificial Intelligence:** MATH 381, 382, and two courses chosen from MATH 325, 341, 414, 485; and CS 344, 455, 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, 458, 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**

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<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>MATH 152-153</td>
<td>4</td>
<td>Calculus I, II</td>
</tr>
<tr>
<td>ENEX 101</td>
<td>3</td>
<td>Composition</td>
</tr>
<tr>
<td>Computer programming</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>Electives and General Education</td>
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**Second Year**

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<tr>
<th>Course Code</th>
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<th>Description</th>
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<tr>
<td>MATH 221-Linear Algebra</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MATH 251 Calculus III</td>
<td>4</td>
<td></td>
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<td>MATH 305 Introduction to</td>
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<tr>
<td>Abstract Math</td>
<td>3</td>
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<tr>
<td>Electives and General Education</td>
<td>9</td>
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</tbody>
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| Total Credits | 16-17 | |

**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. Credits beyond this maximum do not count toward a degree.

**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,
MATH 152. Techniques of Integration. Area computations.

Theorem. Integral Calculus including antiderivatives, definite improper integrals. Infinite series and various convergence tests.

MATH 121 or equiv. or appropriate placement score. Differential calculus. preparation primarily for students who do not plan to take higher mathematics.

Prereq., MAT 105 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., 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 MAT 117.

U 121 Precalculus 4 cr. Offered autumn and spring. Prereq., MAT 100 or appropriate placement score. Three years of college preparatory mathematics. Preparation for calculus by the study of functions of one variable over the real numbers. These are introduced in general and then applied to the usual elementary functions, namely polynomial and rational functions, exponential and logarithmic functions, trigonometric functions, and miscellaneous others. Inverse functions, polar coordinates and trigonometric identities are included. Credit not allowed for both MATH 121 and MAT 120.

U 130 Mathematics for Elementary Teachers 5 cr. Offered autumn and spring. Prereq., MAT 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, or 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 or consent of instr. 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 intermittently. 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, or 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.

U 300 Undergraduate Math Seminar 1 cr. (R-6) Offered every semester. Prereq., MATH 152. Discussion seminar focused on topics and issues of interest to students in the mathematical sciences.

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 students 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 network flows.

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.

UG 390 Supervised Internship 1-9 cr. (R-9) Prereq., consent of dept.

UG 394 Seminar Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance in special work for advanced students.

UG 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.

UG 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.

UG 398 Internship Variable cr. Offered autumn and spring. Prereq., consent of instructor. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 221 and 305 or consent of instr. 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 3 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 3 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 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.

UG 498 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

G 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, axiomatics, 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 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 Internship Variable cr. (R-12) Offered autumn and spring. Prereq., consent of department. Supervised Teaching Internship.

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 690 Supervised Internship Variable cr. (R-6) Offered autumn and spring. Prereq., consent of department. Supervised Teaching Internship.

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
James J. Hirstein, Ed.D., University of Georgia, 1976
Leonid Kalachev, Ph.D., Moscow State University, 1987
P. Mark Kayll, Ph.D., Rutgers University, 1994 (Associate Chair)
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 (Chair)
Karel M. Stroethoff, Ph.D., Michigan State University, 1987
Thomas Tonev, Ph.D., Moscow State University, 1973
Nikolaus Vonessen, Ph.D., Massachusetts Institute of Technology, 1988

Associate Professors
Jonathan Graham, Ph.D., North Carolina State University, 1995
Libby Knott, Ph.D., Oregon State University, 1994
Greg St. George, Ph.D., The University of Montana, 1989
Adam Nyman, Ph.D., University of Washington, 2001
Bharath Sriramam, Ph.D., Northern Illinois University, 2002
Brian Steele, Ph.D., The University of Montana, 1995
Emily Stone, Ph.D., Cornell University, 1989

Assistant Professors
John Bardsley, Ph.D., Montana State University, 2002
Jennifer Halfpap, Ph.D., University of Wisconsin, 2005
Jakayla Robbins, Ph.D., University of Kentucky, 2005
Solomon Harrar, Ph.D., Bowling Green State University, 2004

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

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
Rudy A. Gideon, Ph.D., University of Wisconsin, 1970
Stanley I. Grossman, Ph.D., Brown University, 1969
Gloria C. Hewitt, Ph.D., University of Washington, 1970
Don O. Loftsgaarden, Ph.D., Montana State University, 1964
Johnny W. Lott, Ph.D., Georgia State University, 1973
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
Michael L. Hedegaard, 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 subjects such 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 enlistment 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 Leader Development and Assessment Course (LDAC), a fully paid five-week leadership practicum. LDAC 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 $5,000 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 the necessary 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 $5,000 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.

Requirements for a Minor

To earn a minor in Military Studies a student must successfully complete 21 credits in two areas: 12 credits in Military Leadership Studies to include MSL 101S, 301, 302 and 402E; and 9 credits in History and Political Science (at least 3 credits from each discipline and at least 6 credits upper-division) selected from HIST 226E, 301H, 303H, 355, 368, 334E; PSC 130E, 335, 336, 395 (International Security).

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. Credits beyond this maximum do not count toward a degree.

Military Science Leadership (MSL)

A total of 24 credits are allowed toward the bachelor degree for contracted students. A total of 12 credits are allowed toward the bachelor degree for non-contracted students.

U 101S American Defense Establishment 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 officership, leadership and army values.

U 102 Introduction to 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 131 Aviation: Introduction and Ground School 3 cr. Offered spring. Prereq., basic high school math competency.
Introductory course covering the ground school material required for an FAA Private Pilot Certificate. Topics include fundamentals of flight, flight operations, aviation weather, performance and navigation, and integration of pilot knowledge and skills.

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 Team Leadership 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 Foundations of Tactical Leadership 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 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 Big Sky Task Force. Students may include up to but not more than four credits earned in the HHP 101-179 and DRAM 385 activity courses and MSL 203 and 315 in the total number of credits required for graduation. Students must be physically qualified and enrolled in an additional MSL academic class.

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 Tactical Leadership 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 unit 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 in Changing Environments 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 Leader Development and Assessment Course 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 Developmental Leadership 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. Restricted to contracted Military Science students.

U 402E Officership 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.

Faculty

Professor
Michael L. Hedegaard, M.M.A.S., Leavenworth 2001 (Chair)

Assistant Professors
Zachary Allen, B.A., Political Science, Gonzaga, 1995
Alvie Benskin
Eric Rydbom, B.S., Pennsylvania State University, 1983
Dean Roberts, B.S., United States Military Academy (West Point), 1996

Robert W. Acker, Chair

Instruction is offered in the following languages and literatures: Arabic, Chinese, French, German, Greek, Italian, Japanese, Latin, Persian (Farsi), Turkish, Russian and Spanish, as well as in linguistics, foreign literatures in English translation, film, 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.

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 major it is possible to elect an option 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 classics or linguistics may be obtained by means of the Master of Interdisciplinary Studies 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 FCAPEx, SCAPE and GCAPEx). 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, 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.

Foreign Study Programs: The Department of Modern and Classical Languages and Literatures offers programs of accredited study in Austria, Germany, Italy, Spain, Mexico, 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 in France, as well as work/study internships abroad for students in Japanese.

Major 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.

Courses submitted in fulfillment of major or minor requirements must be taken for a traditional letter grade.

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 a departmental major 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:

1a. Emphasis in Latin: twelve credits in Latin beyond Latin 102, plus six credits in Greek beyond Greek 102.

1b. Emphasis in Greek: twelve credits in Greek beyond Greek 102, plus six credits in Latin beyond Latin 102.

2. MCLG 155L, MCLG 160L and either MCLG 251L or MCLG 252L.

3. Twelve credits from MCLG 301H, 302H, 303H, 320, 360H, 361H, 362H, or PHIL 251H.

4. Students are required to maintain a minimum overall GPA of 2.5 in all upper-division courses presented in fulfillment of requirement for the Classics/Classical languages major.

5. The upper-division Writing Expectation will be fulfilled by completion of MCLG 301H, 302H, 362H or 365E.

Classical Civilization Option:

1. Latin 211 or equivalent or Greek 211 or equivalent or Latin 101-102 and Greek 101-102 or equivalent.

2. MCLG155L, MCLG 160L, and MCLG 251L or 252L.

3. Twelve credits from MCLG 301H, 302H, 303H, 320, 360H, 361H, 362H, or PHIL 251H.

4. Students are encouraged to spread these credits among courses focusing on classical history, philosophy, art and literature.

5. Nine additional credits from recommended or specially approved courses. Recommended courses are MCLG 365E; LAT 212, 300; GRK 212, 300; PHIL 461, 463; RELS 311. 312.

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.

6. The upper-division Writing Expectation must be met by successfully completing MCLG 301H, 302H, 303H, 320, 362H, or 365E with the consent of instructor.

Latin Option:

1. Fifteen credits in Latin beyond Latin 212, Greek 101-102 may account for 4 credits.

2. Latin 402, Advanced Prose Composition.

3. MCLG 155L, MCLG 160H and either MCLG 251L or 252L.

4. MCLG 303H and 361H.

5. Nine additional credits from recommended or specially approved courses. Recommended courses are MCLG 301H, 302H, 320, 360H, or 362H; PHIL 251H, 461, 463; RELS 311,
312. Students are encouraged to spread these credits among courses focusing on classical history, philosophy, art, and literature.

6. 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/Latin major.

7. The upper-division Writing Expectation must be met by successfully completing MCLG 301H, 302H, 303H, 320, 362H, or 365E with the consent of the instructor.

French
1. French 101 to 202 or equivalent.
2. At least 30 credits of upper-division courses in French, including 301, 302, 311L, 312L, 313L, 408, one 3-credit 400-level literature course and one 3-credit 400-level culture course or a second 3-credit 400-level literature course. Of these specifically required courses, at least 6 credits must be completed in courses with UM French faculty.
3. A second modern or classical language is encouraged as a sequence of complementary electives to a major in French, but is not a requirement.
4. One semester of French history (HIST 314 or 315) is encouraged as a complementary elective to a major in French, but is not a requirement.
5. Students are required to maintain a minimum overall GPA of 2.5 in all upper-division French 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.
7. Linguistics Options:
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 30 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 and at least two of the following culture courses: 303H, 304H, 355, 361L and 362H.
3. 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.
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.

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 JPNS 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 JPNS 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.

Russian
1. Russian 101 to 202 or equivalent.
2. At least 27 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, 306L and 307L.
3. One semester of Russian history.
4. 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.
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 30 credits of upper-division courses in Spanish, including 301, 311L, 312L and three 3-credit literature courses at the 400 level (not Span 408).
3. All Spanish majors must complete MCLG 315L, Major Hispanic Authors, in addition to the 30 hours in upper-division Spanish courses.
4. The sequential order of the following required courses must be followed: 311L and 312L before any 400-level literature course; 301 before 408.
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 Spanish major.

6. The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course in the Spanish major: SPAN 301, SPAN 311L, SPAN 312L, SPAN 408, and MCLG 315L.
7. Spanish majors interested in Spanish-American literatures and cultures are encouraged to take MCLG 100H, 3 cr., Introduction to Latin American Studies, a requirement for students wishing to obtain the Latin American Studies minor. Students majoring in Spanish are also encouraged to check listings in anthropology, art, history, political science, sociology and other disciplines for additional courses that will fulfill the Latin American Studies minor. Students wishing to improve their facility in Spanish and earn credit toward their Spanish major or minor may wish to consider the Spanish section’s study abroad programs offered each spring semester in Mexico or Spain. (Contact the Department of Modern and Classical Languages and Literatures for further information on either the Latin American Studies minor or study abroad programs.)

Minor Degree Requirements

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 German, the required number of upper-division credits is 15. In Business French, upper-division courses must include 301, 302, and 306.
In Chinese, students must complete 101-102, 201-202, 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 one of the following culture courses: 303H, 304H, 355, 361L or 362H. 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, 366, 390 (up to 3 credits only), 393 (up to 3 credits only), 412, 431L, and 495. Minor 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, MCLG 160L, and PHIL 251H; three (3) credits from MCLG 301H, 302H, 303H; and nine (9) additional credits from: MCLG 155L, 251L, 252L, 301H, 302H, 303H, 360H, 361H, 362H, 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.

**Teacher Preparation in Modern and Classical 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 undergraduate 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 MCLG 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; one of the following German culture courses: 303H, 304H, 355, 361L or 362H; GERM 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 the requirements for the B.A. with a major in Classics, Latin option, and in addition, 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 301-302, SPAN 311L 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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tr>
<td>A</td>
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<td>Specific Recommendations:</td>
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<tr>
<td>Major language 101-102 Elementary</td>
<td>5</td>
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<tr>
<td>LS 151L-F52L Introduction to the Humanities</td>
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<tr>
<td>HIST 104H-105H European Civilization</td>
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<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
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<tr>
<td>Suggested electives:</td>
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<tr>
<td>ENLT 120L-121L The Contemporary Imagination/Introduction to Poetry</td>
<td>(3)</td>
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<tr>
<td>MCLG 160L Classical Mythology</td>
<td>(3)</td>
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<tr>
<td>General Education courses in Perspectives 1, 4, or 5</td>
<td>0-3</td>
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<td></td>
<td>16</td>
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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. Credits beyond this maximum do not count toward a degree.

General (MCLG)

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. For clarity, they are arranged below according to the section in which they are offered.

Classical Civilization

U 155L Survey of Greek and Roman Literature 3 cr.
Offered intermittently. An introduction to the literature of classical Greece and Rome. Readings in English translations of ancient works by Homer, Sophocles, Herodotus, Plato, Cicero, Vergil, Livy, and Ovid (and/or similar authors).

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 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.

UG 301H Classical Greece 3 cr.
Offered intermittently. Same as HIST 301H. Greek history from the earliest times through the Macedonian ascendancy, based on the writings of Greek historians.

UG 302H Classical Greece II: Ancient Greek Social History 3 cr.
Offered intermittently. 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 intermittently. Same as HIST 303H. Roman history from the time of the Kings through the early Empire, based on the writings of the Roman historians.

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.

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 intermittently. 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.

UG 360H Ancient Greek Civilization and Culture 3 cr.
Offered intermittently. Prereq., ART 150H or 151H or consent of instr. 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 361H Roman and Early Christian Art in Context 3 cr.
Offered intermittently. Prereq., ART 150H or 151H or consent of instr. Same as ART 381H and LS 341H. A survey of the various media used in Roman art; the social, political, and economic contexts in which the media were developed; and the transition (technical, iconographic, and contextual) to the art of the Early Christian period.

U 362H Ancient Greek and Roman Philosophy 3 cr.
Offered intermittently. Same as LS 362H and PHIL 362H. Examination of the thought of the philosophers of Greece and Rome as expressed in original works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting.

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 thinking in the original writings of Greek writers and their application to current situations.

Chinese Literature/Culture

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, history, literature, religion, and philosophy.

U 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.

U 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 380L Chinese Folktales 3 cr.
Same as LS 311L. Offered intermittently. The study of the aspirations, desires, loves, fears, moral and aesthetic values of the Chinese people as expressed in their folk literature.

UG 432L Twentieth Century Chinese Fiction in English Translation 3 cr.

French Culture

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 (Mouet, classical, Realism, 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.

German Literature/Culture

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 339H 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 339H 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.
Japanese Literature/Culture

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.

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, Manyoshu, 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 431L Post-War Japanese Literature 3 cr. Offered spring. 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.

Russian Literature

UG 305L Introduction to Russian Literature I 3 cr. Offered autumn or spring. 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 II 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, Turgenev, Dostoevsky, Tolstoy, and the Symbolists.

U 307L Introduction to Russian Literature III 3 cr. Offered autumn alternate years. Same as RUSS 307L and UC 307L. Survey of Russian literature through the 20th century and into the 21st.

UG 413 Soviet Russian Literature 3 cr. Offered autumn. Same as RUSS 413. A chronological survey of Soviet Russian literature since 1917.

Spanish Literature/Culture

U 100H Introduction to Latin American Studies 3 cr. Offered autumn or spring. Same as ANTH 100H. Multi-disciplinary survey and introduction to Latin America from pre-Columbian times to the present.

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 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.

Other (for any language section)

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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 or experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study Variable cr. (R-6) Offered autumn and spring.

UG 381 Studies in the Film 3 cr. Offered autumn and spring. Prereq., LS 180 or consent of instr. Same as ENLT and LS 381. Studies in genres, directors, movements, problems, etc.

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.

U 396 Independent Study 1-9 cr. (R-9) Offered autumn and spring.

U 398 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 410 Methods of Teaching Foreign Languages 3 cr. Offered spring. Prereq., LS 210H; one of FREN 401, GER 403, LAT 300, RUSS 302, or SPAN 405. 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.

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 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.

U 496 Independent Study Variable cr. (R-6) Offered autumn and spring.

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 Independent Study 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 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 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 296 Independent Study Variable cr. (R-6) Offered autumn and spring.

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 autumn and spring.

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 296 Independent Study Variable cr. (R-6) Offered autumn and spring.

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 autumn and spring.

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 296 Independent Study Variable cr. (R-6) Offered autumn and spring.

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-6) Offered autumn and spring.

UG 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 396 Independent Study Variable cr. (R-6) Offered autumn and spring.


UG 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

UG 496 Independent Study Variable cr. (R-9) Offered intermittently.

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 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 296 Independent Study Variable cr. (R-6) Offered autumn and spring.

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 autumn and spring.
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 French Study Abroad Program.

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.

U 396 Independent Study 1-3 cr. (R-3) Offered autumn and spring.

UG 401 Applied Linguistics 3 cr. Offered intermittently. Prereq., FREN 301 and LING 270 or consent of instr. 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 theatre from the Renaissance to the 20th century or performance of a French play in French.


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. Synchronic 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.

U 496 Independent Study Variable cr. (R-9) Offered autumn and spring.

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-9) 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 296 Independent Study Variable cr. (R-6) Offered autumn and spring.

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 German culture 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.

U 361L 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 1-9 cr. (R-9) Offered intermittently. Prereq., consent of instr.

U 398 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 403 Applied Linguistics 3 cr. Offered autumn odd-numbered years. Same as LING 403. Specific problems in contrastive analysis of German 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.

U 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 Variable cr. (R-6) Offered autumn and spring.

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. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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, Euripides.

U 212 Greek Readings 3 cr. Offered spring. Prereq., GRK 211 or equiv. Readings from Homer's Iliad.

U 296 Independent Study Variable cr. (R-6) Offered autumn and spring.

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. Prereq., consent of instr.

U 496 Independent Study 1-9 cr. (R-9) Offered intermittently. Prereq., consent of instr.

Irish (IRSH)

U101 Elementary Irish I 3 cr. Offered autumn or spring. Same as ENIR 101. This course represents an introduction to modern Irish in both its spoken and written forms: basic principles of grammar and sentence structure are covered. Emphasis is placed on the application of these principles in every-day situations. This course is housed in the English Department. The GenEd Foreign Language requirement can be fulfilled by successful completion of 101, 102 and 103.

U 102 Elementary Irish II 3 cr. Offered autumn or spring. Same as ENIR 102. The primary objective of this course is to build on the foundations laid in Elementary Irish I. Students will expand their vocabulary with a special focus on verbs; they will also engage new themes that demand a corresponding increase in the store of nouns, adjectives, idioms and expressions. This course is housed in the English Department. The GenEd Foreign Language requirement can be fulfilled by successful completion of 101, 102 and 103.

U 103 Elementary Irish III 3 cr. Offered autumn or spring. Same as ENIR 103. The primary objective of this course is to continue to build on the foundations laid in Elementary Irish I. Students will expand their vocabulary with a special focus on verbs; they will also engage new themes that demand a corresponding increase in their store of nouns, adjectives, idioms and expressions. The General Education Foreign Language requirement can be fulfilled by successful completion of ENIR 101, 102 and 103.

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
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Prerequisite/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>UG 195</td>
<td>Japanese Court - Early Times</td>
<td>3 cr.</td>
<td>Offered intermittently. University omnibus option for independent work. See index.</td>
</tr>
<tr>
<td>UG 201</td>
<td>Intermediate Japanese I 5 cr.</td>
<td>3 cr.</td>
<td>Offered autumn. Prereq., JPNS 102 or equiv. Reading and writing kanji; building oral/aural fluency.</td>
</tr>
<tr>
<td>UG 202</td>
<td>Intermediate Japanese II 5 cr.</td>
<td>3 cr.</td>
<td>Offered spring. Prereq., JPNS 201 or equiv. Continuation of JPNS 201.</td>
</tr>
<tr>
<td>UG 210H</td>
<td>Japanese Culture and Civilization 3 cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Same as AS, MCLG and LS 210H. The historical, religious, artistic, literary, and social developments in Japan from earliest times to the present.</td>
</tr>
<tr>
<td>UG 293</td>
<td>Omnibus Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. University omnibus option for independent work. See index.</td>
</tr>
<tr>
<td>UG 295</td>
<td>Special Topics Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>UG 296</td>
<td>Independent Study Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>UG 301</td>
<td>Advanced Japanese 4 cr.</td>
<td>3 cr.</td>
<td>Offered spring. Prereq., JPNS 301 or equiv. Continuation of 301.</td>
</tr>
<tr>
<td>UG 302</td>
<td>Advanced Japanese 4 cr.</td>
<td>3 cr.</td>
<td>Offered spring. Prereq., JPNS 301 or equiv. Continuation of 301.</td>
</tr>
<tr>
<td>UG 306</td>
<td>Japanese for Business and Tourism 3 cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Professional, ethical practices and special etiquette.</td>
</tr>
<tr>
<td>UG 311L</td>
<td>Classical Japanese Literature in English Translation. 3 cr.</td>
<td>3 cr.</td>
<td>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.</td>
</tr>
<tr>
<td>UG 312L</td>
<td>Japanese Literature from Medieval to Modern Times in English Translation 3 cr.</td>
<td>3 cr.</td>
<td>Offered spring. Same as MCLG 312L. Introduction to the literature of Japan from the 15th to the 20th century.</td>
</tr>
<tr>
<td>UG 386</td>
<td>History of the Japanese Language 3 cr.</td>
<td>3 cr.</td>
<td>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.</td>
</tr>
<tr>
<td>UG 390</td>
<td>Supervised Internship 1-12 cr.</td>
<td>1-12 cr.</td>
<td>Offered intermittently. Paid work experience in Japan, combined with language/culture course work by correspondence directed by UM department staff.</td>
</tr>
<tr>
<td>UG 393</td>
<td>Omnibus Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. University omnibus option for independent work. See index.</td>
</tr>
<tr>
<td>UG 395</td>
<td>Special Topics Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>UG 396</td>
<td>Independent Study Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>UG 398</td>
<td>Internship Variable cr.</td>
<td>3 cr.</td>
<td>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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.</td>
</tr>
<tr>
<td>UG 411</td>
<td>Modern Japanese Writers and Thinkers 3 cr.</td>
<td>3 cr.</td>
<td>Offered autumn or spring. Prereq., JPNS 302. Introduction to the important writers, thinkers, and poets of the 20th century. Readings include a wide range of topics in the humanities, including philosophy, history, sociology, and the arts.</td>
</tr>
<tr>
<td>UG 412</td>
<td>Introduction to Classical Japanese 3 cr.</td>
<td>3 cr.</td>
<td>Offered spring. Prereq., JPNS 302. Introduction to the language of the Japanese court, ca. 7th to 14th century. Essential features of grammar, sentence structure, vocabulary, and orthography.</td>
</tr>
<tr>
<td>UG 415</td>
<td>Advanced Japanese for Professionals 3 cr.</td>
<td>3 cr.</td>
<td>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.</td>
</tr>
<tr>
<td>UG 431L</td>
<td>Post-War Japanese Literature 3 cr.</td>
<td>3 cr.</td>
<td>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.</td>
</tr>
<tr>
<td>UG 495</td>
<td>Special Topics 1-9 cr.</td>
<td>1-9 cr.</td>
<td>Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>UG 496</td>
<td>Independent Study Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>G 500</td>
<td>Directed Readings in Japanese Text 1-3 cr.</td>
<td>1-3 cr.</td>
<td>Offered intermittently. Prereq., undergraduate major in Japanese or equiv. Guided readings in a selected research field.</td>
</tr>
</tbody>
</table>

### Latin (LAT)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>U 101</td>
<td>Elementary Latin I 5 cr.</td>
<td>5 cr.</td>
<td>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.</td>
</tr>
<tr>
<td>U 102</td>
<td>Elementary Latin II 5 cr.</td>
<td>5 cr.</td>
<td>Offered spring. Prereq., LAT 101. Continuation of 101. Latin grammar, vocabulary, readings.</td>
</tr>
<tr>
<td>U 195</td>
<td>Special Topics Variable cr.</td>
<td>5 cr.</td>
<td>Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>U 211</td>
<td>Latin Reading and Grammar Review 4 cr.</td>
<td>4 cr.</td>
<td>Offered autumn. Prereq., LAT 102 or equiv. Selections of Latin prose from the classical period, with complementary exercises in elementary composition.</td>
</tr>
<tr>
<td>U 212</td>
<td>Latin Readings: Vergil 3 cr.</td>
<td>3 cr.</td>
<td>Offered spring. Prereq., LAT 211 or equiv. Latin epic poetry: Vergil's Aeneid.</td>
</tr>
<tr>
<td>U 296</td>
<td>Independent Study Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>U 311L</td>
<td>Classical Latin Literature in English Translation. 3 cr.</td>
<td>3 cr.</td>
<td>Offered autumn. Same as MCLG 311L. Introduction to the historical literature of Latin from Caesar to 14th century. Kojiki, Man'yoshu, Kokinshu, Genji Monogatari, and other major classics of the period.</td>
</tr>
<tr>
<td>U 312L</td>
<td>Latin Literature from Medieval to Modern Times in English Translation 3 cr.</td>
<td>3 cr.</td>
<td>Offered spring. Same as MCLG 312L. Introduction to the literature of Latin from the 15th to the 20th century.</td>
</tr>
<tr>
<td>U 386</td>
<td>History of the Latin Language 3 cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Prereq., JPNS 202. Overview of Latin 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.</td>
</tr>
<tr>
<td>U 390</td>
<td>Supervised Internship 1-12 cr.</td>
<td>1-12 cr.</td>
<td>Offered intermittently. Paid work experience in Italy, combined with language/culture course work by correspondence directed by UM department staff.</td>
</tr>
<tr>
<td>U 393</td>
<td>Omnibus Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. University omnibus option for independent work. See index.</td>
</tr>
<tr>
<td>U 395</td>
<td>Special Topics Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>U 396</td>
<td>Independent Study Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>U 398</td>
<td>Internship Variable cr.</td>
<td>3 cr.</td>
<td>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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.</td>
</tr>
<tr>
<td>U 411</td>
<td>Modern Latin Writers and Thinkers 3 cr.</td>
<td>3 cr.</td>
<td>Offered autumn or spring. Prereq., JPNS 302. Introduction to the important writers, thinkers, and poets of the 20th century. Readings include a wide range of topics in the humanities, including philosophy, history, sociology, and the arts.</td>
</tr>
<tr>
<td>U 412</td>
<td>Introduction to Classical Latin 3 cr.</td>
<td>3 cr.</td>
<td>Offered spring. Prereq., JPNS 302. Introduction to the language of the Latin court, ca. 7th to 14th century. Essential features of grammar, sentence structure, vocabulary, and orthography.</td>
</tr>
</tbody>
</table>

### Russian (RUSS)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite/Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>U 101</td>
<td>Elementary Russian I 5 cr.</td>
<td>5 cr.</td>
<td>Offered autumn. The first course of a two semester sequence designed to impart to the student a solid foundation in the Russian language. Successful completion of the sequence will enable the student to read any Russian author.</td>
</tr>
<tr>
<td>U 102</td>
<td>Elementary Russian II 5 cr.</td>
<td>5 cr.</td>
<td>Offered spring. Prereq., RUSS 101 or equiv. Continuation of 101. Russian grammar, vocabulary, and orthography.</td>
</tr>
<tr>
<td>U 193</td>
<td>Omnibus Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. University omnibus option for independent work. See index.</td>
</tr>
<tr>
<td>U 195</td>
<td>Special Topics Variable cr.</td>
<td>3 cr.</td>
<td>Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
</tbody>
</table>

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U 101 Elementary Spanish 1 5 cr. Offered autumn. Emphasis on oral communication, vocabulary, grammar, pronunciation, and listening/reading/writing skills. Preparation for Intermediate Spanish I. 

U 102 Elementary Spanish II 5 cr. Offered spring. Prereq., U 101.

U 201 Intermediate Spanish I 4 cr. Offered autumn. Prereq., U 102 or equiv. Focus on practical expression of ideas and cultural contexts. Preparation for Intermediate Spanish II.

U 202 Intermediate Spanish II 4 cr. Offered spring. Prereq., U 201. Focus on cultural contexts and advanced communication skills. Preparation for Advanced Spanish.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. Experimental offerings of new courses, or one-time offerings of current topics.

U 306 Intermediate Spanish 3 cr. (R-9) Offered spring. Preparation for Advanced Spanish.

U 307 Literature through the Spanish Language 3 cr. Offered spring. Prereq., U 202. Introduction to the Literature of Contemporary Spain.

U 312 Introduction to the Literature of Contemporary Latin America 3 cr. Offered spring. Preparation for Advanced Spanish.


U 350 Advanced Topics in Hispanic Culture 3 cr. Offered spring. Prereq., U 202. Emphasis on comprehension of contemporary Spanish literature. Development of oral and written skills with an emphasis on cultural context.

U 351 Advanced Topics in Hispanic Culture 3 cr. Offered spring. Prereq., U 202. Emphasis on comprehension of contemporary Spanish literature. Development of oral and written skills with an emphasis on cultural context.

U 352 Spanish Folklore 3 cr. Offered spring. Prereq., U 202. Emphasis on comprehension of contemporary Spanish literature. Development of oral and written skills with an emphasis on cultural context.


U 354 Advanced Topics in Hispanic Culture 3 cr. Offered spring. Prereq., U 202. Emphasis on comprehension of contemporary Spanish literature. Development of oral and written skills with an emphasis on cultural context.

U 355 Advanced Topics in Hispanic Culture 3 cr. Offered spring. Prereq., U 202. Emphasis on comprehension of contemporary Spanish literature. Development of oral and written skills with an emphasis on cultural context.
College of Arts and Sciences - Department of Modern and Classical Languages and Literatures - 141

U 396 Independent Study Variable cr. (R-6) Offered autumn and spring.
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 autumn and spring.
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 cr. (R-9) Offered intermittently. Prereq., graduate standing.

Faculty

Professors
Robert W. Acker, Ph.D., University of Texas at Austin, 1974 (Chair)
Elizabeth Graff Ametsbichler, Ph.D., University of Maryland at College Park, 1992
Christopher Anderson, Ph.D., University of Iowa, 1990
Hayden Ausland, Ph.D., University of California, Berkeley, 1987
Timothy Bradstock, Ph.D., Harvard University, 1984
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
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 Professors
Hiltrudis Arens, Ph.D., University of Maryland, 1997
Eduardo Chirinos, Ph.D., Rutgers University, 1997
M. Ione Crummy, Ph.D., Stanford University, 1992
Clary Loisel, Ph.D., University of Florida, 1996
Jannine Montauban, Ph.D., Rutgers University, 2000
Yuka Tachibana, Ph.D., Tohoku University, 1999
Michel Valentin, Ph.D., University of Minnesota, 1980

Assistant Professors
Benedicte Boisseron, Ph.D. University of Michigan, 2006
Charles Exley, Ph.D., Yale University, 2005
Miladen Kozul, Ph.D., Universite de Paris X-Nanterre, 1996
Marko Marto, Ph.D., Washington University, 2000
Ona Renner-Fahey, Ph.D., Ohio State University, 2003
Matthew S. Semanoff, Ph.D., University of Wisconsin, 2002
Naomi Shin, Ph.D., City University of New York, 2006

Senior Lecturer
Zhen Cao, Ed.D., The University of Montana, 1997

Lecturer
Kelly Noe, M.A., Miami University, 2004

Adjunct Instructors
Evelina Badery, M.A., Universita di Torino, 1981
Linda Bailey, M.A., University of Montana, 2001
Samir Bitar, Advanced Level Arabic G.C.E., 1974
Manolita Connor, M.A., University of Montana, 1992
Alicia Gignoux, M.A., The University of Montana, 1994
Susanne Gruber, M.A., University of Vienna, 2007
Melissa MacKenzie, M.S., Eastern Michigan University, 1989
Julia Ploeckinger, University of Salzburg

Emeritus Professors
Anthony F. Beltramo, Ph.D., Stanford University, 1972
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 Lackeschewitz, Ph.D., Goettingen University, 1954
David K. Loughran, Ph.D., Johns Hopkins University, 1969
Philip H. Lutes, Ph.D., University of Michigan, 1969
Dennis R. McCormick, Ph.D., University of Texas at Austin, 1972
Sigyn Minier, Ph.D., University of Connecticut, 1977
Ward H. Powell, Ph.D., University of Colorado, 1956
Ludmila Prednueva, Ph.D., University of Pennsylvania, 1982
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 cross-cultural 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 degree 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, or 400, two of three from 464H, 465H and 466H, and 494.

Beyond these 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, 210H, 231, 295, 300, 324H, 329, 341H, 344, 388, 394, 395, 400, 401L, one of the three 464H, 465H and 466H, 496, and 499.

The nine required elective credits may be chosen from the elective in-department courses, or from the following out-of-department courses: ANTH 102S, 323H, 329H; HIST 365, 366, and 467.

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

First Year
ENEX 101 Composition ........................................ 3 -
MATH 107 Contemporary Mathematics ................. 3 -

Second Year
NAS 100H Introduction to Native American Studies .................................................. 3 -
NAS 201H Indian Culture as Expressed Through Language ........................................... - 3
General Education ...................................................... 6 6
Electives ........................................................................ - 6
Total ................................................................................. 15 15

Third Year
NAS 200 Native American Studies Research and Writing Methods ...................................... 3 -
NAS 202L Oral and Written Traditions of the Native American .................................. 3 -
General Education ...................................................... 6 3
Electives ........................................................................ 12 9
Total ................................................................................. 15 15

Fourth Year
NAS 465H History of Indian Affairs in the 19th Century or 464H History of Indian Affairs 1776 .... - 3
NAS 466H History of Indian Affairs from 1890 ............................................................ - 3
NAS 494 Readings in Native American Studies ............................................................. - 3
Electives ........................................................................ 12 9
Total ................................................................................. 15 15

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. Credits beyond this maximum do not count toward a degree.

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 198 Internship 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. A maximum of 6
Native American writers, directors and actors. Americans year..

American peoples. Offered

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UG

210H Native American Sports and Games 3 cr. Offered

intermittently in spring. Explores Native American sports and
games, both traditional and modern. Through classroom learning
and actual play, students gain an understanding of how play and
competition have been vital to Native communities.

U 231 Indigenous World View Perspectives 3 cr. Offered
spring 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.

UG 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.

UG 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.

UG 324H Indians of Montana Since the Reservation Era 3
offered autumn odd-numbered years. Same as ANTH 324H and
HIST 354H. 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.

UG 392 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.

UG 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.

UG 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 344 Native Americans and Film 3cr. Offered once each
year. Same as ENFM 344. Surveys the image of Native
Americans in American film with an emphasis on "revisionist," or
"breakthrough" films. Ultimate focus will be on films
featuring Native American writers, directors and actors.

UG 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 instr.
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 ideas 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.

UG 394 Seminar Variable cr. (R-6) Offered alternate years.
Variable topics addressing Indian law, policy and culture by
visiting scholars.

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

UG 398 Internship 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. A maximum of 6
credits of Internship (198, 298, 398, 498) may count toward
graduation.

UG 400 Tribal Sovereignty 3 cr. Offered alternate years.
Same as PSC 475. 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 464H History of Indian Affairs to 1776 3cr. Offered
annually. Same as HIST 464H. A study of American Indian
relations with Europeans and the United States from first contact to
1776.

UG 465H History of Indian Affairs in the 19th Century 3 cr.
Same as HIST 465H. A study of tribal encounters and adjustments
to the American nations in the nineteenth century.

UG 466H History of Indian Affairs from 1890 3 cr. Same as
HIST 466H. A study of tribal encounters and adjustments to the
American nation from 1890.

UG 494 Reading Seminar In Native American Studies 3 cr. (R-6)
Offered spring. Prereq., NAS major or minor, 18 credits in NAS,
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.
courses: that include participation in the campus-based national certification program. Students should contact that office for information regarding certification.

extra-curricular training sessions and events, and attendance at a humanics organization if they complete additional requirements for the option to obtain certification from the national American organization.

Requirements for a Minor

Students must complete successfully 21 credits in the following courses:

1. PSC 466 Nonprofit Administration and Public Service, 3 cr.
2. PSC 467 Advanced Nonprofit Administration, 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 421 Comm in Nonprofit Organizations
   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
      - COMM 230 Intro to organizational Communication
   d. Nonprofit Program Planning
      - RECM 230 Programming in Recreation
      - RECM 485 Recreation Planning (for RECM majors only)
      - MKTG 411 Services/Relationship Marketing (for business majors only, MKTG 360 prereq.)
   e. Nonprofit Marketing
      - MKTG 363 Marketing Communications (for business majors only, MKTG 360 prereq.)
      - MKTG 412 Nonprofit Marketing (for business majors only, MKTG 360 prereq.)
   f. Nonprofit Accounting/Financial Management
      - ACCT 201 Financial Accounting
      - ACCT 422 Comm & Technology
      - COMM 423 Practical Issues in Organizational Communication
      - COMM 424 Risk, Crisis, and Communication
      - COMM 451 Intercultural Communication-MGMT 420 Leadership & Motivation (for business majors only, MGMT 340 prereq.)
Department of Philosophy

Richard E. Walton, 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. More information is available online: www.umt.edu/phil.

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, 480 and one course from each of the following groups: History (PHIL 450, 453, 461, 463); Value Theory (PHIL 323E, 325E, 340L, 421E, 422E, 427E, 429E, 441E, 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 (including required language courses) 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 (though four semesters are recommended) 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 | - | 3 |
| College mathematics course | 15 | 15 |
| 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. Credits beyond this maximum do not count toward a degree.

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 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 202E Ethics and the Environment 3 cr. Offered yearly. An introductory-level ethics course for students with a special interest in the natural environment. The course will (a) introduce students to the three classical traditions in ethics—virtue, Kantianism, and utilitarianism, (b) ground these theories in questions about the moral status of non-humans and our moral duties to non-humans, (c) include an applied section of the course that will cover animal welfare, biotechnology, and other current topics.

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 211 Introduction to Logic: Applied Logic 3 cr. Offered
Prereq., consent of instr.

Independent work under the University setting.

Prereq., consent of faculty supervisor and

standards of art criticism, and of the kinds of

analysis of ethical conflicts that may arise in business.

Prereq., lower-division course in Perspective

The origins of science in ancient Greece, and its subsequent developments during the scientific revolution. Developments in biology, especially Darwinism and genetics. Development in physics.

The origin of philosophy in ancient Greece and its development in the Roman Empire.

A survey of the history of philosophy from Descartes to Hegel, which includes other Continental Rationalists, the British Empiricists, and Kant.

Offered intermittently. An analysis of ethical conflicts that may arise in business.

Offered intermittently. Same as HIST 240H. The epistemological and metaphysical developments of natural philosophy or science. The origins of science in ancient Greece, and its subsequent developments during the scientific revolution. Developments in biology, especially Darwinism and genetics. Development in physics.

Prereq., consent of faculty supervisor and the Internship Services office.

An examination of ethical problems raised by the practice of medicine and by recent developments in medically-related biological sciences.

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.

Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment.

Prereq., lower-division perspective 5 course or consent of instr., PHIL 200E strongly recommended. Examination of the implications for philosophic ethics of the claim that Western men and women have different moral perspectives.

An examination of one or more of the classic problems of Western philosophy of religion, such as the traditional arguments for and against the existence of God, the relationship of faith and reason, the status of religious experience, the problem of evil, and the problem of reconciling divine omniscience with human freedom.

Philosophical thought in selected works of literature.

Prereq., upper-division standing or consent of instr., PHIL 252H or consent of instr. Intensive reading of one major philosopher from the rationalist tradition (Descartes, Spinoza or Leibniz) and one from ancient works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting.

(examined is presented works read in English translation. Ancient philosophy studied within its historical, linguistic and cultural setting.)

Prereq., consent of faculty supervisor and department chair.

Offered intermittently. Experimental offerings of new courses, or one-time offerings of current topics.

A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

Prereq., consent of faculty supervisor and department chair.

Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

Offered intermittently. Consent of instr. Examination of morally relevant issues in business.

Prereq., PHIL 210 or equiv. A systematic study of first-order logic, including development of standard metatheory and the significance of modern formal methods.

Consent of instr. Examination of morally relevant issues in business.
the empiricist tradition (Locke, Berkeley or Hume).

UG 453 Kant 3 cr. Offered intermittently. Prereq., PHIL 252H or PHIL 450 or consent of instr. Reading and interpretation of selected works.

UG 461 Plato 3 cr. Offered every other spring. Prereq., PHIL 251H. General introduction to the philosophy of Plato emphasizing dialogues of the Early and Middle periods.

UG 463 Aristotle 3 cr. Offered every other spring. 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. 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 spring. 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.

U 494 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

U 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.

U 498 Internship 1-6 cr. (R-6) 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 ENLT 524. Investigation of environmental, social and political thought from the perspective of contemporary language theory.

G 510 Philosophy Forum Colloquium 1 cr. (R-3) Offered intermittently. Prereq., graduate standing. Discussion and further exploration of issues presented at the weekly Philosophy Forum.

G 520 Seminar in Foundations of Ethics 4 cr. Offered every summer. Major traditions in Western moral philosophy along with feminist and non-Western critiques.

G 521 Theory and Skills for Teaching Ethics 3 cr. Offered every summer. Exploration and critical reflection of concepts and significant issues in the teaching of practical ethics in classroom and corporate settings.

G 523 Practicum in Teaching Ethics 4 cr. Prereq., M.A. teaching ethics emphasis candidates. Field experience in a post-secondary classroom or off campus learning environment. Field work includes lesson planning, teaching, and evaluation.

G 530 Research Ethics Online 1 cr. Offered every term. Online asynchronous instruction in ethical issues in research; interpersonal, institutional, and professional responsibility; research with animals and human participants. Interactive case studies in biomedical, behavioral, and social sciences.

G 581 Thesis Proposal Preparation Variable cr. (R-2) Offered intermittently.

G 590 Supervised Internship 1-12 cr. (R-12) Offered intermittently. Prereq., consent of faculty supervisor and department chair.

G 593 Professional Paper Variable cr. (R-9) Offered intermittently. Pro students in the M.A. in Teaching Ethics and AGS options.

G 594 Seminar Variable cr. (R-9) 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 intermittently. Prereq., consent of instr.

G 597 Research Variable cr. (R-9) Offered intermittently. Directed individual research and study appropriate to the background and objectives of the student.

G 598 Internship 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.

G 599 Thesis Variable cr. (R-6) Offered intermittently. Prereq., approval of a thesis proposal by the student’s thesis committee.

Faculty

Professors
Albert Borngmann, Ph.D., University of Munich, 1963
Deborah Slicer, Ph.D., University of Virginia, 1989
Richard E. Walton, M.A., Claremont Graduate School, 1970
(Chair)

Associate Professor
David Sherman, Ph.D., University of Texas, Austin, 1999

Assistant Professors
Bridget Clarke, Ph.D., University of Pittsburgh, 2003
Armond Duwell, Ph.D., University of Pittsburgh, 2004
Stephen Grimm, Ph.D., University of Notre Dame, 2005
Paul Muench, Ph.D., University of Pittsburgh, 2006
Christopher Preston, Ph.D., University of Oregon, 1999

Adjunct Associate Professor
Department of Physics and Astronomy

David B. Friend, 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 various other degree paths which combine a solid background in the study of physics with in-depth study in other fields. These options allow for specialization in related fields and provide appropriate background for certain employment opportunities and for continued graduate or professional study.

Astronomy: The astronomy option provides a thorough study of astronomy and astrophysics 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 PHYS 330 or another upper-division writing course from the approved list.

Bachelor of Arts with a major in Physics

Forty-one credits in physics must be earned for the Bachelor of Arts degree with a major in physics. Required courses in physics are: PHYS 221N-222N or 121N-122N (221N-222N strongly recommended), 301, 321, 325, 341, 371, 372 (372 strongly recommended), 414 (415 strongly recommended), 444, 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 a 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: PHYS 331 (strongly recommended), or CS 101, 131, or 201.

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-five credits in astronomy and physics courses are required for the B.A. degree in physics with astronomy option. Required courses in physics are: PHYS 221N-222N, 301, 480 plus at least four courses from the following: 325, 341, 371, 372, 414, 415, and 461. Required astronomy courses are: ASTR 131N, 132N, 134N, 135N, 353, 363, and 364 (351 and 362 recommended). At least one lab course must be taken from ASTR 362, PHYS 321, or PHYS 444. MATH 152, 153, 251, and 311 also must be taken. The Foreign Language/Symbolic Systems requirements must be met as set forth above under Bachelor of Arts with a major in Physics (one semester of a foreign language and one computer language course chosen from PHYS 331, CS 101, 131, or 201).

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 321, 372, 444, and 415 are highly recommended); Computer Science 131-132, 241, 332, and seven credits of CS electives selected from courses numbered 200 and above (CS 242, 281, 415E, 471, and 477 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
major teaching field of Physics, a student must complete the following course requirements: 35 credits in Physics including Physics 121N-122N or 221N-222N, 301, 325, 330, 341, 371, 414, 461, and 480. Also required are Astronomy 131N-132N; Mathematics 152, 153, 241 or 341, 251 and 311; Computer Science 101 or 131; Curriculum & Instruction 426; Chemistry 151N and 485; Biology 108N or 110N or 120N or 121N; Geology 100N-101N; and EVST 101 or Science 350 or Geology 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, 325, 330, 341 and 371. Also required are Astronomy 131N or 132N; Biology 108N or 110N or 120N or 121N; Chemistry 151N, 485; Mathematics 152-153, 241 or 341, 251, and 311; and Computer Science 131 or 201 or 204. 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).

**Suggested Course 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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 101 or 131 Fundamentals of Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 152-153 Calculus I, II</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 221N-222N Fundamentals of Physics</td>
<td>5</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 251 Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 301 Mathematical Methods for Physical Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 325 Optics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 341 Fundamentals of Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 311, 412-Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 321 Electronics for Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 445 Thermodynamics and Statistical Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 461 Quantum Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 463 Selected Topics or 462 Quantum Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 480 Senior Seminar</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 444 Advanced Physics Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 446 Thermodynamics</td>
<td>3</td>
</tr>
<tr>
<td><strong>and Statistical Mechanics</strong></td>
<td>(3)</td>
</tr>
<tr>
<td>PHYS 461 Quantum Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 463 Selected Topics or 462 Quantum Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 480 Senior Seminar</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>3</td>
</tr>
</tbody>
</table>

*Can be waived with two years of foreign language in high school.

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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR 131N-132N Elementary Astronomy</td>
<td>3</td>
</tr>
<tr>
<td>CS 101 or 131 Fundamentals of Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 121 Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 152 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>Electives or General Education</td>
<td>5</td>
</tr>
</tbody>
</table>

*Semester of enrollment depends on beginning letter of student's last name.

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 153-Calculus II</td>
<td>4</td>
</tr>
<tr>
<td>MATH 251-Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 221N-222N-Fundamentals of Physics</td>
<td>5</td>
</tr>
<tr>
<td>Electives or General Education</td>
<td>6</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 311, 412-Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 301 Mathematical Methods for Physical Scientists</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 414-415 Electromagnetism</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 444 Advanced Physics Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 445 Thermodynamics and Statistical Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 461-Quantum Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 463-Selected Topics or 462 Quantum Mechanics II</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 480 Senior Seminar</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>5</td>
</tr>
</tbody>
</table>

**Bachelor of Arts with a Major in Physics and an Option in Astronomy**

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 131N-132N Elementary Astronomy</td>
<td>3</td>
</tr>
<tr>
<td>MATH 134N-135N Elementary Astronomy</td>
<td>3</td>
</tr>
<tr>
<td>CS 101 or 131 Introduction to Programming</td>
<td>1</td>
</tr>
<tr>
<td>ENEX 101 Composition*</td>
<td>3</td>
</tr>
<tr>
<td>MATH 121 Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 152 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>Electives or General Education</td>
<td>5</td>
</tr>
</tbody>
</table>

*ENEX 101 is required unless exempted by testing. Semester of enrollment depends on beginning letter of student's last name.

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 153, 251 Calculus II, III</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 221N-222N Fundamentals of Physics</td>
<td>4</td>
</tr>
<tr>
<td>Electives or General Education</td>
<td>5</td>
</tr>
</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 311 Planetary Science or ASTR 362</td>
<td>2-3</td>
</tr>
<tr>
<td>Observational Astronomy</td>
<td></td>
</tr>
</tbody>
</table>
### Bachelor of Arts with a Major in Physics with an Option in Computational Physics

**First Year**
- CS 131-132 Fundamentals of Computer Science  
  - A  
  - 3  
- ENEX 101 Composition  
  - A  
  - 3  
- MATH 152-153 Calculus I, II  
  - A  
  - 4  
- PHYS 221N-222N Fundamentals of Physics  
  - A  
  - 5  
- General Education or electives  
  - 8  
  - 9  
  - 15  

**Second Year**
- CS 241 Data Structure  
  - B  
  - 4  
- MATH 225 Discrete Math  
  - B  
  - 3  
- MATH 251 Calculus III  
  - B  
  - 4  
- PHYS 301 Mathematical Methods for Physical Scientists  
  - B  
  - 3  
- PHYS 331 Introduction to Computational Physics  
  - C  
  - 3  
- PHYS 341 Fundamentals of Modern Physics  
  - C  
  - 3  
- Foreign language or General Education  
  - 5  
  - 5  
- General Education or electives  
  - 0-3  
  - 15  

**Third Year**
- CS 242 Programming Languages  
  - A  
  - 4  
- CS 281 Computer Architecture and Assembly  
  - A  
  - 3  
- Language Programming  
  - A  
  - 3  
- MATH 311 Ordinary Differential Equations  
  - A  
  - 3  
- MATH 325 Discrete Math II  
  - A  
  - 3  
- PHYS 321 Electronics for Scientists*  
  - A  
  - 3  
- PHYS 331 Introduction to Computational Physics  
  - A  
  - 3  
- PHYS 371-372 Classical Mechanics I, II*  
  - A  
  - 3  
- General Education or electives  
  - 3  
  - 6  
  - 15  

**Fourth Year**
- CS 332 Algorithms  
  - A  
  - 3  
- CS 415E Computers, Ethics, and Society*  
  - A  
  - 3  
- PHYS 414-415 Electromagnetism*  
  - A  
  - 3  
- PHYS 480 Senior Seminar  
  - A  
  - 3  
- General Education or electives  
  - 8  
  - 9  
  - 15  

*Upper-division astronomy courses can be taken in a different order, as they are offered only in alternate years.

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### Fourth Year

- ASTR 363-364 Stellar Astronomy and Astrophysics*  
  - 3  
- PHYS 371-372 Classical Mechanics I, II or PHYS 414-415 Electromagnetism I, II  
  - 3  
- PHYS 480 Senior Seminar  
  - 3  
- General Education or electives  
  - 6  
  - 14-15  

**Courses**

- ASTR 353 Galactic Astrophysics and Cosmology*  
  - 3  
- MATH 311 Ordinary Differential Equations  
  - 3  
- PHYS 301 Mathematical Methods for Physical Scientists  
  - 3  
- PHYS 320 Optics  
  - 3  
- PHYS 330 Communicating Physics  
  - 3  
- PHYS 341 Fundamentals of Modern Physics  
  - 3  
- General Education or electives  
  - 6  
  - 14-15  
  - 15  

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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 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.)

### 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. Credits beyond this maximum do not count toward a degree.

#### Astronomy (ASTR)

- U 131N Elementary Astronomy 1 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 142N The Evolving Universe: Theories and Observations in Modern Astronomy 4 cr. Offered spring. Prereq., MATH 121 or equiv. Overview of recent developments in planetary system formation, stars, galaxies, and cosmology. Some astronomical observing required outside of normal class hours.
- 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 Internship Variable cr. (R-6) 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
- UG 351 Planetary Science 3 cr. Offered autumn even-numbered years. Prereq., PHYS 221N or 121N and MATH 150 or 152. Same as QES 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 1 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...
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 Internship Variable cr. (R-6) 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 Internship Variable cr. (R-6) 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 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. Credit not allowed for both PHYS 221N-222N and 121N-122N.

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 301 Mathematical Methods for Physical Scientists 3 cr. Offered spring. Prereq., MATH 251; coreq., PHYS 222N. Selected topics from applied linear algebra, ordinary and partial differential equations, vector analysis, complex variables, and Fourier series. Applications to classical mechanics, electromagnetism, and quantum mechanics.

U 321 Electronics for Scientists 3 cr. Offered autumn. Prereq., PHYS 222N or PHYS 122N. Laboratory exercises in the techniques of analog and digital electronics, including circuit design, construction, and measurement. Recommended for student who perform laboratory work in any experimental science.

U 325 Optics 3 cr. Offered spring. Prereq., PHYS 222N; coreq., MATH 251. Intermediate level study of light and optics, including geometrical optics, wave optics, optical instruments, coherence, polarization, and special topics.

UG 330 Methods of Communicating Physics 3 cr. Offered spring even-numbered years. Prereq., PHYS 222N or 122N. Oral and written communication skills in physics, to include teaching high school and college physics, presenting seminars, and writing technical and non-technical physics articles.

U 331 Introduction to Computational Physics 3 cr. Offered spring odd-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.

UG 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 Classical Mechanics I 3 cr. Offered autumn. Prereq., PHYS 301; coreq., MATH 311. Topics in classical mechanics at the intermediate level.


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 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.

U 444 Advanced Physics Laboratory 3 cr. Offered spring. Prereq., PHYS 341 or equiv., PHYS 325 or equiv.; PHYS 321 suggested but not required. Advanced experiments in classical and modern physics, including optics, spectroscopy, laser science, atomic, nuclear, and particle physics. Data analysis techniques for experimental scientists. Recommended for students entering graduate school in any 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 Schroedinger 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.

U 493 Omnibus Variable cr. (R-9) Offered intermittently. 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.
Department of Political Science

James J. Lopach, 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 training 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. In addition, no more than 15 total credits in special topics courses (e.g., PSC 381, 395) 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, 364, 366, 370, 383, 387, 468, 483. 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
### Suggested Course of Study

#### Political Science Major:

<table>
<thead>
<tr>
<th>Year</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>PSC 100S Introduction to American Government</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSC 120S Comparative Government</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Seven General Education courses</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>One elective</td>
<td>3</td>
</tr>
<tr>
<td>Second</td>
<td>PSC 130E International Relations</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>PSC 150E Political Theory</td>
<td>3</td>
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<tr>
<td></td>
<td>Seven General Education courses</td>
<td>12</td>
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<td></td>
<td>One elective</td>
<td>3</td>
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<td>Third</td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

| Year     | Four PSC 300-400-level courses                                           | 6       |
|          | Six electives                                                            | 9       |
| Fourth   | Four PSC 300-400-level courses                                           | 6       |
|          | Six electives                                                            | 9       |

<table>
<thead>
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<th>Year</th>
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<tbody>
<tr>
<td>Third</td>
<td>Three 300-400-level American Politics courses</td>
<td>6</td>
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<tr>
<td></td>
<td>Two other 300-400-level PSC courses</td>
<td>3</td>
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<tr>
<td></td>
<td>Five electives</td>
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<td>Fourth</td>
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<tr>
<td></td>
<td>Six electives</td>
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<table>
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<th>Year</th>
<th>Political Science with International Relations and Comparative Politics Option</th>
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<tbody>
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<td>Third</td>
<td>Three 300-400-level International and Comparative courses</td>
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<tr>
<td></td>
<td>Two other 300-400-level PSC courses</td>
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<td>Five electives</td>
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<tr>
<td>Fourth</td>
<td>Three 300-400-level International and Comparative courses</td>
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<td>One other 300-400-level PSC course</td>
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<tr>
<td></td>
<td>Six electives</td>
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<table>
<thead>
<tr>
<th>Year</th>
<th>Political Science with Public Administration Option</th>
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<tbody>
<tr>
<td>Third</td>
<td>PSC 361 Public Administration</td>
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<td>One 300-400-level public administration course</td>
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<td>3</td>
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<tr>
<td></td>
<td>Six electives</td>
<td>9</td>
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<tr>
<td>Fourth</td>
<td>One 300-400-level public administration course</td>
<td>3</td>
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<td></td>
<td>PSC 460 Human Resource Management</td>
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<td></td>
<td>Three other 300-400-level PSC courses</td>
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<td></td>
<td>Five electives</td>
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<table>
<thead>
<tr>
<th>Year</th>
<th>Political Science with Public Law Option</th>
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<tbody>
<tr>
<td>Third</td>
<td>PSC 370 Courts and Judicial Politics</td>
<td>3</td>
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<td></td>
<td>Two 300-400-level Public Law courses</td>
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<tr>
<td></td>
<td>Five electives</td>
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<tr>
<td>Fourth</td>
<td>Two 300-400-level Public Law courses</td>
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<td></td>
<td>Two other 300-400-level PSC courses</td>
<td>3</td>
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<tr>
<td></td>
<td>Six electives</td>
<td>9</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. Credits beyond this maximum do not count
toward a degree.

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 instructor. Constitutional principles,
structures, and the political processes of the national government.

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 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 333 International Security 3 cr. Offered autumn. Prereq.,
junior standing or consent of instr. Theories about the causes,
conduct, and consequences of war. The historical record of war
from World War I to the present. Contemporary security issues,
including terrorism, proliferation, disarmament, and the rise and
fall of great powers.

UG 335 American Foreign Policy 3 cr. Offered spring.
Prereq., PSC 130E and junior standing or consent of instr. Amer-
ican 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 337 Model United Nations 3 cr. Offered autumn. Prereq.,
junior standing or consent of instr. History and structure of the
UN. Contemporary global problems, and the UN's role in
addressing them. Class has both active learning and service
learning dimensions. Students plan, organize and run the annual
Montana Model UN high school conference.

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 opinions, agenda, and
governmental institutions.

UG 343 Politics of Social Movements 3 cr. Offered
intermittently. Prereq., junior standing or consent of instr. The roles
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 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 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 364 State and Local Government 3 cr. Offered
intermittently. Prereq., PSC 100S and junior standing. Analysis of
American state and local government with emphasis on
governmental organization, intergovernmental relations, local gov-
government powers, and self-government charters. Special attention
to Montana.

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 381 Special Topics: Comparative Politics Variable cr. (R-
6) Offered intermittently. Experimental or one-time offerings in the
subfield of comparative politics.

UG 382 Special Topics: International Relations Variable cr.
(R-6) Offered intermittently. Experimental or one-time offerings in the
subfield of international relations.

UG 383 Special Topics: American Government Variable cr.
(R-6) Offered intermittently. Experimental or one-time offerings in the
subfield of American government.

UG 384 Special Topics: Political Theory Variable cr. (R-6)
Offered intermittently. Experimental or one-time offerings in the
subfield of political theory.

UG 385 Special Topics: Public Administration or Policy
on alleviating poverty and underdevelopment. Includes project design and development planning activities.

UG 466 Nonprofit Administration 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 Administration 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 468 Public Policy Cycle 3 cr.
Offered intermittently. Follows specific policy problem through each stage of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.

UG 471 American Constitutional Law 3 cr.
Offered autumn. Prereq., junior standing or consent of instr. Survey of U.S. Supreme Court’s interpretation of the U.S. Constitution’s provisions on separation of powers, federalism, civil rights, and civil liberties.

UG 472 Civil Rights Seminar 3 cr.
Offered spring. Prereq., PSC 471 or consent of instr. Intensive analysis, discussion, and writing about key U.S. Supreme Court constitutional cases on expression, religion, privacy, criminal justice, and discrimination.

UG 475 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 481 Special Topics: Comparative Politics Variable cr.
(R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.

UG 482 Special Topics: International Relations Variable cr.
(R-9) Offered intermittently. Experimental or one-time offerings in the subfield of international relations.

UG 483 Special Topics: American Government Variable cr.
(R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.

UG 484 Special Topics: Political Theory Variable cr.
(R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.

UG 485 Special Topics: Public Administration or Policy Variable cr.
(R-9) Offered intermittently. Experimental or one-time offerings in the subfield of public administration or policy.

U 493 Omnibus Variable cr. (R-15) Offered every term. Prereq., consent of instr. Independent work 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.

U 498 Internship 1-6 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 credit/no credit only. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

G 501 Public Administration 3 cr.
Offered autumn. Advanced analysis of processes of public management; examination of public administrators’ involvement in policy making.

G 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.

G 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.

G 504 Organization Theory 3 cr. Offered spring. Concepts and theories relevant to the administration of complex organizations, including administrative structure, behavior, process and functions.

G 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.

G 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.

G 521 Globalization 3 cr. Offered spring. Prereq., senior or graduate standing or consent of instr. Critical examination of the politics of capitalism and democracy in Latin America from a variety of perspectives. Reading and discussion of key texts. Students present research that engages theoretical themes in contexts relative to their graduate work.


G 523 Administrative Law 3 cr. Offered autumn. Legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.

G 524 Management Skills 3 cr. Offered spring. Focus on developing the skills required of managers in nonprofit and government organizations, such as competency in self-assessment, oral and written presentations, managing stress, communicating supportively, motivating, managing conflict, empowering and delegating, succeeding in multicultural contexts, and participating in interviews.

G 525 Strategic Planning and Leadership 3 cr. Focus on the means by which public and nonprofit agencies can carry out their missions effectively.

G 526 Issues in State Government 3 cr. Examination of the evolution and development of state governments since the founding period by focusing on the basic political institutions and a broad range of public policy issues that affect governing in the states.

G 527 Performance Measurement 3 cr. Offered intermittently. Focus on the process by which organizations routinely and systematically gather data to assess progress in achieving their goals.

G 530 International Relations 3 cr. Offered autumn. Prereq., consent of instr. Concentrated reading and examination of selected subject areas in the field of international relations.


G 550 Political Theory 3 cr. Offered spring. Prereq., consent of instr. Concentrated reading and examination of selected subject areas in the field of political theory.

G 580 MA Research Design 1 cr. Selection of topic and development of research design for MA thesis.

G 594 Seminar Variable cr. (R-9) Offered intermittently. Topic varies.

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 every term. Prereq., consent of instr.

G 597 Applied Research Project 1-4 cr. (R-4) Offered every term. Prereq., consent of instr. Offered credit/no credit only.

G 598 Internship Variable cr. (R-6) Offered every term. Prereq., consent of instr. Offered credit/no credit only.

G 599 Thesis Variable cr. (R-6) Offered every term.

**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 (Chair
Jonathan R. Tompkins, Ph.D., University of Washington, 1981

**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
Christopher P. Muste, Ph.D., University of California, Berkeley, 2001

**Emeritus Professor**

Forest L. Grieves, Ph.D., University of Arizona, 1967

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**Pre-Engineering**

**Eiji 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>COMM 111A Intro to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111S or 1125 Micro/Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 152-153 Calculus I, II</td>
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**Second Year**

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<thead>
<tr>
<th>Course</th>
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<tr>
<td>PHYS 221N-222N Fundamentals of Physics</td>
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<tr>
<td>PHYS 195 Intro to Engineering</td>
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**Third Year**

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<th>Course</th>
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<tr>
<td>CHEM 161N-162N College</td>
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</tr>
<tr>
<td>Chemistry and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>MATH 251 Calculus III</td>
<td>3</td>
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<tr>
<td>MATH 311 Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 295 Engineering Statics</td>
<td>4</td>
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<tr>
<td>PHYS 321 Electronics for Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 301 Vector Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>
Pre-Law

David Sherman (Associate 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 in preparation for the LSAT examination, and support in admission to law school are the aims of each member of the committee.

Pre-Nursing

Pre-Nursing Advising Program, Lommasson Center, Room 269

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 15 credits of sophomore level courses in Bozeman. In addition, these 15 credits of sophomore level nursing courses are currently offered through a limited offer on one of MSU's "Upper Division" campuses located at Billings, Great Falls, Kalispell, 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 not they have been admitted to MSU.

Depending upon the specific placement, students can complete the entire nursing program in Missoula. It is highly competitive to be placed into the entire program available on MSU's Upper Division campus in Missoula.

A grade of "C" (2.00) or better is required in the following specific courses for admission to clinical nursing. MSU's College of Nursing accepts no less than a grade of "C" (2.00) in the following courses. An applicant's cumulative GPA is based on the average of only those credits received in the above listed prerequisite courses at the time of application. Admission is based strictly on grade prioritization. There is a competitive component to a successful application. At a minimum, a 2.50 cumulative GPA is required. MSU general education requirements 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. The following courses may not be repeated more than once regardless of where taken.

Pre-Law Advising Committee

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)
David Sherman (Associate Professor, Philosophy, Coordinator)
Jon Tompkins (Professor, Political Science)

Suggested Course of Study

<table>
<thead>
<tr>
<th>First Year</th>
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<tbody>
<tr>
<td>BIOL 110N Principles of Biology (prereq. for BIOL 312), BIOL 112 Human Form and Function</td>
<td>3</td>
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<tr>
<td>BIOL 106N Elementary Medical Microbiology</td>
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<td>3</td>
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<tr>
<td>CHEM 151N-152N General and Inorganic Chemistry/Organic and Biochemistry</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 154N Organic and Biochemistry Laboratory</td>
<td>-</td>
<td>2</td>
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<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>-</td>
<td>3</td>
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<tr>
<td>ENEX 101 English Composition</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>MATH 117 Linear Algebra and Probability (Prereq. to MATH 241)</td>
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<td>3</td>
</tr>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>-</td>
<td>4</td>
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<tr>
<td>SOC 110S Principles of Sociology</td>
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<tr>
<th>Second Year</th>
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<tbody>
<tr>
<td>BIOL 312-313 Anatomy and Physiology I &amp; II</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>HHP 236 Basic Nutrition</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 240S Child and Adolescent Development</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 245 Adult Development and Aging</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
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<td>6</td>
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</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 of science 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 baccalaureate degree in nursing (BSN) 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.

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 the Lommasson Center 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 120 Introduction to Psychological Research Methods
3) PSYC 220 Psychological Statistics
4) At least two of the following:
   -PSYC 260S Fundamentals of Learning
   -PSYC 265S Cognition
   -PSYC 270N Fundamentals of Biological Psychology
5) 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

6) At least one of the following:
   -MATH 117 Probability, Linear Mathematics
   -MATH 150 Applied Calculus
   -MATH 152 Calculus I

7) 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 120 Introduction to Psychological Research Methods
3) PSYC 220 Psychological Statistics
4) PSYC 320 Advanced Psychological Research Methods
5) PSYC 297 Supervised Research (minimum of 2 credits)
6) At least two of the following:
   -PSYC 260S Fundamentals of Learning
   -PSYC 265S Cognition
   -PSYC 270N Fundamentals of Biological Psychology

7) 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

8) 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

9) 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

10) At least one of the following:
    -MATH 117 Probability, Linear Mathematics
    -MATH 152 Calculus I

Teacher Preparation in Psychology

Students who want to be licensed to teach psychology at the high school level must complete the BA degree requirements in psychology (general option). They also must complete a teaching minor in psychology. See the Department of Curriculum and Instruction for information about admission to the Teacher Education Program and completion of these licensure programs.

Suggested Course of Study

<table>
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<tr>
<th>First Year</th>
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<tbody>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
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<td>-</td>
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<tr>
<td>PSYC 110 Careers in Psychology</td>
<td>-</td>
<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>3</td>
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</table>
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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 Psychological Statistics 3 cr. Offered every term. Prereq., PSYC 100S, 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 268S 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 Internship 1-6 cr. (R-6) Offered every term. Prereq., consent of depart. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 intermittently. 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 337 Principles of Cognitive Behavior Modification 3 cr.

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

Four General Education courses ................................ 6 6
Two elective courses ............................................ 2 3
Total ........................................................................ 16-17

Second Year
PSYC 220 Psychological Statistics . . . . . . . . . . . . . . . . . . . . . . . . 3 -
Three other 200-level psychology courses ................. 3 6
Four General Education courses ................................. 6 6
Two elective courses ............................................ 3 3
Total ........................................................................ 15 15

Third Year
PSYC courses ...................................................... 3 6
PSYC 297 Supervised Research ................................ 2
PSYC 320 Advanced Psychological Research .......................... -
Methods (upper-division writing) ................................ 3 -
Electives and General Education ................................ 9 7
Total ........................................................................ 15 15

Fourth Year
PSYC courses ...................................................... 6 -
Electives ................................................................. 6 15-16
Total ........................................................................ 12 15-16

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. Credits beyond this maximum do not count toward a degree.

Psychology (PSYC)

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 PSY 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 113 Intergroup Dialogue 1 cr. Offered autumn. Reflective dialogue about issues of identity, diversity, and social justice.

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.
Offered intermittently. Prereq., PSYC 100S, 260S. Study of basic principles, assumptions, methodology and applications of behavior modification. Discussion of current literature relevant to behavioral assessment and treatment of major psychological disorders.

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 interaction.

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 352 Multicultural Psychology 3 cr. Offered autumn even-numbered years. Current theories and research on culture, race, and ethnicity, and how the sociocultural context influences psychological processes.

U 371 Fundamentals of Human Neuropsychology 3 cr.
Offered spring. Prereq., PSYC 270. Study of the organization of the nervous system, functional neuroanatomy, neuropathology, neurological disorders, behavioral neurology, and clinical neuropsychology.

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. Prereq., PSYC 100S; recommended prereq., 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 1-3 cr. (R-3) Offered every term. Prereq., 12 credits in psychology including PSYC 297 and consent of instr.

U 398 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 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.

U 485 Counseling Theories in Context 3 cr. Offered autumn. Prereq., PSYC 100. Same as COUN 485 and SW 485. This course introduces students to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies and diversity issues.

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. Exploration 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 520 Advanced Psychological Statistics I 3 cr. Offered autumn. Prereq., undergraduate statistics and consent of instr. Introduction to descriptive and inferential statistics, probability distributions, null hypothesis significance testing, one and two sample techniques, analysis of variance and the general linear model.

G 521 Advanced Psychological Statistics II 4 cr. Offered spring. Prereq., PSYC 520 or consent of instr. Multiple comparisons among means, factorial ANOVA, random effects and mixed models, correlation, simple and multiple regression, analysis of covariance.


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 524 Tests and Measurements 3 cr. Offered autumn. Prereq., graduate standing in psychology or education. Introduction to measurement emphasizing correspondence between research and practice. Provides a theoretical and practical basis for evaluating and using measurement data.


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 Clinical and Diagnostic Interviewing and 3 cr. Offered autumn. Prereq., graduate standing in clinical psychology, school psychology, or counseling. Microcounseling
skills development through interactive practice and feedback.

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 Exceptionalities 3 cr. Offered spring. Prereq., graduate standing in psychology or consent of instr. Advanced study of the characteristics, etiology, assessment, and treatment of the emotional, social, and intellectual problems covering the span from infancy through adolescence. DSM and Education Code criteria will be compared.

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 I-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 even-numbered years. Prereq., undergraduate 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 issues and 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 580 Principles and Practices of Professional School Psychology 3 cr. Offered autumn. Prereq., graduate standing in school psychology. The theory, role, and function of school psychology as a profession; includes historical precursors and fits with current systems of psychology.

G 582 Behavioral Assessment and Intervention 4 cr. Offered autumn even-numbered years. Prereq., graduate standing in psychology or consent of instr. Introduces theoretical and practical applications of behavioral assessment and intervention. Students develop skills using behavioral observation, sampling and intervention design/implementation through supervised experience in applied settings.

G 583 Educational Assessment and Intervention 4 cr. Offered spring. Prereq., graduate standing in psychology or education. Develops educational assessment and intervention skills using problem-solving strategies to make educational decisions. Students develop assessment and intervention design/implementation through supervised experience in applied settings.

G 584 Group and Crisis Intervention 3 cr. Offered spring even-numbered years. Prereq., graduate standing in psychology. The fundamental principles and evidence-based best practice in addressing child/adolescent mental health issues with implementation of group and/or crisis intervention.

G 587 School Psychology Methods 3 cr. (R-9) Offered every term. Prereq., graduate standing in school psychology and consent of instr. Applied school psychology work in a supervised setting.

G 588 School Psychology Internship Variable cr. (R-12) Offered intermittently. 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-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 spring even-numbered years. 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 autumn. 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.

G 631 Interventions 3 cr. (R-12) Offered every term. Prereq., graduate standing in the clinical psychology program and consent of instr. Review of clinical research and methodology. Specific treatment interventions are explored for the practitioner and also may serve as a valuable base for engaging in psychological consultation. Each offering will have a unique title.

G 632 Current Clinical Topics 3 cr. (R-12) Offered intermittently. Prereq., graduate standing in psychology and consent of instr. Current topics in clinical psychology with reviews of theory, research, and methodology. Each offering will have a unique title.

G 634 Advanced Applied Clinical Methodology I-4 cr. (R-6) Offered every term. Prereq., PSYC 534 and consent of instr. Advanced clinical work in a supervised setting.

G 638 Clinical Psychology Internship 1-3 cr. (R-6) Offered every term. Prereq., proficiency in clinical techniques. Clinical internship offered by the psychology staff of a hospital, clinic or other approved agency in coordination with The University of Montana Clinical Psychology Program.

G 649 Seminar in Developmental Psychology 1-3 cr. (R-12) Offered intermittently. Prereq., consent of instr. Advanced treatment of specialized research topics in developmental psychology.
G 678 Seminar in Physiological Psychology 1-3 cr. (R-12)
Offered spring even-numbered years. Prereq., consent of instr.
Advanced treatment of specialized research topics in physiological psychology.

G 679 Seminar in Comparative Psychology 1-3 cr. (R-12)
Offered intermittently. Prereq., consent of instr. Advanced treatment of specialized research topics in comparative psychology.

G 680 Consultation 3-4 cr. Offered spring even-numbered years. Prereq., graduate standing in school psychology. Theoretical background and case conceptualization in academic and behavioral consultation. Doctoral level also includes a supervised direct experiencing in applied settings.

G 681 Positive Behavior Supports and Ecological Bases of Behavior 3 cr. Offered spring odd-numbered years. Prereq., graduate standing in psychology or education. Examines ecological influences on individual behavior as part of assessment and intervention within this context; describes the features of positive behavior support.

G 683 Current Topics in School Psychology 1-3 cr. Offered intermittently. Prereq., graduate standing and consent of instructor. Current topics in school psychology. Each offering will have a unique title.

G 694 Seminar Variable cr. (R-12) Offered intermittently.

G 697 Advanced Research Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Independent research projects, other than thesis or dissertation.


Faculty

Professors
Nabil F. Haddad, Ph.D., University of Oklahoma, 1976 (Chair)
Lynne S. Koester, Ph.D., University of Wisconsin, Madison, 1976
David Schulenburg, Ph.D., University of California, Berkeley, 1981
Thomas Seekins, Ph.D., University of Kansas, 1983
Paul S. Silverman, Ph.D., University of Georgia, 1977
Richard Van den Pol, Ph.D., Western Michigan University, 1981
Arlene Walker-Andrews, Ph.D., Cornell University, 1980 (Associate Provost)

Associate Professors
Ann Cook, Ph.D., The University of Montana, 2001 (Research)
Christine Fiore, Ph.D., University of Rhode Island, 1990
Stuart Hall, Ph.D., University of Texas at Austin, 1989
Helena Hoas, Ph.D., Umeå University, Sweden, 1987 (Research)
Wendy E. Shields, Ph.D., State University of New York at Buffalo, 1999
Allen Szalda-Petre, Ph.D., The University of Montana, 1990
Kimberly A. Wallace, Ph.D., University of Notre Dame, 1999
Jennifer Waltz, Ph.D., University of Washington, 1993

Assistant Professors
Margaret E. Beebe-Frankenberger, Ph.D., University of California, Riverside, 2000
Duncan G. Campbell, Ph.D., Washington State University, 2003
Bryan Cochran, Ph.D., University of Washington, 2003
Lucian G. Conway III, Ph.D., University of British Columbia, 2001
Daniel J. Denis, Ph.D., York University, 2004
Kari Harris, Ph.D., University of Kansas, 1998 (Research)
Greg R. Machek, Ph.D., Indiana University, 2004
Susan Morrison, Ed.S., University of Montana 1995 (Research)
Jason M. Nelson, Ph.D., Indiana University, 2005
Gyda I. Swaney, Ph.D., University of Montana, 1997

Adjunct Faculty
Cheryl Van Denburg, Ph.D., The University of Montana, 1993

Emeritus Professors
Charles K. Allen, Ph.D., Ohio State University, 1963
Laurence H. Berger, Ph.D., University of Washington, 1969
George C. Camp, Ph.D., University of Illinois, 1971
Frances A. Hill, Ph.D., Ohio State University, 1965
John R. Means, Ph.D., University of Colorado, 1965
David A. Strobel, Ph.D., The University of Montana, 1972
James A. Walsh, Ph.D., University of Washington, 1963
Herman A. Walters, Ph.D., Pennsylvania State University, 1962
John Watkins, Ph.D., Columbia University, 1947
Janet P. Wollersheim, Ph.D., University of Illinois, 1968

Religious Studies

Paul A. Dietrich (Professor of Liberal Studies), Director

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 several sciences.

In course offerings, two emphases prevail: first, the scholarly analysis and transmission of the literature and forms of the world's religions; second, the sensitization of the student to the value of religious studies for appreciating his/her cultural and social existence. Thus, courses are designed to illuminate religious traditions in historical depth as they inform modern cultures generally, and the individual within American cultural situations in particular.

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, UC = 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. Credits beyond this maximum do not count toward a degree.

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 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 252L Medieval Allegory 3 cr. Offered alternate years. Study of creative allegories of the spiritual quest or journey and critical interpretative allegories of sacred texts. Typical authors include Gregory of Nyssa, Dante, the Pearl poet, Farid ud-Din Attar.

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 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 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 literature and interpretation of mysticism in the major religious traditions. Each offering will focus on a specific tradition or period.

UG 381E 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 faculy supervision.

Faculty

Professors
Paul A. Dietrich, Ph.D., University of Chicago, 1981 (Director)
Alan Sponberg, Ph.D., University of British Columbia, 1980

Adjunct Faculty
Thomas R. Lee, Ph.D., University of California, 1979

Related Courses
Following is a list of possible course selections for the minor in Russian Studies. Students are required 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.

Economics
374 Comparative Economic Systems 3 cr.

Geography
351 Geography of a Selected Region 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 1881 3 cr.

College of Arts and Sciences - Russian Studies - 163

Ona Renner-Fahey (Assistant Professor of Modern and Classical Languages and Literatures), and Robert H. Greene (Assistant Professor of History), Advisors

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.

Requirements for a Minor

The following requirements must be successfully completed to obtain a minor in Russian studies:

1. Twelve credits of upper-division 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, political science.

2. Second-year proficiency in the Russian language.
Science

David B. Friend, (Associate 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. Credits beyond this maximum do not count toward a degree.

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 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 225N 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 chemical and physical science for prospective elementary school teachers and the non-scientist. A two-hour laboratory session is required each week.

U 226N 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.

U 296 Independent Study 1-9 cr. (R-9) Offered intermittently. 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 Internship Variable cr. (R-6) Offered intermittently. See SCI 198. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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

James W. Burfeind, Chair

"Sociology is the study of social life, social change, and the social causes and consequences of human behavior. Sociologists investigate the structure of groups, organizations, and societies, and how people interact within these contexts. Since human behavior is shaped by social factors, the subject matter of sociology ranges from the intimate family to the hostile mob; from organized crime..."
to religious cults; from the divisions of race, gender and social class to the shared beliefs of a common culture (American Sociological Association 2002:1). The Sociology faculty at UM bring diverse theoretical perspectives to their courses and use a wide array of methodological strategies in their research and teaching. Their interests range from social issues facing our local community and the Northern Rocky Mountain region, to national and global concerns. Faculty research addressed both theoretical issues, such as the causes of criminal behavior, and practical matters, such as the effectiveness of prison rehabilitation programs or the impact of legislation on family policy and poverty programs.

In addition to a general sociology major, students may choose one of three options for structuring their course work. The general Sociology major provides a broad foundation in sociological theory and research, together with exposure to a variety of courses in the main substantive areas of the discipline. Students interested in crime and criminal justice can choose an option in Criminology, while students interested in rural and environmental issues can pursue an option in Rural and Environmental Change. These options allow students to concentrate their studies in a particular area of interest while still acquiring a solid foundation in the discipline of Sociology.

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 these 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 course work. 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 438, 441, 460 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 330—Juvenile Delinquency
- 270—Introduction to Rural and Environmental Change
- 275S—Gender and Society
- 300—Sociology of the Family
- 306—Sociology of Work
- 308—Sociology of Education
- 320—Complex Organizations
- 325—Social Stratification
- 340—The Community
- 342—Urban/Metropolitan Sociology
- 346—Rural Sociology
- 350S—Social Psychology
- 355—Population Problems
- 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 sociology 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 Major:

Students whose primary interest is in a general sociology major are urged to develop a plan of study with their advisor; they must take three electives in addition to the core courses and major content requirements listed above. Any sociology course, including courses from any of the three options may be included in your study plan. The general sociology major prepares students for positions with a bachelor's degree in one of the social science disciplines, including employment in a variety of government and private-sector agencies, or for a graduate program in sociology. It also provides valuable preparation for related fields such as law, social work, education, counseling, politics, and public administration.

Criminology Option:

Criminology has been an area of study within sociology since the inception of the discipline at the turn of the twentieth century. Contemporary criminology examines the making of laws, the nature and extent of crime, the causes of crime, and society's efforts to control crime through the juvenile and criminal justice systems. 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 opportunities for practical experience in juvenile and criminal justice systems 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 330—Juvenile Delinquency
- 235—Criminal Justice System
- and any three of the following courses:
- 332—Sociology of Law Enforcement
- 333—Criminal Adjudication
- 334—Sociology of Corrections
- 335—Juvenile Justice System
- 423—Addiction Studies
- 435—Sociology of Law
- 438—Seminar in Crime and Deviance
- 490—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:

- 270—Introduction to Rural and Environmental Change
- 460—Capstone: Rural and Environmental Change

and any three of the following courses:

- 322—Sociology of Poverty
- 340—The Community
- 346—Rural Sociology
- 355—Population Problems
- 370S—Social Change and Global Development
- 470—Society and Environment
- 490—Internship

**Teacher Preparation in Sociology**

Students who want to be licensed to teach sociology at the high school level must complete the BA degree requirements in sociology (general sociology, no option required). They also must complete a teaching minor in a second field of their choice and the professional licensure program in the School of Education. Students may also earn a teaching minor in sociology. See the Department of Curriculum & Instruction for information about admission to the Teacher Education Program and completion of these licensure programs.

**Suggested Course of Study**

**General Sociology Majors:**

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<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>First Year</td>
<td>SOC 110S Principles of Sociology</td>
<td>3</td>
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<tr>
<td></td>
<td>ENEX 101 Composition</td>
<td>3</td>
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<tr>
<td></td>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
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<td></td>
<td>Lower-division Writing course</td>
<td>3</td>
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<td>Electives and General Education</td>
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<td>Second Year</td>
<td>CS 171 Communicating Via Computers or 172</td>
<td>3</td>
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<td>SOC 202 Social Statistics</td>
<td>3</td>
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<td>SOC 230 Criminology, SOC 270 Introduction to Rural and Environmental Change, or SOC 220 Race, Gender &amp; Class</td>
<td>3</td>
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<td>SOC 235 Criminal Justice System or elective</td>
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<td></td>
<td>Sociology major content courses</td>
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<td>General Education</td>
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<td>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.</td>
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<tr>
<td>Third Year</td>
<td>SOC 201 Social Science Methods</td>
<td>3</td>
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<td></td>
<td>SOC 455 Classical Social Theory</td>
<td>3</td>
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<td></td>
<td>Upper-division writing course</td>
<td>3</td>
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<td></td>
<td>Option courses (Crim or Rural) or electives</td>
<td>9</td>
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<tr>
<td>Fourth Year</td>
<td>SOC 460 Capstone in Rural and Environmental Change (Rural option)</td>
<td>3</td>
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<tr>
<td></td>
<td>Option courses (Crim or Rural) or electives</td>
<td>15</td>
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<td></td>
<td>Students choosing an option in criminology are required to complete the core in their option prior to taking the criminology option elective courses. Students choosing the rural and environmental change option should take SOC 270 first and complete at least two option electives prior to taking SOC 460.</td>
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</table>

**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**

\[ U = \text{for undergraduate credit only, } \text{UG = for undergraduate or graduate credit, } \text{G = for graduate credit. } \text{R after the credit indicates the course may be repeated for credit to the maximum indicated after the R.} \text{Credits beyond this maximum do not count toward a degree.} \]

**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 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 212H Southeast Asian Culture and Civilization 3 cr. Offered intermittently. Same as AS and LS 212H. 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 autumn. Same as EVST 225. Exploration of the various ways that communities address their environmental concerns. Introduction to relevant social science concepts.

U 230H 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.
UG 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.

UG 306 Sociology of Work 3 cr. Offered intermittently. Prereq., SOC 110S. An introduction to contemporary sociological debates on work including overwork, working poor, housework, globalization, mechanization, routinization, surveillance, and unions. Special focus on gender and class impacts on working life.

UG 308 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.

UG 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.

UG 320 Complex Organizations 3 cr. Offered autumn. Prereq., SOC 110S. The structure and operation of complex organizations and bureaucracies such as schools, government agencies, small businesses and multi-national corporations.

UG 322 Sociology of Poverty 3 cr. Offered autumn. Prereq., SOC 110S. An examination of the roots, prevalence and social characteristics of the poor. Analysis of policies intended to end poverty.

UG 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.

UG 330 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 330. 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 330. 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 330. 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 220S or 330. 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 delinquency.

UG 340 The Community 3 cr. Offered autumn. 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.

UG 342 Urban/Metropolitan Sociology 3 cr. Offered intermittently. 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.

UG 346 Rural Sociology 3 cr. Offered autumn. 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.

UG 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.

UG 355 Population Problems 3 cr. Offered spring. Prereq., SOC 110S. An introduction to contemporary world population problems including population growth, trafficking, fertility, mortality, population policy, and the relationship between population and environment.

UG 370S Social Change and Global Development 3 cr. Offered autumn 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” has shifted from a process of economic growth and welfare assistance organized nationally to a process of globally organized economic, political and cultural change.

UG 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.

UG 395 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of new courses or one time offerings of current topics.

UG 398 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 Community Forestry and Conservation 3 cr. Offered spring even-numbered years. Same as FOR 424. An overview of agroforestry, community forestry and opportunities and constraints to the use of trees in rural development and protected areas management.

UG 435 Sociology of Law 3 cr. Offered spring even-numbered years. Prereq., SOC 110S and either 230S or 330 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 330. Advanced studies in criminology/deviance theory and research. Emphasis on public policies related to crime. This course will meet the upper-division writing expectation for sociology majors only.

UG 441 Capstone in Inequality & Social Justice 3 cr. Offered autumn. Prereq., SOC 110S, 220S, one other inequality and social justice elective, and consent of instr. Research and writing on Inequality and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets upper-division writing expectation for sociology majors only.

UG 444 Issues in Inequality 3 cr. Offered alternate years. Prereq., SOC 110S and 220S. Analysis of selected topics in inequality and social justice. Possible topics include Native Americans, disabilities, age, sexual orientation, and gender.

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 460 Capstone in Rural and Environmental Change 3 cr. Offered spring. Prereq., SOC 110S, 270 and at least 2 other rural and environmental change electives and consent of instr. Advanced study of theoretical and substantive issues related to rural, environmental, community, and development sociology; includes a substantial student research project. Meets upper-division writing expectation for sociology majors only.

UG 478 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 ideologies; 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 Sociology Internship Variable cr. (R-12) Offered every term. Prereq., SOC 110S, 201 and 202; 2.75 GPA; junior standing and consent of inst. Supervised placement in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.

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., consent of instr. Individual work with a faculty supervisor in an area of special interest. Proposals must be approved by department chair.

G 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 330. Advanced study of the major theories of crime and criminality; includes the theoretical 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 545 Seminar in Inequality and Social Justice 3 cr. Offered spring. Advanced study of variable topics in inequality and social justice held in a small group setting that maximizes opportunities for graduate student research, discussion, and writing.

G 561 Qualitative Methods 3 cr. Offered spring. Prereq., SOC 110S and 201. Introduction to the basic methods used to conduct qualitative studies for advanced undergraduate and graduate students including ethnography, case study, focus group, interview and field observation. Includes hands-on research experience through fieldwork projects, data coding and analysis, and research ethics.

G 562 Quantitative Methods 3 cr. Offered autumn. 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.

G 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 autumn. 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 590 Sociology 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 criminology, sociology, rural and environmental change and/or inequality and social justice.

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. Student 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 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
Rebecca T. Richards, Ph.D., Utah State University, 1990

Associate Professor
Celia C. Winkler, Ph.D., University of Oregon, 1996

Assistant Professors
Kathy J. Kuipers, Ph.D., Stanford University, 1999
Dusten R. Holist, Ph.D., Washington State University, 2003
Lyn C. Macgregor, Ph.D., University of Wisconsin-Madison, 2005
Sergio Romero, Ph.D., University of Oregon, 2004
Teresa R. Sobieszczczy, Ph.D., Cornell University, 2000
Women's and Gender Studies Program

Ione Crummy and Anya Jabour, Co-Directors

Women’s and Gender Studies, an interdisciplinary program founded in 1990, 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 and Gender Studies encourages students to think critically and to envision justice for all peoples.

The Women’s and Gender Studies program is administered by the director, with assistance from the program coordinator, in consultation with the Women’s and Gender 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 and Gender Studies in their studies in two ways. They can major in Liberal Studies with an option in Women’s and Gender 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 and Gender 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 and Gender Studies directors, who will explain option or minor requirements and supervise their program.

Special Degree Requirements

For the Women’s and Gender 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 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 either focus or content courses. Each semester a list of these courses is published at pre-registration by the Women’s and Gender Studies office, 1A 138A, (406) 243-2584. Typical choices are listed below, but may vary from year to year. WS 398 (internships) may be applied toward these credits.

Group I: Examples of Focus Courses

ANTH 201 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/WS 370H Women in America: to the Civil War
HIST/WS 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: Examples of Content Courses

ANTH 329 Social Change in Non-Western Societies
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 Critiques
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 4205 Child Abuse and Child Welfare
SOC 322 Sociology of Poverty
SOC 355 Population and Human Ecology
SOC 370S Social Change and Global Development
SOC/FORE 424 Social Forestry

*These are generic courses. The specific course focus must be on women, as listed here. Check with the Women’s and Gender Studies directors before enrolling.

Other courses not listed here may be applied toward the option or the minor if approved by the Women’s and Gender Studies directors.

Requirements for a Minor

The Women’s and Gender Studies minor is available to students in all majors. It consists of 19 credits. Students must complete...
Courses

Women’s and Gender 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 263S Introduction to Women’s and Gender Studies 3 cr. Offered autumn. Breadth overview of gender and women’s issues from a social science perspective. Relevant topics related to the sociological and psychological aspects of gender across culture are explored, including masculinity, femininity, violence, reproductive health, cultural diversity in the expression of gender, issues in sexual orientation, and media contributions to these issues.

U 275S Gender and Society 3 cr. Offered annually. 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 relationships, 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 intermittently. Same as MCLG and LS 320. Examination of varied sources from Ancient Greece, the Hellenistic World, and republicans 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 intermittently. 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 intermittently. Prereq., SW 100S or consent of instr. Same as SW 324. Exploration of the relationship between gender ideologies and the development of social welfare policies. Examination of the 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 even-numbered years. Same as ANTH 327. Prereq., ANTH 201 or consent of instructor. 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.

UG 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 363 Theories and Methods of Feminist Inquiry 3 cr. Offered spring. In-depth exposure to feminist views and critique of the ethics and methods of scientific, social, and literary inquiry. Includes exposure to primary sources and current societal and global issues and movements, research finding, and literature exemplifying these methods of inquiry and the gendered dimensions of such inquiry.

UG 370H Women in America: to the Civil War 3 cr. Offered autumn. Same as HIST 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 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 intermittently. 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 Internship Variable cr. (R-6) 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 493 Omnibus Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Independent work under University omnibus option. See index.

U 494 Women’s and Gender Studies Capstone 3 cr. Offered spring. Prereq., WS 119H, WS 263S, WS 275S. Capstone course for the Women’s and Gender Studies minor.

U 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 Variable cr. (R-9) Offered
intermittently.

U 497 Research Variable cr. (R-6) Offered intermittently.

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 1-6 cr. (R-6) Offered intermittently. Prereq., consent of instr.

Women's and Gender Studies Steering Committee/Faculty

Professors

Betsy Bach, Ph.D., University of Washington (Communication Studies)
Casey Charles, J.D., Hastings College of Law, 1978; Ph.D. SUNY Buffalo, 1992 (English)
Janet L. Finn, Ph.D., University of Michigan, 1995 (Social Work and Anthropology)
Linda Rutland Gillison, Ph.D., University of Minnesota, 1975 (Classics and Liberal Studies)
Sara Hayden, Ph.D., University of Minnesota, 1994 (Communication Studies)
Anya Jabour, Ph.D., Rice University, 1995 (History)
Rita Sommers-Flanagan, Ph.D., The University of Montana, 1989 (Psychology)
Ruth Vanita, Ph.D., Delhi University, 1992 (Liberal Studies)
G. G. Weix, Ph.D., Cornell University, 1990 (Anthropology)

Associate Professors

Karen Ruth Adams, Ph.D., University of California-Berkeley, 2000 (Political Science)
Hiltrudis Arens, Ph.D., University of Maryland, 1997 (German)
Jill Bergman, Ph.D., University of Illinois, Urbana, 1999 (English)
Ione Crummy, Ph.D., Stanford University, 1992 (French)

Christine Fiore, Ph.D., University of Rhode Island, 1990 (Psychology)
Ramona Grey, Ph.D., University of California, Riverside, 1991 (Political Science)
Sarah Halvorson, Ph.D., University of Colorado-Boulder, 2000 (Geography)
Kari Harris, Ph.D., University of Kansas, 1998 (Research, Psychology and Pharmacy)
Maxine Jacobson, Ph.D., University of Utah, 1997 (Social Work)
Kathleen Kane, Ph.D., University of Texas, 1997 (English)
Kimber Haddix McKay, Ph.D., University of California-Davis, 1997 (Anthropology)
Jennifer Waltz, University of Washington, 1993 (Psychology)
Celia Winkler, Ph.D., University of Oregon, 1996 (Sociology)
Stephen Yoshimura, Ph.D., Arizona State University, 2001 (Communication Studies)

Assistant Professors

Heather Bruce, Ph.D., University of Utah, 1997 (English)
Bryan Cochran, Ph.D., University of Washington, 2003 (Psychology)
Jennifer Considine, Ph.D., Texas A&M, 2006 (Communication Studies)
Kelli Cummings, Ph.D., University of Oregon, 2004 (Psychology)
Lynn Itagaki, Ph.D., UCLA, 2005 (English)
Kathy Kuipers, Ph.D., Stanford University, 1999 (Sociology)
Jody Pavilack, Ph.D., Duke University, 2003 (History)
Kathleen Ryan, Ph.D., University of North Carolina-Greensboro, 2001, (English)
Teresa Sobieszczyk, Ph.D., Cornell University, 2000 (Sociology)
Christina Yoshimura, Ph.D., Arizona State University, 2004 (Communication Studies)
College of Forestry and Conservation
College of Forestry and Conservation

Perry J. Brown, Dean
James 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 general preparation. 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.

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, WIBIO 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 (BRRM)
   - Terrestrial Option in Wildlife Biology (BSWB)
   - Aquatic Option 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, WIBIO 410, WIBIO 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 focuses on producing graduates who manage
forests and grasslands and the multiple products and services coming from them. The degree offers options in Forest Operations and Applied Restoration, Forest Resources Management and Range Resources Management. The Forest Resources Management option is accredited by the Society of American Foresters. Each option is focused on blending natural and management science with issues of policy and social science. Graduates are employed by a variety of public agencies and private companies and non-governmental organizations and many graduates pursue graduate studies.

**Bachelor of Science in Recreation Management**

This degree prepares graduates for professional positions planning, developing, and managing recreation and park resources primarily outside of urban areas. The degree offers options in Recreation Resource Management and Nature-Based Tourism. The Recreation Resources Management degree is accredited by the National Recreation and Parks Association and the American Association for Leisure and Recreation. Given the highly social nature of recreation, parks, and tourism, this degree blends substantive work in both the social and natural sciences to complement a focus on natural resource and tourism management. Most graduates find employment with public agencies or private businesses and many graduates pursue graduate studies.

**Bachelor of Science in Resource Conservation**

This degree provides a broad liberal education with an emphasis on natural resources and environment. The degree offers three options in Conservation, Terrestrial Sciences, and Land and People. The Conservation option allows the student to design a program with guidance by an advisor while the other two options are somewhat more prescriptive. This degree allows students with educational or career objectives not fitting within the professional curricula of the College to develop a program focused on natural resources and environment. Graduates often seek career and graduate school opportunities that combine the environment with another field such as environmental law, business, or education.

**Bachelor of Science in Wild Land Restoration**

This degree provides students with the knowledge and skills needed to apply a broad spectrum of biological, physical, and social sciences to ecological restoration, which is the fastest growing area of focus and employment in natural resource management. Students completing the major in Wild Land Restoration will be qualified to work in a number of fields concentrating on restoration or ecologically-based management of forest, grassland, riverine, and riparian ecosystems in both the private and public sector. Students will be able to choose either the Aquatic or Terrestrial Restoration Ecology options. A minor in Wild Land Restoration is also offered.

**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 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**

**Bachelor of Science in Forestry**

**Forest Operations and Applied Restoration Option**

In addition to special degree requirements listed previously, the students selecting the Forest Operations and Applied Restoration 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 any time, keeping in mind these requirements as well as the University's General Education requirements for graduation.

**First Year Credits**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 151N</td>
<td>General Chemistry</td>
<td>3</td>
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<tr>
<td>ENEX 101</td>
<td>Composition</td>
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<tr>
<td>MATH 121</td>
<td>Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 120N</td>
<td>General Botany (including lab)</td>
<td>3</td>
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<tr>
<td>MATH 150</td>
<td>Applied Calculus</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 121</td>
<td>Fundamentals of Physics I</td>
<td>5</td>
</tr>
<tr>
<td>ECON 111S</td>
<td>Introduction to Microeconomics</td>
<td>3</td>
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<tr>
<td>FOR 180</td>
<td>Careers in Natural Resources</td>
<td>2</td>
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<td>FOR 200</td>
<td>Natural Resources Measurements Camp</td>
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<td>Electives and General Education</td>
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**Second Year**

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<td>FOR 235</td>
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<td>4</td>
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<tr>
<td>FOR 210N</td>
<td>Forest Biometrics</td>
<td>3</td>
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<td>FOR 201N</td>
<td>Introductory Soils</td>
<td>3</td>
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<td>FOR 202</td>
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**Third and Fourth Years**

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<td>FOR 385</td>
<td>Watershed Hydrology</td>
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<td>FOR 340</td>
<td>Harvesting and Products</td>
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<td>FOR 347</td>
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<td>Photogrammetry and Remote Sensing</td>
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<td>FOR 435</td>
<td>Advanced Timber Harvesting and Forest Roads</td>
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<td>FOR 436</td>
<td>Forest Operations Evaluation and Project Planning</td>
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<tr>
<td>FOR 437</td>
<td>Forest Operations and Applied Restoration Capstone</td>
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FORE 455 Riparian Ecology and Management .......... 3  
Electives and General Education 24  
The following courses satisfy the nature and society elective requirement: 
EVST 167H Nature and Society .......... 3  
EVST 225 Community and Environment .......... 3  
EVST 327E Environmental Ethics I .......... 3  
FOR 478 Montana Community Analysis .......... 3  
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 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 any time, keeping in mind these requirements as well as the University's General Education requirements for graduation. 
First Year 
Credits 
BIOL 120N General Botany .......... 3  
CHEM 151N General Chemistry .......... 3  
COMM 111A Introduction to Public Speaking .......... 3  
ECOL 111S Introduction to Microeconomics .......... 3  
ENEX 101 Composition .......... 3  
MATH 121 Pre-Calculus .......... 4  
MATH 150 Applied Calculus .......... 4  
Electives and General Education .......... 8  
Summer 
FOR 200 Natural Resources Measurements Camp .......... 2  
Second Year 
FOR 201 Forest Biometrics .......... 3  
FOR 202 Forest Mensuration .......... 4  
FOR 220 Technical Writing .......... 2  
FOR 210N Introductory Soils .......... 3  
FOR 230 Forest Fire Management .......... 2  
FOR 232 Forest Insects and Diseases .......... 2  
FOR 240 Tree Biology .......... 2  
FOR 241N Dendrology .......... 2  
FOR 275 Wildlife Conservation .......... 2  
RECM 217 Wildland Recreation Management .......... 3  
Electives and General Education .......... 2  
Third and Fourth Years 
FOR 320 Forest and Environmental Economics .......... 3  
FOR 330 Forest Ecology .......... 3  
FOR 340 Harvesting and Products .......... 4  
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Wild Land Restoration

Bachelor of Science in Wild Land Restoration 
In addition to special degree requirements listed previously, the students selecting the Bachelor of Science in Wild Land Restoration 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 any time, keeping in mind these requirements as well as the University's General Education requirements for graduation.
Wild Land Restoration (Aquatic Option)  
First Year 
Credits 
ENEX 101 Composition .......... 3  
BIOL 108N/109N Diversity of Life/Lab .......... 5  
GEOG 100N/101N General Geology/Lab .......... 3  
FOR 347 Multiple Resource Silviculture .......... 3  
FOR 351 Photogrammetry and Remote Sensing .......... 3  
FOR 360 Range Management .......... 3  
FOR 385 Watershed Hydrology .......... 3  
FOR 422 Natural Resource Policy .......... 3  
FOR 441 Timber Management .......... 3  
FOR 480 Project Design and Analysis .......... 3  
FOR 481 Forest Planning .......... 3  
Electives and General Education .......... 26  
Range Resources Management Option  
In addition to special degree requirements listed previously, students selecting 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 any time, keeping in mind these requirements as well as the University's General Education requirements for graduation.  
First Year 
Credits  
BIOL 120N General Botany .......... 3  
CHEM 151N General Chemistry .......... 3  
COMM 111A Introduction to Public Speaking .......... 3  
ECOL 111S Introduction to Microeconomics .......... 3  
ENEX 101 Composition .......... 3  
GEOG 102N Introduction to Physical Geography .......... 3  
MATH 121 Pre-Calculus .......... 4  
MATH 150 Applied Calculus .......... 4  
Electives and General Education .......... 6-12  
Summer 
FOR 200 Natural Resources Measurements Camp .......... 2  
Second Year  
BIOL 350 Rocky Mountain Flora .......... 3  
FOR 201 Forest Biometrics .......... 3  
FOR 210N Introductory Soils .......... 3  
FOR 220 Technical Writing .......... 3  
FOR 230 Forest Fire Management .......... 2  
FOR 275 Wildlife Conservation .......... 2  
Electives and General Education .......... 10-16  
Third and Fourth Years: FOR 320, 330, 351, 360, 361, 362, 385, 410, 455, 460, 461, 462, 463, 480.

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COMM 111A Intro to Public Speaking .......... 3  
CHEM 151N General and Inorganic Chemistry .......... 3  
CHEM 152N Organic and Biological Chemistry .......... 3  
MATH 152 Calculus I .......... 4  
FOR/RECM/WBIO 180 Careers in Natural Resources .......... 2  
FOR 200 Natural Resources Measurements Camp .......... 2  
Electives and General Education .......... 3  
Second Year 
MATH 153 Calculus II .......... 4  
FOR 201 Forest Biometrics or WBIO 240 Intro to Biostatistics or MATH 241 Statistics .......... 3  
FOR 295 Elements of Ecological Restoration .......... 3  
FOR 220 Technical Writing or WBIO 245 Science Writing or ENEX 195 Critical Reading/Critical Writing-Natural Sciences .......... 3  
PHYS 121N Fundamentals of Physics with Calculus ......... 3

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<td>Freshwater Ecology</td>
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<td>FOR 489E</td>
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<td>FOR 422</td>
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<td>GEOS 460</td>
<td>Process Geomorphology</td>
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<td>Forest Ecology or BIOL 340 Ecology</td>
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<td>FOR 385</td>
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<td>WBIO 370</td>
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<td>WBIO 470</td>
<td>Conservation of Wildlife Populations</td>
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<td>MCB 423</td>
<td>Microbial Ecology: Applications</td>
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**Wild Land Restoration Minor**

To earn a minor in Wild Land Restoration, students must fulfill the course requirements listed below (minimum of 18 credits).

- FOR 295 Elements of Ecological Restoration [3]
- FOR 330 Forest Ecology or BIOL 340 Ecology [3]
- FOR 320 Forest Fire Management [3]
- FOR 360 Range Management [3]
- BIOL 350 Rocky Mountain Flora [3]
- FOR 485 Watershed Management [3]
- WBIO 470 Conservation of Wildlife Population or WBIO 370 Wildlife Habitat Conservation [3]

**Courses**

- **U =** for undergraduate credit only, **UG =** for undergraduate or graduate credit, **G =** for graduate credit. **R** indicates the course may be repeated for credit.
- **Undergraduate courses**
  - **ENEX 101 Composition** [3]
  - **ENEX 195 Special Topics Variable cr.** (R-6) Offered intermittently. **U 195 Special Topics Variable cr.** (R-3) Offered every term. **U 196 Independent Study Variable cr.** (R-3) Offered every term. Problems course designed to allow individual research at the undergraduate level.
  - **U 200 Natural Resources Measurements Camp 2 cr.** 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 3 cr. Offered autumn. Prereq., MATH 117 or MATH 121 or equivalent. Applying statistics, hypothesis-testing and modeling to biological problems.
U 202 Forest Mensuration 4 cr. 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 3 cr. Offered autumn and spring. Prereq., CHEM 151N. An introduction to the chemical, physical, biological and morphological properties of soils.
U 220 Technical Writing 2 cr. 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 2 cr. 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 2 cr. Offered spring. Identification, significance of and remedies for insect infestations and infectious and non-infectious diseases of forests and forest products.

U 235 Problem Solving for Forest Operations 4 cr. Offered autumn. Prereq., MATH 150, PHYS 121, GEOS 100N strongly recommended. Introduction to problem solving including the fundamentals of statics and mechanics of materials presented in the context of forest operations.
U 240 Tree Biology 2 cr. Offered autumn. Suggested coreq., FOR 241N. The physical and biological requirements for the growth and development of trees. Discussions of: identification, classification, range, and economic importance of the major tree species of North America.
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 273 Wilderness 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 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors; new courses or one-time offerings of current topics.
U 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-6) 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.

U 311 Field Studies in Ecological Land Human Communities 2-3 cr. (R-12) Offered every term. Prereq., consent of instr. Via extended backcountry travel, experiential examination of the structure and function of the ecosystems occurring within the course area. Also investigates the relationship of those ecosystems with the people that manage, live, and work in the area. Offered by the Wild Rockies Field Institute.
UG 320 Forest and Environmental Economics 3 cr. Offered autumn and spring. Prereq., MATH 150; ECON 111S. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.
UG 330 Forest Ecology 3 cr. Offered autumn and spring. Prereq., BIOL 120N or BIOL 108N, 109N; 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 335 Environmental Entomology 3 cr. Offered autumn. Prereq., BIOL 108 or equivalent. An introduction to the importance of insects in ecosystem function and process, and their use in ecological monitoring as indicators of ecological change, degradation, and the efficacy of ecological restoration efforts. Will also cover effects of climate change and biological invasions in the context of both pest and beneficial insect species.
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 240, 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.

U 361 Range Forage Plants 3 cr. Offered autumn. Prereq., FOR 360 or consent of instr. 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.

U 362 Range Livestock Production 3 cr. Offered spring odd-numbered years. 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.

U 373 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 380S Environmental Conservation 3 cr. Offered autumn. Prereq., junior standing. The interrelationships of resource conservation programs and problems; management and conservation in the context of an expanding economy.

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 topics.

U 396 Independent Study 1-3 cr. (R-10) Offered every term. Prereq., consent of instr. Individual study or research problems.

U 398 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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.

U 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 Community Forestry and Conservation 3 cr. Offered spring. 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 435 Advanced Timber Harvesting and Forest Road 5 cr. Offered autumn. Prereq., FOR 235, 347, 350, 351; Coreq., FOR 436. This course covers the fundamentals of logging feasibility and cost analysis of various timber harvesting systems including the characteristics and performance of ground vehicles, cable and aerial systems; cost factors and cost analysis procedures; safety issues; and environmental impacts of harvesting systems as well as forest road location, surveying, design, construction and maintenance, and management of existing road systems.

UG 436 Forest Operations Evaluation and Project Planning 3 cr. Offered autumn. Prereq., FOR 320. Coreq., FOR 436. This course introduces sensitivity analysis; break-even analysis; risk analysis; multistage sequential analysis; multiattribute analysis; project planning; and contracting.


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 sawmill; 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 spring. 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 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 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 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 475S Sociology of Environment and Development 3 cr. Offered annually. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) vary by different races, classes, genders, cultures and livelihood practices.

UG 476 Managing Recreation Resources in Wilderness 3 cr. Same as RECM 476. Examination of strategies to management recreation in a wilderness setting. Addresses management of visitor use and experiences, measuring and monitoring biophysical and social impacts, effective education and interpretation, and law enforcement.

UG 480 Forest and Rangeland Area Planning and Design 3 cr. Offered autumn. Prereq., senior standing, WIBIO 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 modeling, 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 Internship Variable cr. 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 faculty advisor and Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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.

G 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 SPP 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 changes 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 513 Natural Resource Dispute Resolution 3 cr. Offered spring. Same as LAW 613 and EVST 513. 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 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 demand for, and supply 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 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 culture with 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 570 Political Ecology 3cr. Graduate seminar on key theories, issues and literature in the subfield of Political Ecology, an interdisciplinary environmental social science approach which integrates how political, economic, cultural and ecological processes interact and shape society-nature relations. Case examples are drawn from both the North and South.

G 571 International Conservation and Development 1 cr. (R-2) Year-long course. Students register for one credit autumn semester and one credit spring semester. Final grade assigned at end of the year. Prereq., graduate standing and consent of instr. Critical review of selected international natural resource development, conservation and management approaches and experiences.

G 579 Advanced Natural Resources Conflict Resolution 3 cr. (R-4) Offered autumn. Same as EVST 579 and LAW 679. Prereq., FOR 513 or consent of instr. Current topics in theory and practice. Development and discussion of research topics. Topics vary.

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 current topics.

G 596 Independent Study 1-3 cr. (R-10) Offered every term. Prereq., consent of instr. Individual study or research problems.

G 598 Internship 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 622 Advanced Problems in Environmental Policy 3 cr. Offered Spring even-numbered years. Examines environmental policy problems and contemporary issues in environmental policy, law, and administration. Policy tools, concepts and research resources introduced. Numerous problems, themes, and issues in environmental policy analyzed. Readings-based seminar; students lead most reviews and discussions.

G 697 Graduate Research Variable cr. (R-15) Offered every term. Independent graduate research in forest management, wood science, soils, wildlife management, silviculture, recreation and other topical areas.

G 699 Thesis Variable cr. (R-15) Offered every term.

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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 one 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. Transferences 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
Credits
CHEM 151N General Chemistry ............................................ 3
ECON 111S Intro to Economics ............................................ 3
ENEX 101 Composition ...................................................... 3
FOR 200 Natural Resources Measurements Camp .................. 2
MATH 117 Probability and Linear Mathematics ..................... 3
RECM 110S Introduction to Recreation Management ............. 3
RECM 180 Introduction to Natural Resource Issues ............... 2
SOC 110S Principles of Sociology ....................................... 3
Electives and General Education ....................................... 4-8
Summer
FOR 200 Natural Resources Measurements Camp ................. 2

Second Year
BIOL 108N Diversity of Life .............................................. 3
BIOL 109N Diversity of Life Laboratory .............................. 2
COMM 111A Public Speaking .............................................. 3
FOR 210N Introduction to Soils ........................................... 3
MATH 241 Statistics, FOR 201 Forest Domination, or
SOC 202 Social Statistics ................................................ 3-4
RECM 217 Wildland Recreation Management ....................... 3
RECM 230 Programming in Recreation ................................. 3
One additional communication course (e.g., FOR 220
Technical Writing) ....................................................... 2-3
electives and General Education ....................................... 2-6

Third and Fourth Years
FOR 330 Forest Ecology or 462 Range Ecology ..................... 3
FOR 480 Project Design and Analysis ................................. 3
RECM 370 Conservation of Wilderness, Wild Rivers
and Parks ..................................................................... 3
RECM 380 Recreation Administration and Leadership .......... 3
RECM 450 Preparation for Professional Practice ................. 1
RECM 460 Practicum in Recreation ..................................... 3
RECM 486 Recreation Research and Program Evaluation ....... 3
electives and General Education ....................................... 17-19

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.
CS 172 Introduction to Computer Modeling ......................... 3
PSYC 100S Introduction to Psychology ............................... 4
RECM 461 Managing Recreation Resources and Visitors ...... 3
RECM 473 Forest, Wildland and Protected Area Management .... 3
RECM 483 Commercial Recreation, Marketing and Tourism ... 3
RECM 484 Recreation Management Field Techniques .......... 3
RECM 485 Recreation Planning ........................................... 4

MKTG 362 Consumer Behavior ........................................... 3
RECM 210 Nature-Based Tourism ....................................... 3
RECM 483 Commercial Recreation, Marketing & Tourism .... 3
RECM 451 Tourism and Sustainability ............................... 3

Nature-Based Tourism Option
BADM 201 Financial Accounting ......................................... 3
FON 473 Collaboration in Natural Resource Decisions ............ 3
MKTG 360 Marketing Principles .......................................... 3

Courses
U=for undergraduate credit only, UG= for graduate or
credit, G=for graduate credit. R after the credit
indicates the course may be repeated for credit to maximum
indicated after the R. Credits beyond this maximum do not
count toward a degree.

Recreation Management (RECM)
U 110S Introduction to Recreation Management 3 cr.
Offered autumn and spring. 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.
U 180 Careers in Natural Resources 2 cr.
Offered autumn and spring. Same as FOR 180, WBIO 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 210 Nature-Based Tourism 3 cr. Offered autumn.
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.
U 217 Wildland Recreation Management 3 cr. Offered
autumn and spring. Prereq., RECM 110S 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.
U 230 Programming in Recreation 3 cr. Offered autumn.
Prereq., RECM 110S. Principles of program planning for
organized offerings in recreation. Selection, adaptation and
evaluation of activities.
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 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.
U 371 Wilderness Issues Lecture Series 1 cr. (R-3)
Offered spring. Same as EVST 371. Explores current issues in
wilderness preservation, management and research.
U 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
publications. Coordination with youth serving institutions,
government agencies, and private or commercial organizations.
U 395 Special Topics Variable cr. (R-12) Offered
intermittently. Experimental offerings of visiting professors,
courses, or one-time offerings of current topics.
U 396 Independent Study 1-6 cr. (R-6) Offered every term.
U 398 Internship Variable cr. Offered every term. Prereq.,
consent of instr. Extended classroom experience which
candidates

Conservation should contact their advisors to approve

are discussed. Principles of marketing for the private sector

Linkages between natural resources and the tourism industry

philosophy, and policy leading to consideration of goals,

Bachelor

people for recreation with the impact of recreational

offered autumn. Prereq., RECM 217. Balancing the needs of

interpretation, and law enforcement.

planning framework. Comparison and evaluation of the

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 plan writing, and the characteristics of successful 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 476 Managing Recreation Resources in Wilderness 3 cr. Same as FOR 476. Examination of strategies to management recreation in a wilderness setting. Addresses management of visitor use and experiences, measuring and monitoring biophysical and social impacts, effective education and interpretation, and law enforcement.

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.

U 484 Recreation Management Field Techniques 3 cr. Offered summer. Prereq., FOR 210, 330. Field measurement and management techniques critical in recreation management. Includes measurement of recreation impacts on biophysical and social attributes of recreational settings.


U 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.

U 493 Omnibus Variable cr. (R-10) Offered intermittently. Independent work under the University omnibus option. See index.

U 495 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, new courses or one-time offerings of current topics.

U 496 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of instr. Individual study of research problems.

U 497 Senior Thesis 1-3 cr. (R-3) Offered autumn and spring.

UG 498 Internship Variable cr. Offered autumn and spring. Prereq., consent of instr. Extended classroom learning during placements off campus. Prior approval must be obtained from faculty advisor and Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 500 Recreation Research Methods 3 cr. Offered spring odd-numbered years. Prereq., one course in statistics. Methods used in recreation research.

G 504 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 Internship 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.


Resource Conservation

Bachelor of Science in Resource Conservation

In addition to special degree requirements listed previously, students selecting the Bachelor of Science in Resource Conservation should contact their advisors to approve curriculum. In addition, the student, with advice and consent of his or her advisor from the College of Forestry and Conservation, should design a curriculum addressing their specific needs. Any deviations from the program can be made only with the advice and consent of the student's faculty
advisor.

**Conservation Option**

This program provides students with a foundation in natural resource courses along with courses in the social sciences and liberal arts. It prepares students for specializing in environmental law, business or professional organizations dealing with natural resources.

Example of possible program in the conservation option:

**First Year**

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>BIOL 120N</td>
<td>General Botany</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>COM 111A</td>
<td>Introduction to Public Speaking</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>CHEM 151N</td>
<td>General Chemistry</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>ENEX 101</td>
<td>Composition</td>
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<tr>
<td>2</td>
<td>MATH 121</td>
<td>Precalculus</td>
<td></td>
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<td></td>
<td>Electives and General Education</td>
<td>15-18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>FOR 200</td>
<td>Natural Resources Measurements Camp</td>
<td>2</td>
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**Second Year**

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<thead>
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<th>Credits</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>3</td>
<td>ECON 111S</td>
<td>Introduction to Microeconomics</td>
<td></td>
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<tr>
<td>3</td>
<td>ECON 112S</td>
<td>Introduction to Macroeconomics</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>FOR 210N</td>
<td>Introductory Soils</td>
<td></td>
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<td>2</td>
<td>FOR 220</td>
<td>Technical Writing</td>
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<td></td>
<td>Electives and General Education</td>
<td>16-20</td>
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</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**

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<th>Credits</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>3</td>
<td>ENEX 101</td>
<td>Composition</td>
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<tr>
<td>2</td>
<td>COM 111A</td>
<td>Introduction to Public Speaking</td>
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<tr>
<td>3</td>
<td>CHEM 151N</td>
<td>General Chemistry</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>CHEM 152N-154N</td>
<td>Organic Chemistry</td>
<td></td>
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<tr>
<td>5</td>
<td>BIOL 108N-109N</td>
<td>Diversity of Life</td>
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<tr>
<td>2</td>
<td>GEOS 100N</td>
<td>General Geology or 109N</td>
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<td>2</td>
<td>Environmental Geoscience</td>
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<td>1</td>
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<td>Geology Laboratory</td>
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<td>MATH 121</td>
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**Summer**

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<th>Course Title</th>
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<tr>
<td>2</td>
<td>FOR 200</td>
<td>Natural Resources Measurements Camp</td>
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**Second Year**

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<thead>
<tr>
<th>Credits</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>3</td>
<td>FOR 201</td>
<td>or MATH 241</td>
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<tr>
<td>3</td>
<td>or SOC 202</td>
<td>or PSYC 220</td>
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<td></td>
<td>Statistics</td>
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<tr>
<td>3</td>
<td>FOR 210N</td>
<td>Introductory Soils</td>
<td></td>
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<td>2</td>
<td>FOR 220</td>
<td>Technical Writing</td>
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<tr>
<td>2</td>
<td>FOR 230</td>
<td>Forest Fire Management</td>
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<tr>
<td>2</td>
<td>WBO 225</td>
<td>Wildlife Conservation</td>
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<tr>
<td>2</td>
<td>RECM 217</td>
<td>Wildland Recreation Management</td>
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<td></td>
<td>Electives and General Education</td>
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**Third and Fourth Years**

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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>3</td>
<td>FOR 320</td>
<td>Forest Economics</td>
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<tr>
<td>3</td>
<td>FOR 330</td>
<td>Forest Ecology</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>FOR 347</td>
<td>Multiple Resource Silviculture</td>
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<tr>
<td>3</td>
<td>FOR 360</td>
<td>Range Management</td>
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<tr>
<td>3</td>
<td>FOR 385</td>
<td>Watershed Hydrology</td>
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<tr>
<td></td>
<td>or FOR 455</td>
<td>Riparian Ecology and Management</td>
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<td>Riparian Ecology and Management</td>
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<tr>
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<td>FOR 422</td>
<td>Natural Resource Policy</td>
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<td>3</td>
<td>FOR 424</td>
<td>Community Forestry and Conservation</td>
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<td>3</td>
<td>FOR 480</td>
<td>Project Design and Analysis</td>
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<td>3</td>
<td>FOR 489</td>
<td>Ethics and Management of Public Lands</td>
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<td></td>
<td>Electives and General Education</td>
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</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 upper-division courses in forestry, recreation, or wildlife biology.

**First Year**

<table>
<thead>
<tr>
<th>Credits</th>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>2</td>
<td>ENEX 101</td>
<td>Composition</td>
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<tr>
<td>2</td>
<td>COM 111A</td>
<td>Introduction to Public Speaking</td>
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<td>3</td>
<td>MATH 121</td>
<td>Precalculus</td>
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<td>3</td>
<td>CHEM 151N</td>
<td>General Chemistry</td>
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<td>3</td>
<td>CS 101</td>
<td>Introduction to Programming or CS 172</td>
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<td>GEOS 109N</td>
<td>Environmental Geoscience</td>
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<td>BIOL 121N</td>
<td>Introductory Ecology</td>
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<td>ECON 111S-112S</td>
<td>Micro- and Macro-economics</td>
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**Summer**

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**Second Year**

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<td>or PSYC 220 Statistics</td>
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<td>2</td>
<td>FOR 210N Introductory Soils</td>
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<tr>
<td>2</td>
<td>FOR 220 Technical Writing</td>
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<tr>
<td>2</td>
<td>FOR 230 Forest Fire Management</td>
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<td>2</td>
<td>WBO 225 Wildlife Conservation</td>
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<td>RECM 217 Wildland Recreation Management</td>
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**Third and Fourth Years**

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<td>3</td>
<td>FOR 320 Forest Economics</td>
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<tr>
<td>3</td>
<td>FOR 330 Forest Ecology</td>
<td></td>
<td></td>
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<tr>
<td>3</td>
<td>FOR 347 Multiple Resource Silviculture</td>
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<tr>
<td>3</td>
<td>FOR 360 Range Management</td>
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<td></td>
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<tr>
<td>3</td>
<td>FOR 385 Watershed Hydrology</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>or FOR 455 Riparian Ecology and Management</td>
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<td></td>
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<tr>
<td>3</td>
<td>FOR 422 Natural Resource Policy</td>
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<tr>
<td>3</td>
<td>FOR 424 Community Forestry and Conservation</td>
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<td>3</td>
<td>FOR 480 Project Design and Analysis</td>
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<td>3</td>
<td>FOR 489 Ethics and Management of Public Lands</td>
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<td>Electives and General Education</td>
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</table>
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
(For a list of options, 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:
FOR 347 Multiple Resource Silviculture ........ 3
FOR 360 Range Management .................. 3
And
BIOL 340 Ecology ............................... 3
BIOL 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
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
Electives and General Education .......... 16-22

Aquatic Option
Third Year
BIOL 308 Biology and Management of Fishes .......... 4
BIOL 340 Ecology ............................... 3
BIOL 341 Ecology Lab .......................... 2
BIOL 366 Freshwater Ecology ................. 5
BIOL 400-401 General Parasitology and Laboratory OR
BIOL 406 Insect Behavior and Evolution OR
BIOL 410 Insect Biology ....................... 4
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 .......... 3
BIOL 408 Advanced Fisheries Science ......... 2
FOR 388 Watershed Hydrology ................. 3
FOR 480 Forest/Range Planning and Design .......... 3
And one of the following:
WBIO 410 Wildlife Policy and Biopolitics ............ 3
FOR 422 Natural Resource Policy and Administration .... 3
WBIO 475 Case Histories in Conservation Policy .......... 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 the beginning of the junior year of the wildlife biology program.

Requirements for a Minor
To earn a minor in wildlife biology, the student must successfully complete the following coursework: BIOL 108N, 109N, 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. Credits beyond this maximum do not count toward a degree.

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 (Honors) 3 cr. Offered autumn even-numbered years. Prereq., calculus and consent of instr. Same as BIOL 240. 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.
UG 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.
UG 373 Wildlife Techniques 2 cr. Offered spring. Prereq.,
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 in new 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

Wildlife Biology

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 opt 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.

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.

Credits

Two semesters of:
- FOR 273 Wilderness and Civilization Field Studies ...... 2
- FOR 373 Wilderness and Civilization .................. 3
and at least two courses from
- Section A: Arts and Humanities
  - DRAM 214A Wilderness and Expression .................. 3
  - ENLT 324 Montana Writers .................................. 3
  - EVST 301E Ethics, Beauty and the Environment .......... 3
  - HIST 364E Environmental History ...................... 3
  - LS 302L American Indian Literature ..................... 3
  - NAS 303E Ecological Perspectives in Native American Traditions .................. 3
  - PHIL 327E Environmental Ethics ......................... 3
and at least two courses from
- Section B: Biophysical and Social Sciences
  - ECON 345S Economics of Wildland Preservation .......... 3
  - EVST 101N Environmental Science ...................... 3
  - FOR 271N Wilderness Ecology ........................... 3
  - FOR 304 Conservation of Natural and Human Resources in Montana .................. 3
  - RECM 370S Conservation of Wilderness, Wild Rivers and National Parks ............. 3

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

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 108N</td>
<td>Diversity of Life</td>
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<tr>
<td>BIOL 109N</td>
<td>Diversity of Life Laboratory</td>
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<tr>
<td>CHEM 151N</td>
<td>General and Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 152N</td>
<td>Organic and Biological Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 154N</td>
<td>Organic &amp; Biological Chemistry Laboratory</td>
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Second Year

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<tr>
<td>BIOL 316</td>
<td>Ecology of Wildlife</td>
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<tr>
<td>BIOL 366</td>
<td>Principles of Animal Behavior</td>
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<td>CHEM 155</td>
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Third Year

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<td>BIOL 304</td>
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<td>CHEM 164</td>
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<td>PHIL 327</td>
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Fourth Year

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<td>BIOL 371</td>
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<tr>
<td>BIOL 372</td>
<td>Conservation of Natural and Human Resources</td>
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<td>CHEM 165</td>
<td>Physical Chemistry</td>
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<tr>
<td>PHIL 328</td>
<td>Environmental Ethics</td>
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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 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. Prereq., consent of department. Offered spring.
U 398 Internship Variable 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
U 399 Independent Study 1-6 cr. (R-6) Offered every term. Prereq., consent of department. Offered spring.
G 400 Internation 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 the social context of the issues and applied solutions.
G 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.
G 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 teams efforts.
G 495 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics.
G 496 Independent Study Variable cr. (R-10) Offered every term. Prereq., consent of instr. Original investigations or problems not related to student’s thesis.
G 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.
G 498 Internship 1-6 cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
G 500 Research Design 3 cr. Offered spring odd-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; W BIO 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 B IOL 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. Belsky, Ph.D., Cornell University, 1991
Perry J. Brown, Ph.D., Utah State University, 1971 (Dean)
James A. Burchfield, Ph.D., University of Michigan, 1991 (Associate Dean)
Edwin J. Burke, Ph.D., Colorado State University, 1978
Thomas H. DeLuca, Ph.D., Iowa State University, 1993
Carl Fiedler, Ph.D., University of Minnesota, 1990 (Research)
Wayne A. Freimund, Ph.D., University of Minnesota, 1993 (Chair of Society and Conservation)
L. Scott Mills, Ph.D., University of California, Santa Cruz, 1993
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
Ronald H. Wakimoto, Ph.D., University of California, 1978 (Chair of Ecosystem Conservation and Sciences)

Associate Professors

Paul B. Alaback, Ph.D., Oregon State University, 1980
William T. Borrie, Ph.D., Virginia Polytechnic Institute and State University, 1995
Elizabeth Crone, Ph.D., Duke University, 1995
R. Neil Moisey, Ph.D., The University of Montana, 1997
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

David Affleck, Ph.D., Yale university, 2006
Keith Bosak, Ph.D., University of Georgia (Athens), 2006
Woodam Chung, Ph.D., Oregon State University, 2002
Elizabeth D. Coulter, Ph.D., Oregon State University, 2004
SolomonDobrowski, Ph.D., University of California (Davis), 2005
Lisa A. Eby, Ph.D., Duke University, 2001
John M. Goodburn, Ph.D., University of Wisconsin-Madison, 2004
Mark Hebblewhite, Ph.D., University of Alberta, 2006
Cara Nelson, Ph.D., University of Washington, 2004
Tyron Venn, Ph.D., University of Queensland, 2004
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
Stephen F. McCool, Ph.D., University of Minnesota, 1970
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
Jack Ward Thomas, Ph.D., University of Massachusetts, 1972
Hans R. Zuuring, Ph.D., Iowa State University, 1975 (Chair of Forest Management)
College of Health Professions and Biomedical Sciences
Pharmacist and pass an examination given by the State Board 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 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. 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, 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 industry.

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at least 60 hours of volunteer or paid service in a pharmacy, other health care, 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 Skaggs School of Pharmacy gives all applicants from the Montana University System equal consideration for admission into the professional pharmacy program. There is no restriction on admission of out-of-state students; however, Montana residents are given priority among students with equal qualifications. Students will be notified of their admission status in writing. In the past, student with only international coursework have not been admitted to the professional pharmacy program.

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 website of the College of Health Professions and Biomedical Sciences (www.health.umt.edu). Applications must be post marked by February 15 preceding the autumn semester of the year for which admission is requested.

An application fee must be submitted with the application. Application for admission may not be deferred to another academic year. Official transcripts of all academic courses taken must be forwarded directly to the Skaggs 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 required professional courses taken at other institutions is accepted only for those courses which are deemed equivalent and in which a letter 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 pharmacy curriculum must maintain cumulative, professional, and pharmacy grade point averages of 2.0 or higher. The professional grade point average consists of all required course work in the professional curriculum. The pharmacy grade point average consists of all courses with a pharmacy (BMED or PHAR) prefix.

Students enrolled in the professional pharmacy program must maintain satisfactory academic progress. **Students must earn grades of at least C- in all required courses in the professional pharmacy curriculum.** Students in the professional pharmacy course work 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. A student must petition to continue in the professional pharmacy program if he or she is on probation for two consecutive terms. A student will be dismissed from 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 and all grades in required professional pharmacy courses are C- or better.

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 years may be dismissed from the professional pharmacy program, subject to review by the Academic Standards Committee and the dean.

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 the normal number of years to complete the professional program will be required to complete curricular changes applicable to the class in which they graduate. Because the Pharmacy program is academically intense, employment beyond the minimal, part-time work is not recommended.

**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 (BMED or PHAR) prefix (pharmacy GPA).
   c. all required courses in the professional pharmacy curriculum (professional GPA).
3. Required pharmacy course work (PHAR and BMED prefix) must be completed with a grade of C- or better.
4. Complete at least six full academic years, including pre-pharmacy 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 national examinations as required by the Montana State Board of Pharmacy. To qualify for the examinations, 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.
5. Students will receive credit for internship time and courses taken if such experience is certified by the preceptor and/or instructor and approved by the 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 pharmacy, other health care, 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>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 161N, 162N</td>
<td>College Chemistry with Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>MATH 150</td>
<td>Applied Calculus (prereq. MATH 121 or appropriate placement score)</td>
<td>5</td>
</tr>
<tr>
<td>ECON 111S</td>
<td>Introduction to Microeconomics or ECON 112S</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101</td>
<td>101 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>Social science elective chosen from:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 100S</td>
<td>Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SOC 110S</td>
<td>Principles of Sociology</td>
<td>3</td>
</tr>
<tr>
<td>COMM 110S</td>
<td>Interpersonal Communication+</td>
<td>3</td>
</tr>
<tr>
<td>*Electives and General Education</td>
<td>2</td>
<td>15</td>
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Pre-Pharmacy Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>CHEM 221, 222</td>
<td>Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 223</td>
<td>Organic Chemistry Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 221</td>
<td>Cell and Molecular Biology</td>
<td>2</td>
</tr>
<tr>
<td>MATH 241</td>
<td>Statistics or PSYC 220 Psychological Statistics or SOC 202 Social Statistics (prereq., MATH 150 or 117)</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 121N</td>
<td>General Physics</td>
<td>4</td>
</tr>
<tr>
<td>Communications elective chosen from:</td>
<td></td>
<td>16</td>
</tr>
<tr>
<td>COMM 110S</td>
<td>Interpersonal Communication+</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A</td>
<td>Introduction to Public Speaking or DRAM 111A Acting for Nonmajors</td>
<td>3</td>
</tr>
<tr>
<td>*Electives and General Education</td>
<td>4</td>
<td>16</td>
</tr>
</tbody>
</table>

+ COMM 110S may not be used to fulfill both the social science and the communications electives.

*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 lower-division General Education requirement during the pre-pharmacy curriculum.

Professional Pharmacy Curriculum

Students must apply for admission to the professional program. 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 Requirement must be met by successfully completing PHAR 350 or 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>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOC 380</td>
<td>Elementary Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>BMED 328</td>
<td>Antimicrobial Agents</td>
<td>3</td>
</tr>
<tr>
<td>BMED 331</td>
<td>Pharmaceutics</td>
<td>4</td>
</tr>
<tr>
<td>BMED 341, 342</td>
<td>Physiological Systems I, II</td>
<td>4</td>
</tr>
<tr>
<td>BMED 361-362</td>
<td>Pharmaceutical Sciences Lab</td>
<td>1</td>
</tr>
<tr>
<td>MICB 302</td>
<td>Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 309</td>
<td>Pharmacy Practice I</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 310</td>
<td>Pharmacy Practice II</td>
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</tr>
<tr>
<td>PHAR 371-372</td>
<td>Integrated Studies</td>
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Second Professional Year

Autumn/Spring Intersession:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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<tbody>
<tr>
<td>PHAR 480</td>
<td>Community Pharmacy Introductory Experience</td>
<td>3</td>
</tr>
<tr>
<td>BMED 421, 422</td>
<td>Medicinal Chemistry I, II</td>
<td>3</td>
</tr>
<tr>
<td>BMED 432</td>
<td>Biopharmaceutics/Pharmacokinetics</td>
<td>3</td>
</tr>
<tr>
<td>BMED 443, 444</td>
<td>Pharmacology and Toxicology</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 412</td>
<td>Pharmacy Practice III-Social and Behavioral Pharmacy</td>
<td>3</td>
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<tr>
<td>PHAR 451, 452</td>
<td>Therapeutics I, II</td>
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<tr>
<td>PHAR 471, 472</td>
<td>Integrated Studies</td>
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<td>Electives</td>
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Third Professional Year

Autumn/Spring Intersession:

<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>PHAR 481</td>
<td>Hospital Pharmacy Introductory Experience</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 505</td>
<td>Pharmacy Practice IV—Pharmaceutical Care</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 506</td>
<td>Pharmacy Practice V—Advanced Pharmaceutical Care</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 513</td>
<td>Pharmacoeconomics and Outcomes Research</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 514E</td>
<td>Pharmacy Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 550</td>
<td>Drug Literature Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 553, 554</td>
<td>Therapeutics III and IV</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 557</td>
<td>Public Health in Pharmacy</td>
<td>3</td>
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<tr>
<td>PHAR 571, 572</td>
<td>Integrated Studies</td>
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<tr>
<td>Electives</td>
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Fourth Professional Year

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<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>PHAR 579</td>
<td>Community Pharmacy Advanced Pharmacy Practice Experience</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 580</td>
<td>Hospital Pharmacy advanced Pharmacy Practice Experience</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 581</td>
<td>Inpatient Advanced Pharmacy Practice Experience</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 582</td>
<td>Ambulatory Care Advanced Pharmacy Practice Experience</td>
<td>8</td>
</tr>
<tr>
<td>PHAR Elective Pharmacy Practice Experience</td>
<td>8</td>
<td>16</td>
</tr>
</tbody>
</table>

Required pre-pharmacy credits: 200
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. Credits beyond this maximum do not count toward a degree.

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 320 American Indian Health Issues 2 cr. Offered spring. Same as HS 320. An overview of the health issues, health care delivery and payment that affect American Indians.

U 324 Medicinal Plants 2-3 cr. Offered autumn. Same as BMED 324 and HS 324. Plants and other natural substances which nourish, heal, injure, or alter the conscious mind.

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.

U 451 Therapeutics I 3 cr. Offered autumn. Prereq., second professional year standing; coreq., PHAR 471; prereq. or coreq., BMED 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.

U 452 Therapeutics II 3 cr. Offered spring. Prereq., PHAR 451; coreq., PHAR 472; prereq. or coreq., BMED 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.

U 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.

U 472 Integrated Studies IV 1 cr. Offered spring. Prereq., PHAR 471. Continuation of 471.

U 480 Community Pharmacy Introductory Pharmacy Practice Experience 3 cr. (R-6) Offered every term. Prereq., completion of first professional year. Supervised professional experience in community pharmacy.

U 481 Hospital Pharmacy Introductory Pharmacy Practice Experience 3 cr. (R-6) Offered every term. Prereq., completion of first professional year. Supervised professional experience in a hospital pharmacy.

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 Research 1-3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research.

U 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.

U 506 Pharmacy Practice V—Advanced Pharmaceutical Care 4 cr. Offered spring. Prereq., PHAR 505. Applications of advanced drug therapy monitoring and disease state management.

U 513 Pharmacoeconomics and Outcomes Research 3 cr. Offered spring. Prereq., third professional year standing or consent of instr. Introduction to the assessment of economic, clinical and humanistic outcomes of pharmacotherapy.

U 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.

U 516 Advanced Pharmacy Administration 2 cr. Offered intermittently. Prereq., consent of instr. Analysis of the pharmaceutical industry.


U 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 pharmacologic 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 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 BMED 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 579 Community Pharmacy 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 patient care functions of the pharmacist in the community pharmacy setting.

U 580 Hospital Pharmacy 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 patient care functions of the pharmacist in the hospital pharmacy setting.

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 a pharmacy curriculum.

UG 593 Current Research Literature 1 cr. (R-6) Offered autumn and spring. Readings and discussion of current research literature.

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. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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 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
Jean T. Carter, Ph.D., University of Arizona, 1997

Assistant Professors

Sherrill Brown, Pharm.D., University of Missouri, Kansas City, 2003
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; and the Ph.D. in Neuroscience, Biomedical 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

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Biomedical and Pharmaceutical Sciences (BMED)

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., BIOL 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 121IN, BIOL 221. Principles of anatomy, normal and abnormal physiology.


UG 347 Introduction to Neuroscience 3 cr. Offered autumn. Prereq., introductory chemistry and biology. Same as BIOL 347. The molecular and cellular physiology of the human nervous system. Topics range from the basis of electrical and chemical signaling in neurons to the organization of the nervous system and its functions in generating behavior.

UG 361 Pharmaceutical Sciences Laboratory 1 cr. Offered autumn. Coreq., PHAR 309, BMED 341. Laboratory experience in the pharmaceutical sciences.

UG 362 Pharmaceutical Sciences Laboratory 1 cr. Offered spring. Prereq., BMED 361; coreq., BMED 331 and 342. Continuation of 361.

UG 380, 381 Pharmacogenetics 2 cr. Offered spring. Prereq., BMED 331 and pharmaceutical science.

UG 444 Pharmacology and Toxicology 4 cr. Offered spring. Prereq., BMED 443 or graduate standing. Experience in research methods in departmental research laboratories.

UG 455 Special Topics 1-3 cr. (R-6) Offered autumn and spring. Experimental offerings of visiting professors 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 545 Research Laboratory Rotations 2-3 cr. Offered spring. Prereq., consent of instr. Individual participation in laboratory research.

UG 555 Research Laboratory Rotation 2-3 cr. Offered spring. Prereq., consent of instr. Individual participation in library or laboratory research.

UG 581 Research Seminar in Biomedical Science 1 cr. (R-9) Offered autumn and spring. Oral and written presentations of experimental research results and selected literature topics in biomedical science.

UG 582 Research Seminar in Neuroscience 1 cr. (R-9) Offered autumn and spring. Oral and written presentations of experimental research results and selected literature topics in neuroscience.

UG 583 Research Seminar in Toxicology 1 cr. (R-9) Offered autumn and spring. Oral and written presentations of experimental research results and selected literature topics in toxicology.

UG 593 Current Research Literature 1 cr. (R-6) Offered autumn and spring. Readings and discussion of current research literature.

UG 594 Seminar 1 cr. (R-6) Offered autumn and spring. Prereq., senior or graduate standing.

UG 595 Special Topics 1-3 cr. (R-6) Offered intermittently. Prereq., senior or 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-9) Offered every term.

G 597 Research Variable cr. (R-10) Offered every term.

G 599 Thesis Variable cr. (R-10) Offered every term.

G 600 Advanced Cellular Biochemistry 4 cr. Offered every spring. 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. Topics include membranes, cytoskeleton, transcription, translation, signal transduction, cell motility, cell proliferation, and programmed cell death.

G 605 Biomedical Research Ethics 1 cr. Offered spring. Overview of biomedical research ethics and regulations. Topics include ethics and morality in science, scientific integrity, conflicts of interest, human and animal experimentation, intellectual property, plagiarism.

G 607 Topics in Epidemiology 1-3 cr. (R-9) Offered autumn or spring. Prereq., BMED 609 or equiv. Current topics in epidemiology.

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., BMED 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., BMED 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., BMED 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 369. Introduction to the historical and contemporary discoveries in medicinal chemistry.

G 626 Research Methods In Biochemical Pharmacology 1-3 cr. (R-6) Offered every term. 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 1-3 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 637 Topics in Biomedical Science 1-3 cr. (R-9) Offered autumn or spring. Prereq., BMED 613, or 641, or 661. Current topics in the biomedical sciences.

G 641 Toxicology I-Principles of Toxicology 3 cr. Offered autumn. Prereq., BIOC 481 or equiv. Introduction to toxicity. Topics include general principles, risk assessment, organ system toxicology, introduction to carcinogenesis, and genetic toxicology.

G 642 Toxicology II-Toxic Agents 3 cr. Offered spring. Prereq., BMED 641. Toxic agents and the diseases caused by those agents. Includes common toxicants in the environment and occupational settings as well as drug induced 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., BMED 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., BMED 641 or 661. Mechanisms of major neurotoxins and neurological disease.

G 647 Topics in Toxicology 1-3 cr. (R-9) Offered autumn or spring. Prereq., BMED 613, or 641, or 661. Current topics in toxicology.

G 657 Topics in Immunology 1-3 cr. (R-9) Offered autumn or spring. Prereq., MICB 410 or equiv. Current topics in immunology.

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 1-3 cr. (R-9) Offered every year. Prereq., BMED 661. Current topics in neuroscience.

G 697 Research 1-9 cr. (R-20) Offered every term.

G 699 Dissertation 1-9 cr. (R-20) Offered every term.

Faculty

Professors

Richard J. Bridges, Ph.D., University of California, Davis, 1977 (Director, Center for Structural and Functional Neuroscience)

Carlos Duran, Ph.D., Oxford University, 1966 Vernon R. Grund, Ph.D., University of Minnesota, 1974 (Chair)

Andrij Holian, Ph.D., Montana State University, 1975 (Director, Center for Environmental Health Sciences)

Michael Kavanauagh, Ph.D., Oregon Health Sciences University-Portland, 1987

Nicholas Natale, Ph.D., Drexal University, 1978

Charles M. Thompson, Ph.D., University of California, Riverside, 1982

Associate Professors

Howard D. Beall, Ph.D., University of Florida, 1991

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

John Gerdes, Ph.D., University of California, Riverside, 1982

Darrell Jackson, Ph.D., Washington State University, 1990

Diana L. Lurie, Ph.D., University of Pennsylvania, 1989

Keith K. Parker, Ph.D., University of California, San
School of Physical Therapy and Rehabilitation Science

Reed Humphrey, 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 is also available on the program website at www.health.umontana.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 a physical therapist to serve not only as a provider of direct patient care, but to fulfill the roles of administrator, supervisor, teacher, consultant, and researcher. Students successfully completing the program meet the competencies for physical therapy as determined by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association, a Doctor of Physical Therapy degree, and are prepared for state licensure.

The Physical Therapy Program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association.

High School Preparation:

Specific high school courses are not required but a background is recommended in mathematics, chemistry, biology, physics, English, and other communication skills.

Pre-Professional Physical Therapy Curriculum and Application Process

Students wishing to apply to the professional physical therapy program at The University of Montana-Missoula may select any major as their undergraduate major. While pre-physical therapy is not a degree-granting major at the University, prospective applicants should list pre-professional physical therapy (PPPT) as their second major. This will allow them also to receive advising from the School of Physical Therapy and Rehabilitation Science in order to assure adequate preparation for the professional program. In addition to completing a baccalaureate degree, applicants must take the following prerequisite courses and meet the additional application requirements listed. All prerequisite courses must be for a traditional letter grade and must be completed with a grade of "C" (2.00) or better.

Prerequisite 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

Research Associate Professors

C. Sean Esslinger, Ph.D., Colorado State University, 1992
Dianne L. DeCamp, Ph.D., University of Delaware, 1988

Research Assistant Professors

Kathleen M. George, Ph.D., Northwestern University, 1994
David J. Poulsen, Ph.D., University of Delaware, 1995
Anthony Ward, Ph.D., The University of Montana, 2001

Emeritus Professors

Charles L. Eyer, Ph.D., Washington State University, 1976
Rustem S. Medora, Ph.D., University of Rhode Island, 1965

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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.
Adult, child, and infant CPR certification is assumed.
Computer literacy is assumed.

Suggested Prerequisite Courses at The
University of Montana-Missoula
BIOL 106N Elementary Medical Microbiology ............ 3
BIOL 312-313 Anatomy/Physiology .......................... 8
BIOL 460 Medical Physiology ................................ 3
CHEM 151N-152N, 154N General Chemistry and Laboratory .... 8
PHYS 121N-122N General Physics ............................ 10
HHP 377-378 Exercise Physiology ......................... 4
PSYC 100S Introduction to Psychology .................. 4
PSYC 350S Abnormal Psychology or 240S
Child and Adolescent Development or 245 Adult
Development and Aging ........................................ 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
enter 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 School of
Physical Therapy and Rehabilitation Science website
www. saphs. umt. edu/bpt. 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,
School of Physical Therapy and Rehabilitation Science, 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, evidence of leadership, honors, community service,
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/noncredit 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 College of Health Professions and Biomedical Sciences.
Students also must comply with all school academic and
professional conduct policies as outlined in the Physical
Therapy Program Student Handbook. 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

<table>
<thead>
<tr>
<th>First Professional Year</th>
<th>A</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT 503 Physical Therapy and Health Care System</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>PT 510 Applied Anatomy and Kinesiology</td>
<td>5</td>
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</tr>
<tr>
<td>PT 516 Musculoskeletal Evaluation I</td>
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<td>-</td>
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<tr>
<td>PT 520 Development Through the Life Span</td>
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<td>-</td>
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<tr>
<td>PT 526 Physical Therapy Interventions I</td>
<td>4</td>
<td>-</td>
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<tr>
<td>PT 527 Electrophysiological Testing</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>PT 528 Physical Therapy Interventions II</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>PT 529 Biomechanics and Exercise Interventions</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>PT 536 Neurosciences</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>PT 560 Introduction to Research</td>
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<td>-</td>
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<tr>
<td>PT 582 Clinical Experience I</td>
<td>20</td>
<td>21</td>
</tr>
</tbody>
</table>

Summer Session

| PT 587 Clinical Internship I | 4 | - |

Second Professional Year

| A | S |
|-------------------------|---|---|
| PT 525 Clinical Medicine and Pharmacology | 3 | - |
| PT 561 Research in Physical Therapy | 2 | - |
| PT 562 Scholarly Project I | 1 | - |
| PT 563 Cardiopulmonary PT | 3 | - |
| PT 565 Physical Therapy for Children | 2 | - |
| PT 566 Advanced Anatomy Laboratory | (1) (1) |
| PT 567 Neurorehabilitation I | 3 | - |
| PT 568 Neurorehabilitation II | 2 | - |
| PT 569 Orthopedic Physical Therapy I | 2 | - |
| PT 570 Psychology of Illness and Disability | 2 | - |
| PT 572 Practice and Administration | 2 | - |
| PT 573 Orthopedic Physical Therapy II | 1 | - |
| PT 575 Physical Therapy Interventions III | 4 | - |
| PT 576 Synthesis of Clinical Evaluation and Intervention | 1 | - |
| PT 578 Physical Therapy Interventions IV | 4 | - |
| PT 588 Clinical Internship II | 4 | - |
| PT 671 Scholarly Project II | 2 | - |

Total 18-19 20-21

Summer Session

| PT 589 Clinical Internship III | 5 | - |
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Third Professional Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Type</th>
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<tbody>
<tr>
<td>PT 626</td>
<td>Primary Care in Physical Therapy</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>PT 627</td>
<td>Prevention, Wellness, and Education</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>PT 672</td>
<td>Research in Physical Therapy II</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>PT 673</td>
<td>Practice &amp; Administration II</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>PT 676</td>
<td>Clinical Mastery in Physical Therapy</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>PT 679</td>
<td>Trend in Clinical Practice (may be repeated)</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>PT 690</td>
<td>Clinical Internship IV</td>
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<td>-</td>
</tr>
<tr>
<td></td>
<td>Total</td>
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</table>

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 school. Only 2 credits may be independent study. Total credits required for graduation: 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. Credits beyond this maximum do not count toward a degree.

Physical Therapy (PT)

U 496 Independent Study Variable cr. (R-12) Offered intermittently.
UG 497 Research 1-10 cr. (R-10) Offered autumn and spring. Prereq., consent of instr.
G 503 Physical Therapy and the Health Care System 4 cr. Offered autumn. An introduction to physical therapy and its relationship to the health care system. Topics include an 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. Coreq., PT 510, 529. Principles of physical therapy musculoskeletal examination and 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. 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, 529. 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 536 Neurosciences for the Health Professions 5 cr. Offered spring. 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 562 Scholarly Project I 1 cr. Offered autumn. Directed research with individual faculty advisor to develop proposal for research/special project.
G 566 Advanced Anatomy Laboratory 1 cr. Offered autumn and spring. Prereq., PT 510, 511. Regional dissection and study of the back, neck, upper extremity and lower extremity, including clinical correlates.
G 570 Psychology of Illness and Disability 2 cr. Offered autumn. Psychological response to illness and disability to include patient motivation, patient/professional interaction, and treatment of persons with chronic pain.
G 572 Practice and Administration 2 cr. Offered spring. Organization and management of the physical therapy department with emphasis on the therapist's role as administrator, supervisor and consultant.
G 573 Orthopedic Physical Therapy II 1 cr. Offered spring. Prereq., PT 516, 519, 569. Patient/Client management of orthopedic conditions of the spine.
G 576 Synthesis of Clinical Evaluation and Intervention 1 cr. Offered spring. 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. Prereq., PT 528, PT 529. Coreq., PT 575. Physical therapy assessment and interventions are addressed in the areas of occupational health, pelvic floor dysfunction, obstetric client...
care, advanced orthotics and activities of daily living.

G 582 Clinical Experience I 1 cr. Offered spring. 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. 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 594 Seminar Variable cr. (R-6) Offered autumn and spring.

G 595 Special Topics Variable cr. (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 cr. (R-6) Offered autumn and spring.

G 597 Research 1-10 cr. (R-10) Offered autumn and spring. Prereq., consent of instr.

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. Topics build on content presented in PT 503, and PT 572. Emphasis on Identifying key niches in health care and development of a business plan.

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. Prereq., PT 589. 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.

G 697 Research 1-10 cr. (R-10) Offered autumn and spring. Prereq., consent of instr.

Faculty

Professors

Richard Gajdosik, Ph.D., University of North Carolina at Chapel Hill, 1989; P.T., University of Kentucky, 1971

Reed Humphrey, P.H.D., University of Pittsburgh, 1986; P.T., Virginia Commonwealth University, 1994 (Chair)

Charles Leonard, Ph.D., Medical College of Pennsylvania, 1985; P.T., Duke University, 1978

Associate Professors

Carrie Gajdosik, M.S., University of North Carolina at Chapel Hill, 1986; P.T., University of Kentucky, 1971


James J. Laskin, Ph.D., University of Alberta, 2001; P.T., University of Saskatchewan, 1987

Assistant Professors

Steve Fehr, Ph.D., University of Minnesota, 1984; P.T., Beaver College, 1995

David L. Levison, M.H.S., Indianapolis Krannert School of Physical Therapy, 1996; P.T., University of Montana, 1986

Sheng Li, Ph.D., Pennsylvania State University, 2002

Kimberly J. Mize, D.P.T., Rocky Mountain University of Health Professions, 2006., P.T., University of Wisconsin-LaCrosse, 1996

School of Physical Therapy & Rehabilitation Science Clinics

Nora Staael Evert Physical Therapy Clinic

Brenda Mahlum, D.P.T., Rocky Mountain University of Health Professions, 2006; P.T., University of North Carolina, 1984

Mary Coar, B.S., P.T., University of Montana, 1993

New Directions Wellness Center

Susen Ostertag, B.S., P.T., University of Montana, 1993

Molly Blair, B.S., University of Montana, 2002

School of Social Work

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. The Bachelor of Arts and Master of Social Work degrees are offered. The Bachelor of Arts degree prepares graduates for generalist social work practice. The Master of Social Work degree prepares graduates for advanced integrated practice.

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. Both the Bachelor of Arts degree and the Master of Social Work degree are fully accredited by the Council on Social Work Education.
### 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 over two semesters.

Requirements for the B.A. degree include course work outside the School of Social Work 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; B I O L 100N; or ANTH 102 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 complied 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 school 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 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 children, exceptional persons or the family should consider the Human and Family Development minor program, which is described elsewhere in the catalog. The School 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. The Hartford Scholars Practicum Partnership Program is available to masters students wishing to pursue 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 professional expectations are described in the BSLO Student Handbook, available from the school or on web page [www.health.umt.edu/sw/sw_pa.html]. 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 school advising guide is available from the school or on web page [www.health.umt.edu/sw/default.htm]. The Master of Social Work requirements are detailed in The University of Montana Graduate online Catalog [www.umt.edu/grad/].

### Suggested Course of Study

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<tr>
<th>Year</th>
<th>Course</th>
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<tbody>
<tr>
<td><strong>First Year</strong></td>
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<tr>
<td></td>
<td>MATH 107 (or higher) Contemporary Mathematics</td>
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<td></td>
<td>PSC 100S Introduction to American Government</td>
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<td>PSYC 100S Introduction to Psychology</td>
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<td></td>
<td>SOC 110S Principles of Sociology</td>
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<td>SW 100S Introduction to Social Welfare</td>
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<td>General Education</td>
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<td><strong>Second Year</strong></td>
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<td></td>
<td>SW 200 Introduction to Social Work Practice</td>
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<td>BIOL 100N The Science of Life</td>
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<th>Year</th>
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<tr>
<td><strong>Third Year</strong></td>
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<tr>
<td></td>
<td>ECON 100S Introduction to Political Economics</td>
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<td>PSYC 240S Child and Adolescent Development</td>
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<td>PSYC 245 Adult Development and Aging</td>
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<td></td>
<td>ANTH 102 Race and Minorities or SOC 220S Race and Ethnic Relations</td>
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<td>General Education</td>
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<td><strong>Fourth Year</strong></td>
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<td>SW 300 Human Behavior and Social Environment</td>
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<td>SW 310 Social Welfare Policy and Services</td>
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<td>SW 350, 360 Social Work Intervention</td>
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<td>Methods I, II</td>
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<td>Electives</td>
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<td>SW 400 Social Work Research</td>
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<td>SW 488 Field Work Practicum Seminar</td>
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### Minor in Gerontology

Students in the minor in Gerontology program will study issues of aging from an interdisciplinary perspective and come to understand the interplay between them, including health and medical as well as social and psychological needs of older persons. Although this interdisciplinary minor is housed in the School of Social Work, students in other majors may complete the minor in consultation with both the Chair of the Gerontology Minor and the students' academic advisors in their respective departments. Students must consult with their major advisor to select electives, practicum or volunteer experiences, and integrating courses that will meet the requirements of the minor. The minor will require successful completion of four required core courses (12 credits), an integrating course with gerontological content within the student’s major (3 credits), one or two elective courses (3-6 credits), and a practicum course within the student’s major (3 credits) for a total of 21-24 credits. Core courses are:

- HS 325 Introduction to Gerontology 3 cr.
- SW 455 Social Gerontology 3 cr.
- PSYC 245 Adult Development and Aging 3cr.
- HS 430 Health Aspects of Aging 3 cr.

Students should contact the School of Social Work for a complete list of appropriate major and elective 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. Credits beyond this maximum do not count toward a degree.

### Social Work (SW)

- **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 Internship Variable cr. (R-3)** Offered autumn and spring. Prereq. consent of instructor. Application of classroom learning in off campus internship placements. Prior approval must be obtained from the School of Social Work practicum
An analysis of clinical data. Special emphasis on research effectiveness in social work practice. Techniques for the collection and analysis of social work data. This course may count toward graduation.

UG 200 Introduction to Social Work Practice 4 cr. Offered autumn and spring. Prereq., SW 100S, sophomore standing. Introduction to social work as a profession, including 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.

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 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.

UG 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 WS 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.

UG 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, Offer. 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. Emphasis on individuals and families.

UG 360 Social Work Intervention Methods II 4 cr. Offered autumn and spring. Prereq., SW 350. 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. Emphasis on 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 Internship Variable cr. (R-3) Offered autumn and spring. Application of classroom learning in off campus internship placements. Prior approval must be obtained from the School of Social Work practicum coordinator and the Center for Work-Based Learning. A maximum of 6 credits of Internship (198, 398,) may count toward graduation.

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 or consent of instructor. 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, assessment, 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. Ecological perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors. Students engage in a service learning community project which is integrated into the classroom through initial training, regular reflection, and other activities.

UG 430 Health Aspects of Aging 3 cr. Offered spring. Same as HHP and HS 430. Overview of the health aspects of aging in the United States including biological theories of aging, normal physiological changes associated with aging systems, common pathological problems associated with aging, cultural and ethnic differences in the health of elders, health promotion and healthy aging, and the health care continuum of care for older persons.


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 for work with youth in these areas.

UG 455S 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.

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.

UG 465 Social Work in a Global Context 3 cr. Offered spring even-numbered years. Prereq., upper-division or graduate standing. Examination of globalization, human rights, poverty, international aid, and gender issues; their relationship to social work and social justice, and strategies for action.

UG 470 Mental Health in Rural Settings 2 cr. Offered autumn odd-numbered years. Prereq., upper-division or graduate standing. Examination of rural settings and how state and federal policy influence the quality and accessibility of mental health care programs and services.

UG 475 Death, Dying and Grief 3 cr. Offered intermittently. Examination of death, dying and grief from an ecological perspective.
perspective, focusing on the processes of dying and theories of grief. Emphasis on physical, social, psychological, spiritual, and cultural influences that surround death and grief. Consideration of cultural norms, attitudes toward death, medical, legal and ethical issues of dying. Focus on normal and complicated grief.

UG 480 Professional Development in Child Welfare 1 cr. Prereq., junior standing. Offered intermittently. Exploration of diverse issues related to child welfare. Designed to help students and youth workers develop an integrated knowledge base and practice skills for working with youth.

U 485 Counseling Theories in Context 3 cr. Offered spring. Prereq., PSYC 100. Same as COUN 485 and PSYC 485. This course introduces students to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies, and diversity issues.

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.

UG 489 Field Work Practicum Variable cr. (R-10) Offered every term. Prereq., SW 350 and 360 and approved application to practicum coordinator. Coreq., SW 488. Practicum must be taken over two consecutive semesters for a total of 10 credits. Minimum of one credit per semester. Cumulative grade 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. Supervision of the field work practicum requires a passing performance on the school 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 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 practicum 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 545 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 553 Advanced Integrated Practice 4 cr. Prereq., consent of instr. Builds on the skills, knowledge, and values of the foundation generalist and practice courses.

G 554 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 556 Counseling Techniques and Strategies 2 cr. Offered autumn. Prereq., admission to MSW program or consent of instr. Practice-oriented course addressing strategies of clinical intervention, case studies, and philosophy of care.

G 551 Couples and Family Therapy 3 cr. Offered spring. Prereq., admission to the MSW program, SW 505, or consent of instructor. Course explores family-centered methods of clinical social work interventions with couples and families that can be applied in a variety of settings.

G 552 Psychopathology and Assessment for Social Work 3 cr. Prereq., admission to the M.S.W. program, SW 505, or permission of instructor. Focus on current problems of children, adolescents, and adults of all ages that can be classified as a mental disorder under the DSM-IV; and an understanding of how social injustice, oppression and poverty impacts healthy growth and development across the life span.

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 576; 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 portfolio development.
Health Sciences Courses

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, public health, pharmacy, medical technology, physical therapy, cytotechnology, 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 science courses are listed under two designations: 1) Health Sciences; 2) other disciplines.

Health Science Courses

Health Sciences

195 Special Topics
201 Living Well: Health and Disability
325 Introduction to Gerontology
326 Geriatric Practicum
327 Montana Gerontology Society Meeting
389 Recent Advances in Clinical Medicine
395 Special Topics
495 Special Topics

Anthropology

265N Human Sexuality
267N Human Genetics
343S Culture and Population
388 Native American Health and Healing

Madison, 1974 (Chair)
Janet Finn, Ph.D., University of Michigan, 1995

Associate Professors

Maxine Jacobson, Ph.D., University of Utah, 1997
Ryan Tolleson Knee, Ph.D., University of Denver, 1999

Assistant Professors

Timothy Conley, Ph.D., Boston College, 2001
Carol Hand, Ph.D., University of Wisconsin

Adjunct Assistant Professors

Doreen Antonor, J.D., The University of Montana, 1996
Tondy Baumgartner, M.S.W., Walla Walla College, 1998
Michaella 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
Michael Perry, M.S.W., Eastern Washington University, 1991
Tamara Tolleson Knee, M.S.W., University of Denver, 1994
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
John Spores, Ph.D., University of Michigan, 1976

Associate Professors

Cynthia Garthwait, M.S.S.W., University of Wisconsin,
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.
U 201 Living Well: Health and Disability 2 cr. Offered autumn and spring. The development and implementation of exercise programs for individuals with physical disabilities or chronic illness.
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 320 American Indian Health Issues 2 cr. Offered spring. Same as PHAR 320. An overview of the health issues, health care delivery and payment that affect American Indians.
UG 324 Medicinal Plants 2-3 cr. Offered autumn. Same as PHAR 324 and BMED 324. Plants and other natural substances which nourish, heal, injure, or alter the conscious mind.
U 325 Introduction to Gerontology 3 cr. Offered spring. Prereq., junior standing or consent of instr. An interdisciplinary discussion of the health and social issues of older persons, utilizing didactic presentations, clinical demonstrations, and curricular modules.
U 326 Geriatric Practicum 1-3 cr. (R-3) Offered spring. Prereq., HS 325. Service learning experience in geriatrics in a setting compatible with the student’s major and interests.
U 327 Montana Gerontology Society Meeting 1 cr. (R-3) Offered spring. Attendance and participation in the Montana Gerontology Society meeting held annually in April.
U 389 Recent Advances in Clinical Medicine 1 cr. (R-3) Offered spring. Prereq., junior or senior standing. Weekly presentations throughout the semester by local clinical medical practitioners describing in non-technical terms recent advances in their specialties.
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 430 Health Aspects of Aging 3 cr. Offered spring. Same as HHP and SW 430. Overview of the health aspects of aging in the United States including biological theories of aging, normal physiological changes associated with aging systems, common pathological problems associated with aging, cultural and ethnic differences in the health of elders, health promotion and healthy aging, and the health care continuum of care for older persons.
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.

Public Health

Craig Molgaard, Professor and Chair
The School of Public and Community Health Sciences is an interdisciplinary program that offers the Master of Public Health degree and a certificate in public health. The program is designed to prepare public health practitioners to address the challenges of rural and global health issues. Distance learning technology is used to allow working professionals to participate. This program addresses current and forecasted needs for graduate education in public health. Its focus on rural population health problems assists in promoting improvement in the health of the people of Montana and throughout the world.

Special Degree Requirements
For the M.P.H. degree, all students must successfully complete 42 graduate credits. The following core courses are required:
PUBH 510 Introduction to Epidemiology
PUBH 520 Fundamentals of Biostatistics
PUBH 530 U.S. Healthcare System and Policy
PUBH 540 Social and Behavioral Sciences in Public Health
PUBH 550 Program Evaluation and Research Methods
PUBH 560 Environmental and Rural Health
PUBH 580 Rural Health Issues in a Global Context
PUBH 591 Practicum
PUBH 593 Professional Portfolio
PUBH 595 Ethical Issues in Public Health
PUBH 599 Professional Paper
Elective courses:
PUBH 596 Independent Study
PUBH 597 Research
Electives offered by other departments may be used to create a plan of study that tailors the learning experience to the needs of the student.

Courses

G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R. Credits beyond this maximum do not count toward a degree.

Public Health (PUBH)
G 510 Introduction to Epidemiology 3 cr. Offered autumn. Principles and methods of epidemiologic investigation, descriptive and analytic epidemiology techniques, disease frequency, risk determination, study designs, causality, and validity.
G 540 Social and Behavioral Sciences in Public Health 3 cr. Offered spring. Behavioral and social factors relevant to the identification and solution of public health problems, principles of health behavior change, applications, and assessment of interventions.
G 550 Program Evaluation and Research Methods 3 cr. Offered summer. Prereq., PUBH 510 or equiv. and consent of instr. Historical, conceptual, values, ethics, and socio-cultural aspects of community-based research, building partnerships, working with diverse populations, developing a research proposal and participatory evaluation.
G 560 Environmental and Rural Health 3 cr. Offered autumn. Relationship of people to their physical environment, how this relationship impacts health, and efforts to minimize negative health effects.
mobile and vulnerable populations, and transnational competence.

G 591 Practicum 3 cr. Offered autumn, spring, and summer. Prereq., admission into the M.P.H. program or consent of instructor. Semester long graduate practicum and on-line seminar designed to advise students of the practicum requirements, the process of the practicum development, and the evaluation process.

G 593 Professional Portfolio 3 cr. Offered autumn and spring. Prereq., admission to the M.P.H. program or consent of instructor. Integrates the student’s practice experience and knowledge gained through course work, practicum, and possibly professional papers and research with the goals and learning objectives of the M.P.H. program into a portfolio. Students will present their portfolio to illustrate their growth as a professional public health practitioner.

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.

G 597 Research 3 cr. Offered autumn and spring. Prereq., admission to the M.P.H. program or consent of instructor. With the guidance of their faculty advisor, students will develop a syllabus specific to what they propose to accomplish with their research project.

G 599 Professional Paper or Portfolio 3 cr. Offered every term.

Faculty

Public Health Core

Professors
Amanda Golbeck, Ph.D., University of California at Berkeley, 1983; MPH, University of California at Berkeley, 1982
Craig Molgaard, Ph.D., MPH, University of California at Berkeley, 1979

Associate Professors
Kari Harris, Ph.D., The University of Kansas, 1998; M.P.H., The University of Kansas Medical Center, 1997

MPH Program Faculty

Professors
Peter Koehn, Ph.D., University of Colorado, 1973 (Political Science)
K. Ann Sondag, Ph.D., Southern Illinois, Carbondale, 1988 (Health and Human Performance)

Willard O. Granath, Ph.D., Wake Forest University, 1982 (Biological Sciences)
Janet L. Finn, Ph.D., University of Michigan, 1995 (Social Work and Anthropology)
Tom Seekins, Ph.D., University of Kansas, 1983 (Department of Psychology and the Rural Institute)

Associate Professors
Ann Cook, Ph.D., The University of Montana, 2001 (Research, Psychology)
Jean T. Carter, Ph.D., The University of Arizona, 1997; Pharm.D., The University of Arizona, 1993 (Pharmacy Practice)
Kimber Haddix McKay, Ph.D., University of California at Davis, 1998 (Anthropology)
Gilbert Quintero, Ph.D., University of Arizona, 1998 (Anthropology)

Assistant Professors
Duncan Campbell, Ph.D., Washington State University, 2003 (Psychology)
Bryan Cochran, Ph.D., University of Washington, 2003 (Psychology)
Nikole Cronk, Ph.D., University of Missouri-Columbia, 2006 (Research, Public Health)
Curtis Noonan, Ph.D., Colorado State University, 2000 (Biomedical and Pharmaceutical Sciences and Pharmacy Practice)
Elizabeth Putnam, Ph.D., University of Texas-Houston, 1989 (Biomedical and Pharmaceutical Sciences)
Robin Saha, Ph.D., University of Michigan, 2002 (Environmental Studies)
Lawrence L. White, M.H.A., (College of Health Professions and Biomedical Sciences)

Project and Research Directors
Donna Bainbridge, Ph.D., Boston University, 1990 (Rural Institute)
Kathleen Humphries, Ph.D., the University of California at Davis, 1995 (Rural Institute)
Rosemary Hughes, Ph.D., University of Houston, 1989 (Rural Institute)
Holly Lenz, Ph.D., Oregon State University, 1996 (Montana Tobacco Use Prevention Program, Montana DPHHS)
Meg Ann Traci, Ph.D., The University of Montana, 2000 (Rural Institute)
Barry Good, Dean
Lynn Stocking, Associate Dean

The vision of the College of Technology is to be a preeminent leader and catalyst for progress in education. Supporting that vision is the mission to provide academically sound, socially responsible, current and accessible certificate and associate degree programs in response to individual, community, and economic development needs. Goals the College of Technology pursues toward fulfilling their mission are to:

- create a student-centered environment
- provide college level technical and general education learning opportunities
- facilitate development of oral and written communication skills
- facilitate development of critical thinking and problem solving skills
- support the development of ethical behavior
- embrace diversity and encourage respect for others
- facilitate and promote life-long learning

The College of Technology offers programming and services on two campuses—the East Campus at 909 South Avenue West and the West Campus at 3639 South Avenue West. The Admissions & New Student Services Office, Financial Aid Office, Registrar’s Office, Career and Placement Services Office, and administrative offices are located at the East Campus. All business technology programs, applied computing and electronics programs, culinary arts programs, health professions programs, as well as the branch of the Mansfield Library, College Bookstore, and dining room are located on the East Campus. All industrial programs are located on the West Campus.

Students may attend courses at three campus sites. Courses are scheduled at a variety of times between 7 a.m. and 10 p.m. Department chairs or program directors may be contacted for specific scheduling information.

**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 for continuing in degrees 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 through the College of Arts and Sciences program. This degree program is available for 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 150S, 160A, 210E, 242
- CRT 100, 108, 121, 122E, 203, 260, 270, 280
- EET 232, 260
- FSM 270, 271
- MAT 100, 120, 117, 145
- NUR all courses (except 295T)
- PSY 100S, 110S, 201
- SCN 115N, 150N, 201N, 202N
- WTS 100, 101, 115, 185A, 186A, 215, 240E

**Academic Support Services**

Services designed to increase the success of students enrolled at The University of Montana-Missoula College of Technology are available. Such services include the Academic Support Center’s tutoring and computer-based academic learning tools, study skills workshops, basic skills developmental courses, disability services for students, academic and financial aid reinstatement and follow-up assistance, individual student retention services, and other learning support activities. These services are available to students without charge based on grant funding support.
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 prerequisites 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

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. The minimum grade average for the 60 credits required for graduation is 2.00 in all courses taken on the traditional letter grade (A-F) basis. Courses in required general education areas must have a C minimum. Students' course selection, in consultation with an advisor, is guided by their planned majors. 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 Semester
AASC 100 Introduction to the University Experience .... 2
AASC 101 Study and Learning Strategies ...................... 2
COM 150S Interpersonal Communications or .... 3
COM 160A Oral Communications ............................. 3
WTS 101 English Composition (with appropriate placement score or WTS 100 or 090T) 2-3
CRT 100 Computer Literacy ...................................... 2
Math course based on placement test score (or MAT 002) 3
Total credits toward degree requirements: 14-16

Additional semester's course loads are based on mathematical literacy and English writing skills sequencing from the first semester plus general education courses and electives taken on either the College of Technology campus and/or Mountain campus. See General Education Requirements in the Academic Policies and Procedures section of this catalog.

Paramedical Arts Focus

The paramedical arts include areas of practice that support physicians and other medical professionals in providing quality health care. Some of these areas of practice are found in Health Professions programs at UM-M's College of Technology, but others are found in specialist programs in a wide variety of settings, some academic and some not, across the U.S.A. Taking university courses prior to these programs may be required or may increase opportunities for admission. Students with SAT or ACT scores which indicate academic readiness may take science oriented courses within an A.A. degree that allow the student to meet the basic general education requirements of The University of Montana-

Missoula as well as preparation for further scientific education or transfer to a specialty medical program. Students less prepared should make a plan to develop academic readiness with their advisor's assistance. Student who plan to transfer should bring the catalog from their desired program to their advisor in order to make course choices for transfer.

Suggested Course of Study

Preparation for Paramedical Arts

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<td>BIOL 106N-107N Elementary ...... 4</td>
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<td>Medical Microbiology and Laboratory .. 4</td>
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<td>WTS 101 Composition .......... 3</td>
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<td>COM 150S Interpersonal Communication .... 3</td>
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<td>CRT 100 Computer Literacy .............. 2</td>
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<td>PSY 100S Introduction to Psychology .... 4</td>
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Second Year

| ANTH 101H Introduction to Anthropology .............. 3 |
| WTS 115 Technical Writing .............. 3 |
| COM 160A Oral Communication .............. 3 |
| WTS 240E Ethics and Rhetoric .............. 3 |
| MATH 241 Statistics ............................ 4 |
| SCN 201N-202N Anatomy and Physiology .... 4 |
| SCN 220 Human Physiology .............. 4 |
| General Education .............. 3 |
| | | | |
| | 16 | 18 |

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. Credits beyond this maximum do not count toward a degree.

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 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.

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.

**Communications (COM)**

U 150S Interpersonal Communication 3 cr. Offered every term. 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 every term. 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 195T Independent Study 1-6 cr. (R-6) Offered intermittently.

U 210E Critical Thinking, Analysis, and Problem Solving 3 cr. Offered every term. Prereq., WTS 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 projected result. Provides a framework for determining decision making scope as well as basic formulas 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 intermittently. 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 260S Survey of Children's Communication 3 cr. Offered spring. Focus on communication processes and contemporary communication environments of children and adolescents. Topics include language development and the brain, nonverbal communication development, media, contracting, bullying, and gender.

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 295T Independent Study 1-6 cr. (R-6) Offered intermittently.

**Mathematics (MAT)**

U 002 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 algebraic 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, markdowns, inventory turnover, and other basic formulas.

U 114T Food Production Math 3 cr. Offered intermittently. 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.

**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 201 Human Development Through the Life Span 3 cr. Offered autumn and spring. Prereq., PSY 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, 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.

U 195T Independent Study 1-6 cr. (R-6) Offered intermittently.

**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 120T Technical Physics 1 cr. Offered autumn. Prereq., Mat100 or MATH 100. 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 175T Introduction to Physical Science 3 cr. Offered every term. Prereq., or coreq., MAT 005. Introduction to science as a way of knowing and how specific areas of science affect living systems, Earth systems, and the wider universe.  

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 201N Anatomy and Physiology I 4 cr. Offered autumn and spring. Prereq., SCN 175T or introductory science course recommended. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. A cadaver lab is included.  

U 202N Anatomy and Physiology II 4 cr. Offered autumn and spring. Prereq., SCN 201N. Continuation of 201N. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. A cadaver lab is included.  

U 220 Human Physiology 4 cr. Offered autumn. Prereq., SCN 201N, 202N. In-depth exploration of principles and clinical consequences of the physiology of selected human organ systems. Building upon basic concepts covered in SCN 201N and 202N, students study muscular function, musculoskeletal integration, neural physiology, nervous system integration, endocrine and central nervous system function and coordination, circulatory, respiratory, renal, and reproductive physiology.  

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.  

Writing Studies (WTS)  

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 100 Introduction to College Writing 3 cr. Offered every term. Prereq., placement or referral by WTS 101 instructor. Designed for students who need instruction and practice integrating critical thinking, reading and writing before entering the required first-year writing course. Credit not allowed for both WTS 100 and ENEX 100. Grading A-F or NC (no credit).  

U 101 English Composition 3 cr. Offered every term. Prereq., WTS 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-F, or NC.  

U 115 Technical Writing 3 cr. Offered every term. 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 120L Introduction to Critical Interpretation 3 cr. Offered each 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. Credit not allowed for both ENLT 120L and WTS 120L.  

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. Credit not allowed for both ENLT 121L and WTS 121L.  

U 184A Beginning Creative Writing: Multiple Genre 3 cr. Offered every term. Prereq., WTS 101 or ENEX 101 or consent of instr. A beginning writing workshop to explore various types of creative writing with opportunities for students to write, revise and discuss writing techniques that students may wish to explore further in specialized classes.  

U 185A Beginning Creative Writing: Fiction 3 cr. Offered intermittently. Prereq., WTS 101 or ENEX 101 or consent of instr. Continuation of 184A. A beginning writing workshop to explore various types of creative writing with opportunities for students to write, revise and discuss writing techniques that students may wish to explore further in specialized classes.  

U 186A Beginning Creative Writing: Poetry 3 cr. Offered intermittently. Prereq., WTS 101 or ENEX 101 or consent of instr. A beginning writing workshop to explore various types of creative writing with opportunities for students to write, revise and discuss writing techniques that students may wish to explore further in specialized classes.  

U 240E Ethics and Rhetoric: Writing Arguments on Contemporary Issues 3 cr. Offered every autumn and spring. Prereq., WTS 115 or consent of instr. Continuation of technical writing with emphasis on technical text including editing for technical content, graphic placement, and document design as seen through the eye of the audience. Current critical issues in technical writing are discussed.  

U 295T 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 296T Independent Study 1-6 cr. Offered intermittently.
Department of Applied Computing and Electronics

Thomas Gallagher, Chairman

The Department of Applied Computing and Electronics of The University of Montana-Missoula College of Technology collaborates with business and industry to prepare graduates to compete in and contribute to a dynamic global society. Students engage in experiential learning embracing technical education, effective communication, problem solving, professionalism, and workplace skills. The department promotes life-long learning to empower students in an ever-changing world. More details on programs available through the department can be found on the web: http://www.cte.umt.edu/departments/ace

Special Degree Requirements

General education requirements are integrated into the following programs. Refer to the Academic Policies and Procedures section of this catalog for the specific requirements.

Computer Technology-A.A.S. Degree

Students in the Computer Technology program prepare for careers in the field of information technology. The mission of the program is to prepare students to meet the needs of users within an organization and societal context through the selection, creation, application integration, and administration of information technology. The program balances technical expertise with the professional skill set needed in a dynamic society. The degree program allows students to specialize in network management or information systems through program options.

Students are accepted into the program autumn term. Prior to entering the program, students shall demonstrate proficiency in keyboarding and basic computing skills, using word processing, spreadsheets, Internet software, and file management.

The University of Montana-Missoula College of Technology is a Cisco Regional Training Center and a member of the Computer Technology Industry Association (Comp TIA). Opportunities exist for professional certification from Cisco (CCNA), Microsoft (MCT, MCSA), and Comp TIA (A+, Network+ and Security+).

Network Management Option

The Network Management option provides specialization for supporting computing in a networking environment. Students install, configure, monitor, troubleshoot, and manage network connectivity, server-based computing systems, and intranetworking technologies.

Autumn Entry:

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<td>BUS 103S Principles of Business</td>
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<td>CRT 111 Fluency in Information Technology</td>
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<td>CRT 112T Operating System Fundamentals</td>
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<td>CRT 121 Introduction to Programming</td>
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<td>CRT 122E Ethics and Information Technology</td>
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<td>CRT 151T Networking Basics</td>
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<td>CRT 152T Routers and Router Basics</td>
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<td>CRT 172 Introduction to Computer Modeling</td>
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<td>MAT 117 Probability and Linear Mathematics</td>
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Second Year

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<td>CRT 213T Server Technologies</td>
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<td>CRT 216T Network Infrastructure</td>
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<td>CRT 222T Security Seminar</td>
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<td>CRT 231 Object-Oriented Programming</td>
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<td>CRT 251T Switching Basics and Intermediate Routing</td>
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<td>CRT 252T WAN Technologies</td>
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<td>CRT 285T PC Hardware Support</td>
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<td>CRT 289T Professional Certification</td>
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<td>CRT 290T Computer Technology Internship</td>
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Information Systems Management Option

The Information Systems Management option provides specialization in acquiring and supporting the software applications and hardware used in organizations. Students analyze, design, develop, implement, and support Windows-based applications, database applications, and web-based applications. Business process is modeled and requirements defined for information technology resources.

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<tr>
<td>CRT 283T PC Hardware Support</td>
<td>3</td>
</tr>
<tr>
<td>CRT 289T Professional Certification</td>
<td>1</td>
</tr>
<tr>
<td>CRT 290T Computer Technology Internship</td>
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<tr>
<td>Directed Electives</td>
<td>6</td>
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<tr>
<td>Total</td>
<td>16</td>
</tr>
</tbody>
</table>

Directed Electives Options:

- ACC 133T Accounting II
- BUS 125T Principles of Marketing
- BUS 135T Business Law
- BUS 234T Psychology of Management and Supervision
- BUS 250T Entrepreneurship
- COM 115 Technical Writing
- COM 150S Interpersonal Communications
- COM 220T Training Techniques

A student may request substitution of other courses in the areas of Business, Communication, or Information Technology to
fulfill the directed elective requirement provided a clear connection can be made between a course, a student’s career objective, and the degree program. All substitution requests require departmental approval.

**Accounting Technology-A.A.S. Degree**

**Computer Support Option**

Students interested in a career which prepares them to work as accounting technicians with a specialty in information technology may select the Accounting Technology, Computer Support option. This program is detailed in the Business Technology Department section of this catalog.

**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.

**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. Credits beyond this maximum do not count toward a degree.

**Computer Technology (CRT)**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT 111 Fluency in IT</td>
<td>3</td>
</tr>
<tr>
<td>CRT 112 Fluency in IT</td>
<td>3</td>
</tr>
<tr>
<td>CRT 121T Operating System Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>CRT 151T Networking Basics</td>
<td>3</td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>WTS 101 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>BUS 103S Principles of Business</td>
<td>3</td>
</tr>
<tr>
<td>CRT 210T Advanced Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>CRT 121 Introduction to Programming</td>
<td>3</td>
</tr>
<tr>
<td>CRT 172 Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>CRT 285T PC Hardware Support</td>
<td>3</td>
</tr>
<tr>
<td>CRT 289T Professional Certification A+</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>15 16</td>
</tr>
</tbody>
</table>

**Computer System Technician Certificate**

Students graduating with the Computer System Technician certificate will be able to install, configure, troubleshoot, repair, update, and support client-based personal computer operating systems, personal computer hardware, and basic network and Internet connectivity issues. They will define and apply basic information security practices, safety procedures, and environmental practices.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CRT 111 Fluency in I.T.</td>
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</tr>
<tr>
<td>CRT 112T Operating System Fundamentals</td>
<td>3</td>
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<td>CRT 151T Networking Basics</td>
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<tr>
<td>MAT 100 Intermediate Algebra</td>
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</tr>
<tr>
<td>WTS 101 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>BUS 103S Principles of Business</td>
<td>3</td>
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<tr>
<td>CRT 210T Advanced Operating Systems</td>
<td>3</td>
</tr>
<tr>
<td>CRT 121 Introduction to Programming</td>
<td>3</td>
</tr>
<tr>
<td>CRT 172 Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>CRT 285T PC Hardware Support</td>
<td>3</td>
</tr>
<tr>
<td>CRT 289T Professional Certification A+</td>
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</tr>
<tr>
<td>Total</td>
<td>15 16</td>
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</table>

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT 111 Fluency in IT</td>
<td>3</td>
</tr>
<tr>
<td>CRT 112T Operating Systems Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>EET 111T Basic Electronics</td>
<td>4</td>
</tr>
<tr>
<td>EET 112T Electronics Lab I</td>
<td>3</td>
</tr>
<tr>
<td>EET 113T Circuits Kit</td>
<td>1</td>
</tr>
<tr>
<td>EET 121T Semiconductors</td>
<td>4</td>
</tr>
<tr>
<td>EET 122T Electronics Lab II</td>
<td>3</td>
</tr>
<tr>
<td>EET 123T Amplifier Kit</td>
<td>1</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>PSY 110S Psychology</td>
<td>3</td>
</tr>
<tr>
<td>WTS 115 Technical Writing</td>
<td>3</td>
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<td>Total</td>
<td>18 18</td>
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**Second Year**

<table>
<thead>
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<tbody>
<tr>
<td>EET 227T Digital Electronics</td>
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<tr>
<td>EET 234T Automatic Controls</td>
<td>4</td>
</tr>
<tr>
<td>EET 240T Robotics</td>
<td>3</td>
</tr>
<tr>
<td>EET 241T Instrumentation</td>
<td>3</td>
</tr>
<tr>
<td>EET 242T Electronics Lab III</td>
<td>3</td>
</tr>
<tr>
<td>EET 260 Data Communications</td>
<td>3</td>
</tr>
<tr>
<td>EET 270T Wireless Communications</td>
<td>4</td>
</tr>
<tr>
<td>EET 280T Electronics Capstone</td>
<td>2</td>
</tr>
<tr>
<td>SCN 120T-121T Technical Physics I, II</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>16 18</td>
</tr>
</tbody>
</table>
U 122E Ethics and Information Technology 3 cr. Offered spring. Prereq., WTS 101. 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 of the ethical process.

U 151T Networking Basics 3 cr. Offered autumn and spring. Prereq., CRT 100 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 152T Routers and Routing Basics 3 cr. Offered spring. Prereq., CRT 151T 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 172 Introduction to Computer Modeling 3 cr. Offered autumn and spring. Prereq., CRT 100 or demonstrated computer experience. Problem solving and data modeling using computer productivity software. Emphasis using spreadsheets and databases for data analysis. Formal presentation of results. Credit not allowed for both CRT 172 and CS 172.

U 180T Spreadsheet Software 3 cr. Offered autumn and spring. Prereq., CRT 100 or 103T; and MAT 005 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 182T Computer Aided Design and Drafting 2 cr. Offered autumn. Prereq., CRT 100 or demonstrated computer experience. An introduction to computer aided design and drafting software for production of drawings and plans for architecture and engineering systems. Fundamentals of two dimensional drafting and drawing management for professional design.

U 188T Computers and Law 3 cr. Offered autumn. Prereq., CRT 100 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 172. 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 100. 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 172. 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. Prereq., CRT 112T, 151T. 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 Technologies 3 cr. Offered autumn. Prereq., CRT 112T, CRT 151T. 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 Security Seminar 3 cr. Offered spring. 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 231 Object-Oriented Programming 3 cr. Offered autumn. Prereq., CRT 121. Design and implementation of software using object-oriented programming practices. The class framework is used to apply the object-oriented techniques of encapsulation, polymorphism, and inheritance.

U 251T Switching Basics and Intermediate Routing 3 cr. Offered autumn. Prereq., CRT 152T. 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 252T WAN Technologies 3 cr. Offered spring. Prereq., CRT 251T. Project-based course in wide-area networking including advanced IP addressing techniques, network address translation, port address translation, DHCP, WAM technology and terminology, PPP, ISDN, DTR, Frame Relay, network management, and introduction to optical networking.

U 255T Advanced Routing 3 cr. Offered intermittently. Prereq., consent of instr. Analysis, design, and implementation of inter-network routing techniques. Topics include scalability, routing protocols, optimization, and security.

U 256T Remote Access 3 cr. Offered intermittently. Prereq., consent of instr. Analysis, design, and implementation of remote access technologies including connectivity, access control, bandwidth utilization, fault tolerance, redundancy, and integrity.

U 257T Multilayer Switching 3 cr. Offered intermittently. Prereq., consent of instr. Analysis, design, and implementation of reliable, scalable, multi-layer switched LANs. Topics include VLANS, switching protocols, routing, redundancy, multicast, security. Quality of Service and convergence.

U 258T Network Troubleshooting 3 cr. Offered intermittently. Prereq., consent of instr. Network troubleshooting using baselines, configuration documentation, and a building-block approach through analysis of each layer in the OSI networking model.

U 260 Digital Publishing and Design 3 cr. Offered autumn and spring. Prereq., CRT 100 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 263 Web Design and Development 3 cr. Offered autumn and spring. Prereq., CRT 100 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 intermittently. 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.

U 275 Database Design and Implementation 3 cr. Offered autumn. Prereq., CRT 172 or consent of instr. Relational database design including: requirements analysis, data structure, entity relationships, normalization, relational algebra and integrity. Physical implementation focusing on data storage; retrieval and modification; concurrency; optimization; security; SQL; and XML.

U 285T PC Hardware Support 3 cr. Offered autumn. 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 289T Professional Certification 1 cr. Offered spring. Prereq., consent of instr. Review objectives of an information technology industry-based professional certification. Certification objectives, preparation strategies, and exam strategies included. Course can be repeated for different industry-based professional certifications.

U 290T Computer Technology Internship 2 cr. Offered autumn and spring. Prereq., last semester in program, minimum of “C” in all CRT courses, and approval of program director. Not open to non-majors. On-the-job training in positions requiring information technology 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.

**Electronics Technology (EET)**

U 111T Basic Electronics 4 cr. Offered autumn. Study of current flow, direct current circuits, alternating current circuits, and concepts of power. The introduction of time-varying currents and impedances using circuit analysis and problem solving techniques.


U 113T Circuits Kit 1 cr. Offered autumn. Coreq., EET 111T. Covers proper techniques of soldering and tool usage. Electronic technical language, hands on troubleshooting skills and basic electronic measurements are involved.

U 121T Semiconductors 4cr. Offered spring. Prereq., EET 1111T, 112T. Coverage of diode, bipolar transistors and field effect transistor circuits used in electronic applications. The study and analysis of the components and circuits used in semiconductor electronics and an introduction to operational amplifiers.

U 122T Electronics Lab II 3 cr. Offered spring. Coreq., EET 121T. Breadboarding, troubleshooting and measuring the electronic characteristics of diodes, bi-polar transistors, JFETs and operational amplifiers. The impact of impedance matching, filtering and power effects on stages of electronic circuits will be covered.

U 123T Amplifier Kit 1 cr. Offered spring. Coreq., EET 121T. An audio amplifier and dual regulated power supply will be built throughout the semester.

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

U 227T Digital Electronics 4 cr. Offered autumn. Prereq., EET 103T. Explores digital electronic circuits and devices that make up a computer system. Topics include binary and hexadecimal number systems, Boolean algebra and digital logics, theory, simple logic circuits, combinational logic, and sequential logic. Also covered is the analog-to-digital and digital-to-analog interfaces between a digital system and the real (analog) world. Includes hands-on labs.

U 232 Microprocessors 4 cr. Offered spring. Prereq., EET 227T. Explores microprocessor architecture, design, and operations; machine language and assembly language programming; hardware input/output interfacing; and design applications. Includes hands-on labs incorporating an individual student trainer based on the Intel 8085A microprocessor.

U 234T Automatic Controls 4 cr. Offered autumn. Prereq., EET 227T. Explores the theory, terminology and components used in automatic control of industrial machines and processes. Uses the servomechanism as a representative control system to analyze open-loop, closed-loop, proportional, integral, and differential control strategies. The use of transducers and computers in automatic control systems in the industrial control setting. Emphasized.

U 240T Robotics 3 cr. Offered spring. Prereq. or coreq., EET 232, EET 234T or consent of instr. Explores physical and operating characteristics of a robot. Topics include robot configurations, power supplies, control systems, end effectors, sensors, stepper motors and stepper controls. Robot programming also is covered and a typical robot is programmed to perform repetitive actions. Includes hands-on labs.

U 241T Instrumentation 3 cr. Offered spring. Prereq., EET 227T. The study and analysis of industrial measuring and process control instrumentation in both analog and digital form. Proper selection, use and interpretation of measurement equipment and data.


U 260 Data Communications 3 cr. Offered autumn. Prereq., EET 103T. Explores the principles, applications, and theory of data communication systems. Topics include communication concepts and terminology, analog and digital channel characteristics, signaling techniques for analog and digital data, communication codes, transmission media, and standards and protocols for various data communication systems including computer networks, and the public switched telephone network. Includes hands-on labs.

U 270T Wireless Communications 4 cr. Offered autumn. Prereq., EET 103T. Explores audio and radio frequency (RF) circuits. Topics include AM and FM signal modulation and demodulation, RF transmitters, RF receivers, RF amplifiers, audio amplifiers, oscillators, mixers, and antennas. Includes hands-on labs.

U 280T Electronics Capstone 2 cr. Offered spring. Prereq., EET 227T. Completion of project prototypes. Includes comprehensive final project from conception to market.
The Business Technology Department of The University of Montana-Missoula College of Technology collaborates with business and industry to prepare graduates to compete in and contribute to a dynamic global society. The department attracts and retains skilled faculty with the professional experience and theoretical background to utilize diverse instruction which reflects current and emerging business practices. Faculty actively engage student in the learning process by integrating experiential technical education and empowering students to adapt to an ever-changing world.

Students may choose from six Associate of Applied Science degree programs and four certificate programs. Degree programs include Accounting Technology with an option in Computer Support; Administrative Management; Food Service Management; Medical Information Technology with options in Health Information Coding Specialty, Medical Administrative Assisting and Medical Transcription; 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.

Students may attend classes on East and Mountain campuses. Programs may contain day and evening classes.

**Special Degree and Certificate Requirements**

General education requirements are integrated into the following programs. Refer to the Academic Policies and Procedures section of this catalog for the specific requirements.

**Accounting Technology-A.A.S. Degree**

**Lisa Swallow, Director**

Most all organizations need either in-house financial staff or outside bookkeeping/accounting services to aid in financial data compilation and reporting. Bookkeepers and accountants maintain financial records and often participate in strategic planning and other fiscal decisions. Graduates work in small businesses as full charge bookkeepers or large businesses as members of accounting staffs. They are required to communicate extensively with vendors, clients, and employees and are often key players in business projections, cash forecasting, and budgeting. This program provides students the marketable skills for employability in a variety of organizations including service, retail, non-profit, governmental, and accounting firms. Program graduates use technology to gather, compile and analyze data. They communicate budgetary and accounting information to nonfinancial colleagues and managers. Students considering this program should be analytical, detail-oriented, and enjoy using current technology.

Students entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

**Autumn Entry:**

| First Year | A | S |
| ACC 132T-133T Accounting I, II | 4 | 4 |
| ACC 134T Payroll Topics | - | 3 |
| BUS 103S Principles of Business | - | 3 |
| WTS 101 English Composition | - | 3 |
| WTS 160A Oral Communications | - | 3 |
| CRT 100 Computer Literacy | - | 2 |
| CRT 180T Spreadsheet Software | - | 3 |
| PSY 110S Organizational Psychology | - | 3 |
| MAT 100 Intermediate Algebra | - | 2 |
| Total | 18 | 16 |

| Second Year | A | S |
| ACC 232T 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 210E Critical Thinking, Analysis and Problem Solving | - | 3 |
| CRT 172 Introduction to Computer Modeling | - | 3 |
| ECON 111S Microeconomics | - | 3 |
| HMR 232T Wage and Benefits Administration | - | 4 |
| Total | 15 | 16 |

**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 local area networks and install, maintain and troubleshoot software. They will be trained to configure PC hardware as well as to utilize and secure various operating systems.

Students entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

**Autumn Entry:**

| First Year | A | S |
| ACC 132T-133T Accounting I, II | 4 | 4 |
| ACC 134T Payroll Topics | - | 3 |
| BUS 103S Principles of Business | - | 3 |
| WTS 101 English Composition | - | 3 |
| CRT 103T Survey of Information Technology | - | 3 |
| CRT 112T Operating System Fundamentals | - | 3 |
| CRT 151T Networking Basics | - | 3 |
| CRT 180T Spreadsheet Software | - | 3 |
| MAT 100 Intermediate Algebra | - | 3 |
| Total | 16 | 16 |

| Second Year | A | S |
| ACC 234T Managerial Accounting | - | 3 |
| ACC 236T Income Tax | - | 3 |
### Administrative Management-A.A.S. Degree

**Sue Olson, Director**

The Administrative Management Program allows students to advance the career proficiencies acquired in the Customer Relations certificate program by earning an Associate of Applied Science Degree. The Administrative Management program prepares graduates to manage the administrative and information needs of business and industry. Students gain proficiency in computer, management, and information technologies. They complete an academic component to gain an understanding of professional responsibilities in our global society. Graduates of this program become vital members of executive teams with the ability to supervise, organize, and communicate roles in the coordination of administrative services. An Associate of Applied Science Degree in Administrative Management opens opportunities for graduates in a variety of business settings.

Students entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

#### Autumn Entry:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BUS 103S</td>
<td>Principles of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 106T</td>
<td>Records and Information Management</td>
<td>2</td>
</tr>
<tr>
<td>BUS 135T</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS 140T</td>
<td>Customer Service</td>
<td>4</td>
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<tr>
<td>WTS 115T</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>COM 150S</td>
<td>Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
<td>2</td>
</tr>
<tr>
<td>CRT 108</td>
<td>Word Processing</td>
<td>2</td>
</tr>
<tr>
<td>CRT 180T</td>
<td>Spreadsheet Software</td>
<td>3</td>
</tr>
<tr>
<td>HMR 110T</td>
<td>Introduction to Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>MAT 100</td>
<td>Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PSI 110S</td>
<td>Organizational Psychology</td>
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<tr>
<td><strong>Total</strong></td>
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#### Second Year

<table>
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<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
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<tr>
<td>ACC 131T</td>
<td>Essentials of Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BUS 240T</td>
<td>Administrative Support for the Automated Office</td>
<td>2</td>
</tr>
<tr>
<td>BUS 243T</td>
<td>Introduction to Managerial and Supervision</td>
<td>4</td>
</tr>
<tr>
<td>COM 160A</td>
<td>Oral Communications</td>
<td>3</td>
</tr>
<tr>
<td>COM 210E</td>
<td>Critical Thinking, Analysis and Problem Solving</td>
<td>3</td>
</tr>
<tr>
<td>CRT 115</td>
<td>Advanced Document Production</td>
<td>3</td>
</tr>
<tr>
<td>CRT 172</td>
<td>Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>CRT 260</td>
<td>Digital Publishing and Design</td>
<td>3</td>
</tr>
<tr>
<td>CRT 263</td>
<td>Web Design and Development</td>
<td>3</td>
</tr>
<tr>
<td>HMR 290T</td>
<td>Administrative Management Internship</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

### Customer Relations-Certificate

**Sue Olson, Director**

The Customer Relations program provides students with the skills to promote excellent customer relations in business settings. Courses related to 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 entering autumn semester may complete the program in two semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

#### Autumn Entry:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 103S</td>
<td>Principles of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 106T</td>
<td>Records and Information Management</td>
<td>2</td>
</tr>
<tr>
<td>BUS 135T</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS 140T</td>
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<td>4</td>
</tr>
<tr>
<td>WTS 115T</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>COM 150S</td>
<td>Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
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<tr>
<td>CRT 108</td>
<td>Word Processing</td>
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</tr>
<tr>
<td>CRT 180T</td>
<td>Spreadsheet Software</td>
<td>3</td>
</tr>
<tr>
<td>HMR 110T</td>
<td>Introduction to Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>MAT 100</td>
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<td>3</td>
</tr>
<tr>
<td>PSI 110S</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
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</tr>
</tbody>
</table>

### Culinary Arts-Certificate

**Tom Campbell, Director**

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 Food 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.
Autumn Entry:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTS 115</td>
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</tr>
<tr>
<td>COM 130S</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
<td>2</td>
</tr>
<tr>
<td>CUL 151T</td>
<td>Introduction to Food Service Industry</td>
<td>5</td>
</tr>
<tr>
<td>FSM 180T</td>
<td>Nutritional Cooking</td>
<td>3</td>
</tr>
<tr>
<td>MAT 100</td>
<td>Intermediate Algebra</td>
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<tr>
<td>PSY 110S</td>
<td>Organizational Psychology</td>
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<tr>
<td></td>
<td>Food Station Experience from following courses:</td>
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</tr>
<tr>
<td>CUL 156T</td>
<td>Dining Room Procedures</td>
<td></td>
</tr>
<tr>
<td>CUL 157T</td>
<td>Pantry and Garde-Manger</td>
<td></td>
</tr>
<tr>
<td>CUL 158T</td>
<td>Short Order Cookery</td>
<td></td>
</tr>
<tr>
<td>CUL 160T</td>
<td>Soups, Stocks, and Sauces</td>
<td></td>
</tr>
<tr>
<td>CUL 161T</td>
<td>Meats and Vegetables</td>
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</tr>
<tr>
<td>CUL 165T</td>
<td>Baking and Pastry</td>
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<td>Total</td>
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</tbody>
</table>

Food Service Management-A.A.S. Degree

Tom Campbell, Director

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 opportunities. Accreditation by the American Culinary Federation ensures graduates' eligibility for certification as an ACF “Certified Culinarian”.

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, a 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 entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

Autumn Entry:

First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTS 115</td>
<td>Technical Writing</td>
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<tr>
<td>COM 130S</td>
<td>Interpersonal Communication</td>
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<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
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<td>CUL 151T</td>
<td>Introduction to Food Service Industry</td>
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<tr>
<td>FSM 180T</td>
<td>Nutritional Cooking</td>
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<tr>
<td>MAT 100</td>
<td>Intermediate Algebra</td>
<td></td>
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<tr>
<td>PSY 110S</td>
<td>Organizational Psychology</td>
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<tr>
<td></td>
<td>Food Station Experience from following courses:</td>
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<tr>
<td>CUL 156T</td>
<td>Dining Room Procedures</td>
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<td>CUL 157T</td>
<td>Pantry and Garde-Manger</td>
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<tr>
<td>CUL 158T</td>
<td>Short Order Cookery</td>
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<tr>
<td>CUL 160T</td>
<td>Soups, Stocks, and Sauces</td>
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<td>Meats and Vegetables</td>
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<td>CUL 165T</td>
<td>Baking and Pastry</td>
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Second Year

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<tr>
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<th>Course Title</th>
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<tbody>
<tr>
<td>BUS 234T</td>
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<td>CRT 205T</td>
<td>Food Service Management Computer Applications</td>
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</table>

Management-A.A.S. Degree

Brian Larson, Director

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.

Students entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

Autumn Entry:

First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACC 132T</td>
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</tr>
<tr>
<td>BUS 112T</td>
<td>Professional Sales</td>
<td></td>
</tr>
<tr>
<td>BUS 113T</td>
<td>Psychology of Selling</td>
<td></td>
</tr>
<tr>
<td>BUS 125T</td>
<td>Principles of Marketing</td>
<td></td>
</tr>
<tr>
<td>BUS 135T</td>
<td>Business Law</td>
<td></td>
</tr>
<tr>
<td>WTS 101</td>
<td>English Composition</td>
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</tr>
<tr>
<td>CRT 172</td>
<td>Introduction to Computer Modeling</td>
<td></td>
</tr>
<tr>
<td>MAT 100</td>
<td>Intermediate Algebra</td>
<td></td>
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<td>PSY 110S</td>
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Second Year

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<th>Course Title</th>
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<tr>
<td>ACC 134T</td>
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<tr>
<td>BUS 224T</td>
<td>Advertising and Promotion</td>
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<tr>
<td>BUS 243T</td>
<td>Psychology of Management and Supervision</td>
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<td>BUS 250T</td>
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<td>BUS 290T</td>
<td>Management Internship</td>
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<tr>
<td>COM 160A</td>
<td>Oral Communications</td>
<td></td>
</tr>
<tr>
<td>COM 210E</td>
<td>Critical Thinking, Analysis, and Problem Solving</td>
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</tr>
<tr>
<td>CRT 260</td>
<td>Digital Publishing and Design</td>
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<td>CRT 263</td>
<td>Web Design and Development</td>
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</table>
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 entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

### Autumn Entry:

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ACC 132T-133T</td>
<td>Accounting I, II</td>
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</tr>
<tr>
<td>BUS 109T</td>
<td>Visual Merchandising and Display</td>
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</tr>
<tr>
<td>BUS 112T</td>
<td>Professional Sales</td>
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<tr>
<td>BUS 131T</td>
<td>Psychology of Selling</td>
<td>3</td>
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<td>BUS 125T</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>WTS 101</td>
<td>English Composition</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
<td>2</td>
</tr>
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<td>CRT 172</td>
<td>Introduction to Computer Modeling</td>
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</tr>
<tr>
<td>HMR 110T</td>
<td>Introduction to Public Relations</td>
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<tr>
<td>MAT 100</td>
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</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>ACC 134T</td>
<td>Payroll Topics</td>
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</tr>
<tr>
<td>BUS 135T</td>
<td>Business Law</td>
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<td>BUS 224T</td>
<td>Advertising and Promotion</td>
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<td>BUS 243T</td>
<td>Psychology of Management and Supervision</td>
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</tr>
<tr>
<td>BUS 290T</td>
<td>Management Internship</td>
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</tr>
<tr>
<td>COM 160A</td>
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<tr>
<td>COM 210E</td>
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</tr>
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<td>CRT 260</td>
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<td>CRT 263</td>
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</tr>
<tr>
<td>ECON 111S</td>
<td>Introduction to Microeconomics</td>
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<td>PSY 110S</td>
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</tr>
<tr>
<td>Total</td>
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<td>17 16</td>
</tr>
</tbody>
</table>

Sales and Marketing-Certificate

Brian Larson, Director

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 entering autumn semester may complete the program in two semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

### Autumn Entry:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>ACC 132T-133T</td>
<td>Accounting I, II</td>
<td>4</td>
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<tr>
<td>BUS 109T</td>
<td>Visual Merchandising and Display</td>
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<td>BUS 112T</td>
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<td>BUS 112T</td>
<td>Principles of Selling</td>
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<td>BUS 125T</td>
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<td>WTS 101</td>
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<td>CRT 100</td>
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<tr>
<td>CRT 172</td>
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<tr>
<td>HMR 110T</td>
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<tr>
<td>Total</td>
<td></td>
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</tr>
</tbody>
</table>

Medical Information Technology-A.A.S. Degree

Carol Hinricher, Director

The Medical Information Technology program provides three options for students with the flexibility of choosing a career in health information coding specialty, medical administrative assisting or medical transcription. 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. Additionally, students are exposed to the principles of medical ethics and medical legal issues facing health providers.

All Students in the Medical Information Technology degree options acquire work-related skills through internship experiences. Students successfully completing this program are awarded the Associate of Applied Science degree.

Health Information Coding Specialty Option

Students are trained to analyze health records and to accurately abstract and code procedures and diagnoses utilizing legal and regulatory standards. An understanding of anatomy, medical terminology and disease processes will provide students with the necessary tools to determine correct codes and sequences.

Upon completion of this program, students are eligible to sit for national certification examinations offered through American Health Information Management Association.

Students entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

### Autumn Entry:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>WTS 115</td>
<td>Technical Writing</td>
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<tr>
<td>CRT 100</td>
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<tr>
<td>MAT 100</td>
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<td>3</td>
</tr>
<tr>
<td>MED 132T</td>
<td>Insurance Processing for Coding</td>
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</tr>
<tr>
<td>MED 154T</td>
<td>Beginning Medical Terminology</td>
<td>2</td>
</tr>
<tr>
<td>MED 155T</td>
<td>Medical Software</td>
<td>1</td>
</tr>
<tr>
<td>MED 161T</td>
<td>Medical Administrative Procedures</td>
<td>4</td>
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<tr>
<td>MED 165T</td>
<td>Healthcare Data and Content</td>
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<tr>
<td>MED 270T</td>
<td>Terminology for Health Professions II</td>
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<td>BUS 210T</td>
<td>Basic ICD Coding</td>
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<tr>
<td>MED 216T</td>
<td>Terminology for Health Professions</td>
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<tr>
<td>MED 220T</td>
<td>Basic Ambulatory Coding</td>
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</table>
Medical Administrative Assisting Option

Medical administrative assistants 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 and update the office procedures manual, assist in improving workflow and office efficiencies, 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 Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 106T</td>
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<tr>
<td>BUS 140T</td>
<td>Customer Service</td>
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</tr>
<tr>
<td>WTS 115T</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100T</td>
<td>Computer Literacy</td>
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</tr>
<tr>
<td>CRT 108T</td>
<td>Word Processing</td>
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<td>CRT 115T</td>
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<td>MED 153T</td>
<td>Insurance Processing</td>
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<tr>
<td>MED 154T</td>
<td>Beginning Medical Terminology</td>
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<td>MED 161T</td>
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<tr>
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**Second Year**

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<tr>
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<th>Course Title</th>
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<tr>
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<td>ACC 134T</td>
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<tr>
<td>BUS 240T</td>
<td>Administrative Support for the Automated Office</td>
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<td>Psychology of Management and Supervision</td>
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<td>COM 160A</td>
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<td>CRT 172T</td>
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### Spring Entry:

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<td>MAT 100T</td>
<td>Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MED 154T</td>
<td>Beginning Medical Terminology</td>
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</tr>
<tr>
<td>SCN 115N</td>
<td>Anatomy</td>
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**Directed Elective Options**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BUS 103S</td>
<td>Principles of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 240T</td>
<td>Administrative Support for the Automated Office</td>
<td>4</td>
</tr>
<tr>
<td>CRT 180T</td>
<td>Spreadsheet Software</td>
<td>3</td>
</tr>
<tr>
<td>MED 152T</td>
<td>Insurance Processing for Coding Specialists</td>
<td>2</td>
</tr>
<tr>
<td>MED 155T</td>
<td>Medical Software Applications</td>
<td>2</td>
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### Medical Transcription Option

Medical transcriptionists are trained to work in a variety of settings utilizing an understanding of medical terminology along with administrative and transcription skills. Preparation includes transcription of medical charts, reports and correspondence as well as administrative office duties for maintaining patient records and complying with legal policies and HIPAA guidelines.

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 Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>BUS 106T</td>
<td>Records and Information Management</td>
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<tr>
<td>BUS 120T</td>
<td>Transcription and Text Editing</td>
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<tr>
<td>WTS 115T</td>
<td>Technical Writing</td>
<td>3</td>
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<tr>
<td>COM 150S</td>
<td>Interpersonal Communications</td>
<td>3</td>
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<tr>
<td>CRT 100T</td>
<td>Computer Literacy</td>
<td>2</td>
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<tr>
<td>CRT 108T</td>
<td>Word Processing</td>
<td>2</td>
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<tr>
<td>CRT 115T</td>
<td>Advanced Document Production</td>
<td>3</td>
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<tr>
<td>MAT 100T</td>
<td>Intermediate Algebra</td>
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<tr>
<td>MED 154T</td>
<td>Beginning Medical Terminology</td>
<td>2</td>
</tr>
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<td>MED 161T</td>
<td>Medical Administrative Procedures</td>
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**Second Year**

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<td>ACC 134T</td>
<td>Payroll Topics</td>
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<td>BUS 240T</td>
<td>Administrative Support for the Automated Office</td>
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<td>BUS 243T</td>
<td>Psychology of Management and Supervision</td>
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<tr>
<td>COM 150S</td>
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<td>Advanced Document Production</td>
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<tr>
<td>CRT 172T</td>
<td>Introduction to Computer Modeling</td>
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<tr>
<td>MED 216T, 270T</td>
<td>Terminology for Health</td>
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<td>MED 256T</td>
<td>Medical Transcription I</td>
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**Directed Elective Options**

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<td>BUS 103S</td>
<td>Principles of Business</td>
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<td>Beginning Medical Terminology</td>
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**Directed Elective Options**

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### College of Technology - Business Technology - 221

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### Paralegal Studies-A.A.S. Degree

**Tom Stanton, Director**

This program is approved by the American Bar Association. 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 enhance 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 entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

Students attend classes on both the Mountain and East campuses.

#### Autumn Entry:

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<tr>
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<td>LEG 187T</td>
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<td>MAT 100</td>
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#### Spring Entry:

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<td>PSY 110S</td>
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#### Second Year:

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<tr>
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<td>COM 210E</td>
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<tr>
<td>CRT 188T</td>
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<tr>
<td>LEG 270T</td>
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<tr>
<td>LEG 282T</td>
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<td>LEG 283T</td>
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<thead>
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<tbody>
<tr>
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</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*. Credits beyond this maximum do not count toward a degree.

**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.

**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 105T Deciding Majors and Careers 2 cr. Offered autumn and spring. Develop skills to implement major and career decisions within the University and in transition to business and industry.

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. Credit not allowed for both BUS 135T and BADM 257.

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 multi-media 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 250T Entrepreneurship 3 cr. Offered spring. Prereq., CRT 100. 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.

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 entrée salads, cold sauces, appetizers, finger sandwiches, pâtés, gelatins, mousse, ice carvings, as well as banquet and buffet presentation.

U 158T Short Order Cookery 4 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 100 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, setting, 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 270 Purchasing and Cost Controls 5 cr. Offered autumn. Prereq., CUL 151T, MAT 100; or consent of instr. Principles of purchasing foods and materials based on needs, specifications, availability, and seasonality. Costs of doing business including products, labor, facilities, and preparing financial statements.

U 271 Food Service Management Capstone 4 cr. Offered spring. Prereq., FSM 270, coreq., CRT 205T. Coordinates with computer applications course to create virtual food establishments. Includes capstone experience integrating menu planning/design, facilities, publicity, labor, purchasing, and kitchen preparation culminating in a formal, multi-course dinner.

U 275T Patisserie 2 cr. Offered spring. Prereq., CUL 165T, MAT 100 or consent of instr. Advanced principles and techniques in preparing custard sauces, pastry cream,
puddings, custards, mousses, Bavarians, soufflés, ices, crepes, fruits, and dessert sauces. Emphasis on presentation of plated desserts.

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 position 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 1-9 cr. (R-9) 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 and spring. 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 232T Wage and Benefits Administration 4 cr. Offered spring. Emphasis on human resource law. Topics include compensation and benefits terminology, 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 290T Administrative Management 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 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 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 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 196T Independent Study 1-6 cr. (R-6) Offered intermittently.

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 282T Contemporary Legal Issues 3 cr. Offered spring. Prereq., LEG 270T or consent of instr. Capstone experience designed to investigate topical legal issues of current importance. The course will allow relevant concentrated focus and traditional disciplined examination of numerous areas of law practice and theory.

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 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 290T Paralegal Studies Internship 2 cr. Offered autumn and spring. Prereq., last semester in program, minimum of "C" in LEG courses, and approval of program director. On-the-job experience as a paralegal 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 90 hours 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 152T Insurance Processing for Coding Specialists 2 cr.** Offered spring. Prereq., MED 161T Introduction to insurance claim processing for the major medical insurance programs. Emphasis on completing universal insurance forms to maximize reimbursement as well as troubleshoot denied or underpaid claims.

**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; documentation 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 201N-202N. Skill development necessary to assist health care practitioners in all aspects of patient care in the medical office clinical setting. Includes achieving competency in prepping 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. Continued 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 201N-202N. 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 Information Technology 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 information 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.

U 296T Independent Study 1-6 cr. (R-6) Offered

Department of Health Professions

Anne Delaney, Chair

Special Degree and Certificate Requirements

The Health Professions Department of the University of Montana-Missoula seeks to prepare students to be health practitioners who are technically competent and who are effective in a variety of clinical, agency and community settings. The Health Professions Department offers four Associate of Applied Science (A.A.S.) Degrees, one Associate of Science (A.S.) Degree, and two certificate programs with courses and learning experiences that contribute to understanding the health needs of individuals and society. Clinical affiliations and on-site experiences are essential elements of all programs; local communities, their agencies, and organizations are a valuable resource and provide cooperative learning experiences in health delivery systems.

The goals of the Health Professions Department are:
1. To provide programs of study which integrate a variety of health-related disciplines to prepare students for careers in health professions.
2. To contribute to the liberal education of students through courses designed to provide an understanding of human health, fitness and health delivery systems.
3. To meet the continuing education needs of health professionals.

The Health Professions Department offers A.A.S. degrees in Medical Assisting, Registered Nursing (ASRN), Radiologic Technology, Respiratory Care, Surgical Technology and certificates in Practical Nursing (PN) and Pharmacy Technology. Admission to a specific Health Professions (HP) program requires documented completion of the general health core curriculum as required by the specific HP program to which the student is applying. The general health core curriculum is different for each HP program and is listed in the specific program description in this catalog. A general health core curriculum course may be attempted a maximum of two (2) times. Any general health core course required for an HP program must be taken prior to acceptance into the program. Additional requirements for admission to each of the HP programs vary and are also listed in the specific program descriptions.

Students enter the University of Montana-Missoula as pre-health majors and select courses from the general health core curriculum after conferring with an HP advisor. Assessment of writing for placement in writing courses follows University guidelines and is offered during orientation and at various times during the semester. Math placement is determined by a placement test such as COMPASS. Placement testing assures that students are enrolled in the appropriate course to ensure success in writing and math studies.

Admission into a health program requires a completed application for the specific program to which the student is applying, with documented completion of the program specific general health core curriculum. For program specific admission requirements and grade point average (GPA) expectations, please refer to the individual program descriptions or contact the specific HP Program Director. Applications can be obtained on the respective HP Program webpage. Students must submit a separate application to each HP program they desire admission to. If a student is accepted to multiple programs, the student can only accept admission to one HP program and must decline admission to the other program(s). Deadlines for applications are April 1 and November 1.

Students provide proof of the following health requirements prior to beginning the clinical portion of HP programs:
1. Tuberculosis testing using the purified protein derivative (PPD) or chest x-ray (positive results will require a physician’s letter before a student can continue in clinical settings).
2. Hepatitis B vaccine (HBV) for clinical experiences with potential exposure to blood-borne pathogens. A three-injection series is required and may be obtained at Curry Health Center or other health care providers. Students are urged to begin this series as soon as notified of acceptance into an HP program. An acceptable level of hepatitis B immunity must be demonstrated by a post vaccination titer test performed by a medical laboratory.
3. American Heart Association adult, child and infant CPR certification for health care providers.
4. Eye exams are required for surgical technology students due to work with lasers in surgery.
5. Respiratory care students must pass neonatal resuscitation (NRP) prior to their neonatal clinical experience. Respiratory care students are also required to have a physical exam, a ten-pane drug screen, and a police backgrounds check prior to entering clinical experiences.
6. Medical Assisting student must complete First Aid certification.

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 (contact information may be obtained from appropriate HP Program Director).

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

The core curriculum is different for each HP program and is listed in the specific program description. Some program courses may not be offered in all semesters. Consult the HP Program Director or Program Advisor regarding which courses to take and when to enroll.

There are other courses which will enhance HP program
studies and improve a student’s ability to provide quality health care. Students may take these additional courses prior to acceptance to a HP program. Courses should be selected with the assistance of an approved HP program advisor, as taking too many courses may adversely affect financial aid. Theses courses include, but are not limited to:

- BIOL 106N Elementary Medical Microbiology
- CHEM 151N General and Inorganic Chemistry
- CHEM 152N Organic and Biological Chemistry
- CHEM 154N Organic and Biological Chemistry Laboratory
- CHEM 195 General and Inorganic Chemistry Laboratory
- MAT 117 Probability and Linear Math
- MED 154T Beginning Medical Terminology
- PSY 100S Introduction to Psychology
- PSY 110S Organizational Psychology
- PSY 201 Human Development (prereq. PSY 100S)
- SCN 150 Nutrition
- SCN 175T Integrated Science
- SCN 220 Human Physiology
- SOC 100S Introduction to Sociology

Medical Assisting-A.A.S. Degree

Jacqueline (Jacki) Elam, Program Director

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 gain skills in scheduling, medical office accounting systems, medical coding and billing, transcription, phone triage and 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 entering the Medical Assisting program must have earned a “C” or better in all courses of the health core curriculum listed below. A course may be attempted a maximum of two times. As some courses are offered fall or spring semester only, it is important to obtain advising with the Program Director each semester prior to registering for the next semester. Students may apply for either autumn or spring semester program admission.

Upon award of the A.A.S. degree in Medical Assisting, students are eligible to take the Registered Medical Assistant (RMA) national registration exam administered by the American Medical Technologists upon completion of the program. Students are responsible for filing required forms, associated fees, and grade transcripts.

Medical Assisting Program Curriculum

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>COM 150S Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>COM 210E Critical Thinking and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>CRT 108 Word Processing</td>
<td>2</td>
</tr>
<tr>
<td>MED 161T Medical Administrative Procedures</td>
<td>4</td>
</tr>
<tr>
<td>MED 295T Terminology for Health Professions</td>
<td>3</td>
</tr>
<tr>
<td>PSY 100S Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SCN 202N Anatomy &amp; Physiology</td>
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Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
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<td>3</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>PHA 105T Internship</td>
<td>5</td>
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<tr>
<td>Total</td>
<td>14</td>
</tr>
</tbody>
</table>

*In order to facilitate access to the laboratory, PHA 103T, Hospital and Community Practice, may be offered during the time period of January through May. The program director will provide a complete schedule at the beginning of the autumn semester.

Practical Nursing-Certificate

Pharmacy Technology-Certificate

Mary McHugh, Program Director

In the Pharmacy Technology Program at the University of Montana-College of Technology, students are prepared to function in hospital-based pharmacies and retail pharmacies. The two semesters of the program include classroom, lab, and clinical site learning opportunities. Lab and internship hours allow students to integrate their classroom knowledge into the practical setting. Students are required to rotate to clinical sites and some may be outside the Missoula area.

The Pharmacy Technology Program is an Autumn entry program. Applicants to the Pharmacy Technology program must complete the program specific application packet and have earned a "B" or better in all health core courses listed below. A course may be attempted a maximum of two times. Once accepted into the program, all students are expected to complete the PHA classes with a B or higher. In addition, a keyboarding speed of 35 WPM is required for all Pharmacy Technician applicants.

After successfully completing the program, students are awarded a certificate of Completion and are well prepared and encouraged to sit for the national technician certification examination offered through the Pharmacy Technician Certification Board (PTCB). The Pharmacy Technology program is accredited by the American Society of Health System Pharmacists (ASHP).

General Health Core Curriculum

students are prepared to function in hospital-based pharmacies and retail pharmacies. The two semesters of the program include classroom, lab, and clinical site learning opportunities. Lab and internship hours allow students to integrate their classroom knowledge into the practical setting. Students are required to rotate to clinical sites and some may be outside the Missoula area.

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General Health Core Curriculum

to be successfully completed prior to application to the program. A general health core curriculum course may be attempted a maximum of two (2) times:

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CRT 100 Computer Literacy or Competence</td>
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<td>WTS 115 Technical Writing or WTS 101 English</td>
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<tr>
<td>Composition</td>
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<tr>
<td>MAT 100 Intermediate Algebra or MAT 117 Probability and Linear Math</td>
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</tr>
<tr>
<td>MED 154T Beginning Medical Terminology</td>
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Pharmacy Technology Program Curriculum:

First Year

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<tr>
<td>COM 150S Interpersonal Communications</td>
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<tr>
<td>PSY 110S Organizational Psychology</td>
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</tr>
<tr>
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<td>PHA 105T Internship</td>
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<td>Total</td>
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Second Year

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<tr>
<td>PHA 105T Internship</td>
<td>5</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
</tr>
</tbody>
</table>
Margaret Wafset, Program Director

The College of Technology offers a Practical Nursing (PN) certificate program and an Associate of Science degree (AS) in Nursing. Applicants for the PN program must have a high school diploma or equivalency, have completed the general health core curriculum courses with a minimum grade of C, except in SCN 201N and 202N which requires a B or higher grade, and possess a cumulative GPA of at least 2.75. Admission to the program also requires completion of the application which can be obtained on the PN webpage. Application deadlines are April 1 and November 1. A student may apply while enrolled in the general health core curriculum with acceptance to the program to be determined after the currently completed semester grades are finalized. The 20 students who meet the selection criteria will be accepted into the nursing portion of the program. Applicants must prove computer literacy either by successfully passing a challenge examination or transferring in an equivalent course or passing CRT 100. Students learn practical nursing skills through independent study, laboratory, demonstrations, and practice in a nursing skills lab. Under instructor supervision, students also provide patient care in a variety of health care settings. The program is approved by the Montana State Board of Nursing. Accreditation by the National League for Nursing (NLN) is being sought. Students must provide proof of the following health requirements to the PN Program Director prior to entry into the clinical portion of the program: tuberculosis testing using the PPD (Purified Protein Derivative) or chest x-ray (positive results will require a physician’s letter before a student attend clinical classes); hepatitis B vaccine (HBV), a three injection series that may be obtained at Curry health Center and other health care providers, and CPR training for health care providers.

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 nursing at dibsdnur@mt.gov.

PN program graduates are eligible to write the National Council Licensing Examination (NCLEX) for Practical Nurses. After licensure graduates typically find employment in hospitals, nursing homes, physician offices and other health care agencies. They work under the supervision of a registered nurse, physician, dentist, osteopath or other health care provider as specified in the State of Montana Nurse Practice Act.

General Health Core Curriculum
to be completed prior to application to the program A general health core curriculum course may be attempted a maximum of two (2) times.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 151N</td>
<td>General and Inorganic Chemistry</td>
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<tr>
<td>CHEM 195</td>
<td>General and Inorganic Chem Lab</td>
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<tr>
<td>MAT 117</td>
<td>Probability and Linear Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>NUR 195</td>
<td>Introduction to Nursing</td>
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</tr>
<tr>
<td>PSY 201</td>
<td>Human Development Through the Life Span</td>
<td>3</td>
</tr>
<tr>
<td>SCN 150N</td>
<td>Nutrition</td>
<td>2</td>
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<tr>
<td>SCN 201N-202N</td>
<td>Anatomy and Physiology</td>
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</tr>
<tr>
<td>WTS 101</td>
<td>English Composition</td>
<td>3</td>
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</table>

Student who have begun the PN program under an earlier catalog will have a slightly different course of study. Please see a program advisor for the correct schedule of courses. Courses listed below will not be offered until the 2007-2008 school year.

First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>NUR 220</td>
<td>Pharmacology</td>
<td>3</td>
</tr>
</tbody>
</table>

Total 13

Registered Nursing-A.S. Degree

Margaret Wafset, Program Director

The Associate of Science degree program articulates with the PN program and requires at least two further semesters of full-time study. Applicants must have completed a PN program with the general education courses listed in the practical nursing course of study, have a cumulative GPA of at least 2.75, possess and maintain a current unencumbered LPN license, submit three letters of reference from employers or former instructors, produce a proctored essay and possibly come before the interview committee prior to being accepted into the A.S. program. The number of students accepted into the A.S. program is limited to 10 each autumn and spring. Application deadlines are April 1 and November 1. All candidates who meet the admission requirements will be considered. The A.S. degree program is approved by the State Board of Nursing and is seeking NLN accreditation. The requirements for CPR, Hepatitis B vaccination and TB testing are the same as are required for the Practical Nursing student prior to beginning in clinical setting.

There is further skill development in the A.S. degree program, in lecture, lab and clinical settings. The A.S. program allows an LPN to have a career and go to college, as the schedule offers courses online, on weekends and/or in the evening. Upon completion, graduates earn an Associate of Science degree in Nursing (ASRN) and are eligible to write the NCLEX for Registered Nurses. Graduates are prepared for employment as registered nurses in acute care facilities, geriatric care centers, industrial setting, and in public and private health care agencies.

The course of study will be different in the 2008-2009 catalog. Please see a program advisor for the most current sequence of classes.

First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 106N</td>
<td>Elementary Medical Microbiology</td>
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</tr>
<tr>
<td>CHEM 151N</td>
<td>General and Inorganic Chemistry</td>
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<tr>
<td>CHEM 195</td>
<td>General and Inorganic Chem Lab</td>
<td>1</td>
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<tr>
<td>COM 150S</td>
<td>Interpersonal Communication</td>
<td>3</td>
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<tr>
<td>NUR 240</td>
<td>Current Issues in Professional Practice</td>
<td>2</td>
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<tr>
<td>NUR 250</td>
<td>Mental Health Nursing Needs</td>
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<td>NUR 260</td>
<td>Advanced Obstetrics and Pediatrics</td>
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<tr>
<td>NUR 265</td>
<td>Advanced Adult Physiological Needs</td>
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<tr>
<td>NUR 275</td>
<td>Management, Ethics and Internship</td>
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<tr>
<td>SCN 220</td>
<td>Human Physiology</td>
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<tr>
<td>SOC 110S</td>
<td>Principles of Sociology</td>
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</tr>
</tbody>
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Total 17

Radiologic Technology-A.A.S. Degree

Anne Delaney, Program Director

A Radiologic Technologist uses critical thinking and independent judgment to obtain a diagnostic imaging study while maintaining quality patient care and minimizing radiation exposure. Technologists are employed in acute care settings, ambulatory care settings, physicians' offices, in education, and in management or sales positions. With
additional education and training, radiographers may be employed in radiation therapy, computed tomography, mammography, magnetic resonance imaging, diagnostic medical sonography, nuclear medicine, special vascular imaging and cardiac catheterization.

The Associate of Applied Science degree in Radiologic Technology requires students to successfully complete the general health care core curriculum prior to applying to the program. Students admitted to the University of Montana-Missoula may enroll in the general health core curriculum courses. Students must pass SCN 201N-202N with a minimum grade of ‘B’ and have a minimum cumulative GPA of 2.75 in the general health core courses to apply to the Radiologic Technology program. Application to the program is required spring semester the year prior to the autumn semester program start. Students may apply while enrolled in the general health core curriculum with acceptance to the program to be determined after spring grades are finalized. The program classes begin autumn semester each year with four semesters consisting of classroom and clinical education. A ten-week summer clinical rotation is required between the first and second years and consists of 40 hour per week of clinical instruction.

Once accepted in the program, all students are expected to complete SCN 202N and all courses with a RAD rubric with a minimum grade of “B” to continue in the program. Students will be expected to participate in the clinical setting during winter session between autumn and spring semester the second year.

The Radiologic Technology program is approved by the American Registry of Radiologic Technologists (ARRT) and accredited by the Northwest Association of Schools and Colleges. All requirements for the associate degree are completed, the student will be eligible to take the national certification examination administered by the American Registry of Radiologic Technologists. Upon successful completion of this examination, the student becomes a Registered Radiologic Technologist, R.T.(R)ARRT.

Students entering the program are required to rotate to clinical sites outside the Missoula area on a periodic basis. These rotations will take place during any term or semester of the second year. These sites may include, but are not limited to, Ronan, Hamilton, and Polson, Montana. Transportation and housing are the student's responsibility.

General Health Core Curriculum

To be successfully completed prior to application to the program. A general health core curriculum course may be attempted a maximum of two (2) times:

- CRT 100 Computer Literacy or competence ............. 2
- MAT 100 Intermediate Algebra ........................... 3
- SCN 175T Integrated Sciences ............................ 3
- SCN 201N Anatomy and Physiology ..................... 4

Total 12

Radiologic Technology Program Curriculum

First Year

- WTS 115 Technical Writing .............................. 3
- COM 160A Oral Communications ........................ 3
- RAD 110T Introduction to Radiology and Patient Care

Second Year

- RAD 111T Radiological Procedures I .................. 3
- RAD 121T Radiographic Imaging I ....................... 4
- RAD 151T Radiographic Clinical Education I .......... 4
- RAD 211T Radiologic Procedures II .................... 3
- SCN 202N Anatomy and Physiology ..................... 4

Total 13 14

Summer Session

- RAD 161T Radiographic Clinical Education II .......... 10

Total 10

Second Year

- PSY 110S Organizational Psychology .................. 3
- RAD 122T Radiographic Imaging II ...................... 3
- RAD 141T Radiographic Protection ....................... 2
- RAD 245T Radiographic Analysis ......................... 2
- RAD 251T Radiographic Clinical Education III ........ 6
- RAD 261T Radiographic Clinical Education IV ........ 6
- SCN 195T Science Learning ............................... 1

Total 12

Respiratory Care-A.A.S. Degree

Robert Wafset, Program Director

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.

Respiratory therapists, as members of a team of health care professionals, work to evaluate, treat, and manage patients of all ages with respiratory illnesses and other cardiopulmonary disorders in a wide variety of clinical settings. Respiratory therapists must behave in a manner consistent with the standards and ethics of all health care professionals. In addition to performing respiratory care procedures, respiratory therapists are involved in clinical decision-making (such as patient evaluation, treatment selection, and assessment of treatment efficacy) and patient education. The scope of practice for respiratory therapy includes but is not limited to:

- acquiring and evaluating clinical data;
- assessing the cardiopulmonary status of patients;
- performing and assisting in the performance of prescribed diagnostic studies, such as drawing blood samples, performing blood gas analysis, pulmonary function testing, and applying adequate recording electrodes using polysomnographic techniques;
- utilizing data to assess the appropriateness of prescribed respiratory care;
- establishing therapeutic goals for patients with cardiopulmonary disease;
- participating in the development and modification of respiratory care plans;
- case management of patients with cardiopulmonary and related diseases;
- initiating ordered respiratory care, evaluating and monitoring patients' responses to such care, modifying the prescribed respiratory therapy and cardiopulmonary procedures, and life support endeavors to achieve desired therapeutic objectives;
- initiating and conducting prescribed pulmonary rehabilitation;
- providing patient, family, and community education;
- promoting cardiopulmonary wellness, disease prevention, and disease management;
- participating in life support activities as required; and
- promoting evidence-based medicine, research, and clinical practice guidelines.

Starting salaries are excellent with premiums paid for evening, night, and weekend shifts. Jobs are plentiful throughout the United States. Graduates are eligible to take the credentialing examinations administered by the National Board for Respiratory Care (NBRC) which lead to the Registered Respiratory Therapist (RRT) credential. Licensure
requirements in the state of Montana also are met by successful completion of the NBRC Entry Level (CRT) examination.

The program is 4 1/2 semesters in length which includes the Health Care Core and a summer session. Approximate cost for in-state residents is $11,400 and for out-of-state residents, $22,000.

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) 533-9355. Graduates receive the degree of Associate of Applied Science in Respiratory Care.

Students accepted to the program are required to rotate to clinical sites outside the Missoula area on a periodic basis. These rotations take place during the spring semester, summer session and autumn semester of the second year. These sites may include, but are not limited to: Kalispell, Ronan, Polson, Butte, Billings, Bozeman, Hamilton, Lewiston, Idaho and Spokane, Washington. Transportation and housing are the student's responsibility.

**Program Admission Requirements**

1. Completion of all general health core courses with a minimum 2.75 GPA in the core courses.
2. Minimum grade of B minus in SCN 201N and SCN 202N.
3. Previous health care experience is preferred. Applicants are required to "job shadow" a Respiratory Care practitioner in the workplace. Consult the Respiratory Care Program Director for details.
4. Submit completed application packet to the HP Administrative Assistant by April 1 for autumn entry into the program.

Note: If a student has not completed the general health core courses prior to the end of summer session, he/she must still apply in spring semester and request a provisional acceptance contingent upon successful completion of general health core courses during the summer session.

**General Health Core Curriculum**

To be successfully completed prior to application to the program. A general health core curriculum course may be attempted a maximum of two (2) times.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Attempts Allowed</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT 100</td>
<td></td>
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</tr>
<tr>
<td>MAT 100</td>
<td>Intermediate Algebra or MAT 117</td>
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<tr>
<td>Probability and Linear Math</td>
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<tr>
<td>PSY 110S</td>
<td>Organizational Psychology</td>
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<tr>
<td>SCN 201N-202N</td>
<td>Anatomy and Physiology</td>
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<tr>
<td>WTS 115</td>
<td>Technical Writing</td>
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**Respiratory Care Program Curriculum**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Autumn Semester</th>
<th>Summer Session</th>
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</thead>
<tbody>
<tr>
<td>RES 120T</td>
<td>Ethics and Health Care Communication</td>
<td>A</td>
<td>2</td>
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<tr>
<td>RES 129T</td>
<td>Patient Care and Assessment</td>
<td>S</td>
<td>4</td>
</tr>
<tr>
<td>RES 131T</td>
<td>Respiratory Care Fundamentals</td>
<td>A</td>
<td>6</td>
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<tr>
<td>RES 133T</td>
<td>Respiratory Care Pharmacology</td>
<td>A</td>
<td>3</td>
</tr>
<tr>
<td>RES 150T</td>
<td>Respiratory Care Laboratory I</td>
<td>A</td>
<td>1</td>
</tr>
<tr>
<td>RES 231T</td>
<td>Respiratory Care Critical Care</td>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>RES 232T</td>
<td>Respiratory Pathology and Disease</td>
<td>A</td>
<td>3</td>
</tr>
<tr>
<td>RES 235T</td>
<td>Cardiopulmonary Anatomy and Physiology</td>
<td>A</td>
<td>3</td>
</tr>
<tr>
<td>RES 250T</td>
<td>Respiratory Care Laboratory II</td>
<td>A</td>
<td>2</td>
</tr>
<tr>
<td>RES 255T</td>
<td>Clinical Experience I</td>
<td>A</td>
<td>5</td>
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</tbody>
</table>

**Total** | 16 | 17 |

**Autumn Semester** | A | 7 |
| RES 241T    | Perinatal and Pediatric Respiratory Care | A | 3 |
| RES 242T    | Respiratory Management | A | 1 |
| RES 252T    | Respiratory Care Review | A | 2 |
| RES 270T    | Respiratory Care Laboratory IV | A | 2 |
| RES 275T    | Clinical Experience III | A | 7 |

**Surgical Technology-A.A.S. Degree**

**Debbie Fillmore, Program Director**

Students in the Surgical Technology program are educated to be surgical technologists who work as part of the surgical team to ensure the operative procedure is conducted under optimal conditions. The ST is responsible for three phases (preoperative, intraoperative, and postoperative) of patient care with minimal direction. All surgical team members must adhere to the principles of asepsis and the practice of sterile technique. The ST normally functions in a sterile capacity, passing instruments, equipment and supplies to the surgeon during the surgical procedure but may also perform many non-sterile duties throughout the workday.

The Associate of Applied Science Degree (A.A.S.) in Surgical Technology requires students to successfully complete the general health core curriculum classes prior to applying to the program. Students admitted to the University of Montana-Missoula may enroll in the general health core curriculum courses. The surgical technology-specific courses begin spring semester. Students must apply to the ST program by November 1. Students may apply while enrolled in the general health core curriculum with acceptance to the program to be determined after fall grades are finalized.

Once accepted to the program, a student must complete each surgical technology-specific course with a minimum grade of "C" (2.0) in order to continue in the ST program. A student is expected to become a member of the Association of Surgical Technologists (www.ast.org). A student anticipating program completion will write the National Certification Exam. A student who successfully completes the ST program is awarded an A.A.S. degree in Surgical Technology. The credential of Certified Surgical Technologist (CST) will be awarded to a student upon passing the National Certification Exam and graduation from the ST program.

Students are required to rotate sites during the clinical portion of their education. During the last semester of the program, internships may be outside the Missoula area. Transportation and housing are the student's responsibility.

The University of Montana-Missoula College of Technology Surgical Technology Program also has Outreach campuses in Butte and Billings. Students on those campuses take the general health core curriculum courses on their respective campuses. The surgical technology-specific courses begin spring semester. Students must apply to the ST program by November 1. Students may apply while enrolled in the general health core curriculum with acceptance to the program to be determined after fall grades are finalized. The classroom portion of the ST program curriculum is delivered online in web-based format from the Missoula campus. Lab and clinical courses are conducted on each Outreach campus. Outreach students are required to travel to Missoula to write the National Certification Exam and to participate in Commencement exercises. Prospective students may contact the Outreach Office at 406-243-7871 for more information regarding the ST Program on the Butte and Billings campuses.

The ST program is accredited by the Committee on
General Health Core Curriculum

to be successfully completed prior to application to the program. A general health core curriculum course may be attempted a maximum of two (2) times.

WTS 115 Technical Writing or WTS 101 English Composition 3
CRT 100 Computer Literacy or equivalent 2
MAT 100 Intermediate Algebra or MAT 117
Probability and Linear Math 3
MED 154T Beginning Medical Terminology 2
PSY 100S Introduction to Psychology 4
SCN 201N Anatomy and Physiology 4

Total 18

Surgical Technology Program Curriculum:

First Year

BIOL 106N Elementary Medical Biology 3
SCN 202N Anatomy and Physiology 4
SUR 101T Introduction to Safe Patient Care 3
SUR 102T Surgical Procedures Lab I 5
SUR 154T Surgical Pharmacology 3

Total 15

Second Year

SUR 200T Operating Room Techniques 5
SUR 201T Surgical Procedures I 4
SUR 202T Surgical Procedures Lab II 2
SUR 203T Surgical Lab Practicum I 4
SUR 204 Ethical Dimensions in Health Professions 3
SUR 205T Surgical Procedures II 5
SUR 206T Surgical Lab Practicum II 5
SUR 290T Surgical Internship 5

Total 18 15

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. Credits beyond this maximum do not count toward a degree.

Nursing (NUR)

U 101 Introduction to Nursing 3 cr. Offered autumn and spring. Prereq., SCN 201N-202N, MAT 117, WTS 101, SCN 150N, PSY 100S, CHEM 151 with lab, and acceptance into the practical nursing program. Introduces the student to basic principles and psychomotor skills to provide a framework for developing initial competencies in patient care. Campus lab experience is used initially. Off campus clinical experience in a long term care setting completes the hands on portion. Successful students are qualified to apply for certification as certified nurse assistants.

U 151 Drug Administration and Calculations 3 cr. Offered autumn and spring. Prereq., WTS 101, MAT 117, SCN 201N-202N, SCN 150N, PSY 100S, CHEM 151 with lab, and acceptance into the practical nursing program. Apothecary, metric, and household conversion factors and their application in solving dosage problems. On campus lab experience in administering medications by all routes.

U 154 Pharmacology I 2 cr. Offered autumn and spring. Prereq., MAT 117, SCN 201N-202N, SCN 250N, PSY 100S, CHEM 151 with lab, and acceptance into the practical nursing program. Fundamental principles of pharmacology 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 4 cr. Offered spring and summer. Prereq., SCN 201N-202N, SCN 150N, MAT 117, WTS 101, PSY 100S CHEM 151 with lab, and acceptance into the practical nursing program. Coreq., NUR 151, 154. 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 160 Childbearing Family Needs 3 cr. Offered spring and summer. Prereq., all second semester nursing classes and acceptance into the practical nursing program. Meeting basic human needs of the childbearing family unit and children from one month of age to adolescence. The continued application of growth and development and communication theories with 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 or child in acute care and outpatient settings. Classroom and clinical lab components must be satisfactorily completed in order to pass this course.

U 196T Independent Study I-6 cr. (R-6) Offered intermittently.

U 240 Current Issues in Professional Practice 2 cr. Offered autumn and summer. Prereq., admission to the registered nursing program. Focus on the role transition from LPN to RN in relation to the concepts and principles of holistic nursing care. Focus is on the continuing development of roles and responsibilities of the RN as defined by the scope of practice standards, nursing theory and conceptual models.

U 250 Mental Health Nursing Needs 2 cr. Offered spring and summer. Prereq., admission to the registered nursing program and current unencumbered LPN license. Principles and practices related to the holistic nursing care of individuals and families across the lifespan. Focus on the continued development of the nursing process to address psychosocial needs. Concepts include the helping relationship, specific mental health illnesses, crisis intervention, and specific nursing therapies related to treatment.

U 254 Pharmacology II 2 cr. Offered spring and summer. 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 4 cr. Offered spring and summer. Prereq. all courses in the second semester of the practical nursing program. Coreq., NUR 160, NUR 254. 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 260 Advanced Obstetrics and Pediatrics 3 cr. Offered...
autumn and summer. Prereq., NUR 240 and NUR 250, admission to the registered nursing program, and current unencumbered LPN license. Presentation of concepts and principles related to the registered nurse providing nursing care for childbearing families and children who are experiencing complex alterations in the functional dimension of health. Focus on the use of the nursing process in assessment and application of advanced concepts in the care of the child-bearing family, or a child with more complex health care problems from birth through adolescence. Exploration of special needs and complications during the perinatal experience, and altered functioning, special needs and disease processes manifested in children.

U 265 Advanced Adult Physiological Needs 4 cr. Offered autumn and spring. Prereq., NUR 240, admission to the registered nursing program, current unencumbered LPN license. Focuses on the role of the registered professional nurse as care provider, teacher, manager, and advocate in meeting the more complex medical and surgical needs of adults across the lifespan. Utilizing the nursing process students will advance their learning in advanced physical assessment including comprehensive history, physical and psychological assessment of signs and symptoms, pathologic changes and psychosocial variations of the patient. Differential nursing diagnosis and treatment of more complex pathological conditions of the adult will also be explored.

U 266 Clinical Capstone Experience 2 cr. Offered intermittently. Prereq., all first semester nursing 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 intermittently. Prereq., PSYC 1005, all first semester nursing courses and concurrent enrollment in NUR 255 and 160 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. A practice examination to assess readiness for the NCLEX licensure exam is administered.

U 270 Nursing Review 2 cr. Offered intermittently. Prereq., Enrollment in all second semester nursing courses and consent of instructor. Preparation for the national test for LPN licensure.

U 275 Leadership, Management, and Internship 1 cr. Offered autumn and spring. Prereq., or coreq., completion of NUR 260 and NUR 265. Focuses on the principles of professional nursing management, leadership and ethics. Students develop knowledge and skills in decision making as well as in the management areas of planning, organizing, staffing, directing and controlling. Emphasis is on the use of leadership knowledge and skills in affecting change. Integration of knowledge of ethical factors as they relate to health and illness.

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 autumn. Prereq., admission into Pharmacy Technology program. 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 spring. Prereq., PHA 100T, 101T, 102T. 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 3 cr. Offered spring. 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 3 cr. Offered spring. Preparation in the procedures associated with radiology in standard radiographic environments.

U 121T Radiographic Imaging I 4 cr. Offered spring. Introduction to fundamental physics principles underlying radiology and diagnostic ex-ray production. Topics include electromagnetic waves, electricity and magnetism, electrical energy, and power and circuits as they relate to radiography. 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 3 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 4 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 principle of ALARA.

U 161T Radiographic Clinical Education II 10 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 I-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 2 cr. Offered spring. An overview of imaging concepts as a review for the national boards. Topics include a systematic approach for image evaluation, patient care, radiation protection and the physics of radiographic imaging.

U 251T Radiographic Clinical Education III 6 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 6 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.

U 290T Radiology Internship 1 cr. Offered spring. Required internship to be completed during winter session between fall and spring semester of the last year. On the job experience as a radiologic technologist under the supervision of an employer. Students work a minimum of 24 hours per week during the three week intersession.

Respiratory Care (RES)

U 120T Perspectives in Health Care Communications 2 cr. Offered autumn. 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 4 cr. Offered autumn. Prereq., SCN 201N-202N. Introduction to nursing-related knowledge and skills with emphasis on application of microbiology to aseptic technique. Assessment of the respiratory system with cardiopulmonary diagnostic and laboratory tests interpretation. Medical terminology integrated throughout the course. Peer and instructor review of selected clinical competencies in a laboratory setting.

U 131T Respiratory Care Fundamentals 6 cr. Offered autumn. Prereq., acceptance into the Respiratory Care program. Orientation to basic respiratory care science including the application of principles of physics. Emphasis on theory, operation and troubleshooting of equipment used at the entry level of practice. Microbiology in relation to equipment processing, pulmonary rehabilitation and home care included.

U 133T Respiratory Care Pharmacology 3 cr. Offered autumn. Prereq., acceptance into the Respiratory Care Program or consent of instr. Principles of basic chemistry introduced with an application to pharmacology as related to the pulmonary system. Cardiovascular and related pharmacology studied in preparation for ACLS and ventilator management.

U 150T Respiratory Care Laboratory I 1 cr. Offered autumn. Prereq., acceptance into the Respiratory Care program. Basic clinical competencies taught in RES 131T are studied in a laboratory setting. Peer and instructor review included. Students earn their BLS certification.

U 231T Respiratory Critical Care I 4 cr. Offered spring. Prereq., RES 120T, 129T, 131T, 133T, 150T. 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 through various advanced airway techniques. Rhythm strip interpretation in preparation for ACLS.

U 232T Respiratory Pathology and Disease 3 cr. Offered spring. Prereq., RES 120T, 129T, 131T, 133T, 150T. Special lectures in medicine and disease as related to the cardiopulmonary system. Emphasis on recognition of signs and symptoms of disease and implications for treatment through the study of selected case studies. Neonatal and pediatric diseases included.

U 235T Cardiopulmonary Anatomy and Physiology 3 cr. Offered spring. Prereq., RES 120T, 129T, 131T, 133T, 150T or consent of instr. Principles of physiologic chemistry are introduced and applied to the macro and micro anatomy of the cardio pulmonary system with a focus on structure and function. Application made to pathology and assessment of patients receiving mechanical ventilation.

U 241T Perinatal and Pediatric Respiratory Care 3 cr. Offered autumn. Prereq., RES 260T, 265T. Study of perinatal and pediatric respiratory care with emphasis on assessment, resuscitation and mechanical ventilation of the neonate and pediatric patient. The theory of Neonatal Resuscitations (NRP) will be presented.


U 250T Respiratory Care Laboratory II 2 cr. Offered spring. Prereq., RES 120T, 129T, 131T, 133T, 150T. A continuation of RES 150T with emphasis on adult critical care. Clinical competencies taught in RES 231T and RES 233T are studied. Peer and instructor review included.


U 255T Clinical Experience I 6 cr. Offered spring. Prereq., RES 120T, 129T, 131T, 133T, 150T. Emphasis on the student directly performing basic clinical skills in a patient care setting to include hospitals, home care, and pulmonary function laboratories. Students also participate in physician rounds.
U 260T Respiratory Care Laboratory III 1 cr. Offered summer. Prereq., RES 231T, 232T, 235T, 250T, 255T. Peer and instructor review are included. Students will be Advanced Cardiac Life Support (ACLS) and Pediatric Advance Life Support (PALS) certified at the end of this class.

U 265T Clinical Experience II 6 cr. Offered summer. Prereq., RES 231T, 232T, 235T, 250T, 255T. Continuation of clinical skills learned in RES 255T. Introduction to adult critical areas along with sleep and cardiac diagnostics. Students also participate in physician rounds.

U 270T Respiratory Care Laboratory IV 2 cr. Offered autumn. Prereq., RES 260T, 265T. A continuation of RES 260T with an emphasis on neonatal and pediatric critical care. Clinical competencies introduced in RES 241T are studied. Peer and instructor review are included. Students will be Neonatal Resuscitation (NRP) certified at the completion of the class.

U 275T Clinical Experience III 7 cr. Offered autumn. Prereq., RES 260T, 265T, 270T. Continuation of RES 265T with critical care of the adult. Neonatal and pediatric critical care experiences also emphasized along with teaching skills in selected areas. Students also participate in physician rounds.

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 autumn. Prereq., completion of all first semester courses; coreq., SUR 102T. Provides an orientation to the scrub and circulatory roles of the surgical technologist in the preoperative, intraoperative and postoperative periods. Entry level skills and theories are emphasized.

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 164T Microbiology for the Surgical Technologists 3 cr. Offered autumn. Basics of microbiology and techniques for prevention and control of disease before, during, and after surgery.

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 5 cr. Offered autumn. Prereq., completion of all first and second semester courses; coreq., SUR 202T. Focus on the scrub and circulator roles of the surgical technologist in the preoperative, intraoperative, and postoperative periods. More complex skills and theories; impact of new technologies in the 21st century operating room.

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 postoperative stages of specific surgical specialties.

U 202T Surgical Procedures Lab 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 204 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 stages of C-V/thoracic, orthopedic, neurological, and ophthalmic specialties.

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 209T Surgical Internship 5 cr. Offered spring. Prereq., all first, second, and third semester courses, SUR 205T, 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

The instruction for the four A.A.S. degree programs and five 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 to maintain commercial buildings. Classes include plumbing, electricity, carpentry, and heating/air conditioning. While in school, students learn physical and electrical theories, allowing them to understand building systems. In addition, they study building cleaning, landscape maintenance, pool care, computers, and boiler operation. Water treatment is discussed in both the pool and boiler courses.

Students are awarded a Certificate of Completion upon successfully completing the program. Contact John Walker, Program Director, at 406-243-7645 or John.Walker@mso.umt.edu for more information.

Autumn and Spring Entry:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
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<tbody>
<tr>
<td>BME 128T Maintenance</td>
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<tr>
<td>BME 122T Electricity</td>
<td>- 6</td>
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<tr>
<td>BME 123T Carpentry</td>
<td>6</td>
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<tr>
<td>BME 127T Low Pressure Boilers</td>
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<tr>
<td>CRT 100 Computer Literacy</td>
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<tr>
<td>BME 130T Heating and Air Conditioning</td>
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</tr>
<tr>
<td>MAT 110T Industrial Math</td>
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<td>PSY 105T Work Attitudes</td>
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<td>Total</td>
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</table>

Carpentry - Certificate and A.A.S. Degree

The Carpentry program provides students the opportunity to learn carpentry skills in a competency-based environment based on national standards from the National Center for Construction Education and Research. Traditional and non-traditional students work hand-in-hand with professions both on campus and at construction sites.

Students use hand and power tools with blueprints to build foundation forms, frame buildings, side and roof buildings, and apply roofing materials. They install windows, doors, stairs, attic vents, insulation, vapor barriers, and drywall. Students learn methods for installing trim, locksets, suspended ceilings, countertops, cabinets, and flooring. They learn to operate forklifts, generators, compressors, trenchers, compactors, and loaders.

In addition to general education courses, students in the program learn the various steps of becoming a carpenter including safe practices. They can construct real-world projects and can earn certification from the National Center for Construction Education and Research, as well as a one-year certificate or a two-year Associate of Applied Science degree from the University of Montana-Missoula. Contact Donnie Laughlin, Program Director, at 406-243-7692 or Donnie.Laughlin@mso.umt.edu for more information.

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>CAR 120T Carpentry Level 1 Lecture</td>
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<tr>
<td>CAR 121T Carpentry Level 1 Lab</td>
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</tr>
<tr>
<td>CAR 130T Carpentry Level 2 Lecture</td>
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<td></td>
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<tr>
<td>CAR 131T Carpentry Level 2 Lab</td>
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<tr>
<td>CAR 140T Carpentry Level 3 Lecture</td>
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<tr>
<td>CAR 141T Carpentry Level 3 Lab</td>
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<td>BUS 242T Supervision</td>
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Successful completion of the courses listed above result in the award of a Certificate of Completion in Carpentry.

Second Year

<table>
<thead>
<tr>
<th>Course</th>
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<td>CAR 221T Carpentry Level 4 Lab</td>
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<tr>
<td>CAR 230T Building Management</td>
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<tr>
<td>CAR 231T Building Management Lab</td>
<td>- 3</td>
<td></td>
</tr>
<tr>
<td>CAR 240T Alternative Construction Materials</td>
<td>- 3</td>
<td></td>
</tr>
<tr>
<td>BME 129T Heating and Air Conditioning</td>
<td>- 4</td>
<td></td>
</tr>
<tr>
<td>WTS 115 Technical Writing</td>
<td>- 3</td>
<td></td>
</tr>
<tr>
<td>WEL 111T Welding</td>
<td>- 2</td>
<td></td>
</tr>
<tr>
<td>WEL 184T OSHA Rules &amp; Compliance</td>
<td>- 1</td>
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<tr>
<td>Total</td>
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<td>14</td>
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</tbody>
</table>

Successful completion of the first and second year courses listed above results in the awarding of an Associate of Applied Science Degree in Carpentry.

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 Jim Headlee, Program Director, at 406-243-7648 or Jim.Headlee@mso.umt.edu for more information.

*Autumn Entry:

First Year
- CRT 100 Computer Literacy .............. - 2
- DET 120T Electrical Systems ............. - 8
- DET 128T Engine Service I .................. - 4
- DET 135T Power Trains ..................... - 7
- MAT 110T Industrial Math .................. - 3
- MPR 115T Related Metals Processes ...... - 3
- WEL 111T Welding ......................... - 2

Total 17 15

Second Year
- COM 115 Technical Writing ................ - 2
- DET 221T Brakes, Suspension, and Undercarriage - 6
- DET 225T Hydraulics ....................... - 6
- DET 229T Engine Service II ............... - 7
- DET 230T Air Conditioning .................. - 3
- DET 235T Fuel Systems ..................... - 5
- DET 235T Advanced Power Trains .......... - 2
- TRK 106T Commercial Driver’s License (CDL) - 2

Training (not offered every semester) ..... (1)

Total 17 17-18

*Spring entry allowed with program director's consent.

Power Generation Option

Power generation has become a major industry within the overall diesel industry with many companies needing qualified generator technicians to service, test and repair gaseous powered systems. A University of Montana-Missoula College of Technology diesel technology student may enroll in the power generation option upon successful completion of the two year diesel program or a perspective student with industry related experience may petition to get into the program. The power generation student can expect to be introduced to the concept of gaseous powered generators, controls, general set-up/testing and troubleshooting techniques. Generator tear down and assembly is experienced enhancing the student's ability to understand the operation and overhaul principles of a power generator. Students also will experience operation, set-up and adjustment of typical fuel systems as found on gaseous powered generation systems, including diagnostic principles. Common types of control units also will be covered with control safety of the system being the primary consideration.

Summer Session
- DET 270T Diesel and Gaseous Fueled Engines, 3 cr.
- DET 271T Power Generators, 5 cr.
- DET 272T Power Generation Controls, 4 cr.

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. Contact Rod Frost, Program Director, at 406-243-7642 or Rodney.Frost@mso.umt.edu for more information.

Autumn Entry:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<td>CRT 100</td>
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<td>HEO 140T</td>
<td>Basic Surveying</td>
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<td>HEO 142T</td>
<td>Basic Surveying II</td>
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<td>HEO 146T</td>
<td>Safety and Basic Controls</td>
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<tr>
<td>HEO 148T</td>
<td>Operational Skill Building</td>
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<tr>
<td>HEO 150T</td>
<td>Job Simulation</td>
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<tr>
<td>HEO 151T</td>
<td>Service and Maintenance</td>
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<td>HEO 153T</td>
<td>Construction Theory and Specialized Equipment</td>
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<td>MAT 110T</td>
<td>Industrial Math</td>
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<td>MPR 112T</td>
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<td>PSY 105T</td>
<td>Work Attitudes</td>
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<tr>
<td>TRK 106T</td>
<td>Commercial Driver’s License</td>
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<tr>
<td>WEL 111T</td>
<td>Welding</td>
<td>2</td>
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</tbody>
</table>

Total 17 18-19

Recreational Power Equipment Certificate

Students in the program are trained to be 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, tool 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 Mike Steffenson, Program Director, at 406-243-7693 or Michael.Steffenson@mso.umt.edu for more information.

Autumn Entry:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
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<tr>
<td>MAT 110T</td>
<td>Industrial Math</td>
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<tr>
<td>MPR 115T</td>
<td>Related Metals Processes</td>
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<tr>
<td>PSY 105T</td>
<td>Work Attitudes</td>
<td>1</td>
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<tr>
<td>SET 160T</td>
<td>Basic Electricity</td>
<td>3</td>
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<tr>
<td>SET 176T</td>
<td>Motorcycle/ATV Engines, Suspension, and Chassis</td>
<td>3</td>
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<tr>
<td>SET 177T</td>
<td>Motorcycle/ATV Electrical and Fuel Systems</td>
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<tr>
<td>SET 178T</td>
<td>Marine Electrical and Fuel Systems</td>
<td>4</td>
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<tr>
<td>SET 179T</td>
<td>Marine Powerheads and Lower Units</td>
<td>6</td>
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<tr>
<td>SET 180T</td>
<td>Snowmobile Maintenance and Repair I</td>
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<tr>
<td>SET 181T</td>
<td>Snowmobile Maintenance and Repair II</td>
<td>2</td>
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<tr>
<td>SET 182T</td>
<td>Computer Applications for Motor Sports</td>
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</tbody>
</table>

Total 18 16

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—oxygen-ethylene, 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.

Students seeking only the one year certificate in Welding Technology are required to take PSY 105T, Work Attitudes. For more detailed information including program costs, tool lists, class schedules, and course syllabi, visit our web site at: www.ite.umt.edu/department/industrial/welding_technology, or contact Bob Shook, Program Director, at 406-243-7644 or Bob.Shook@mso.umt.edu.

Autumn Entry:

First Year

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<tr>
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<td>Industrial Math</td>
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<td>MPR 114T</td>
<td>Related Metals Processes</td>
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<td>WEL 105T</td>
<td>Shielded Metal Arc Welding</td>
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<td>WEL 181T</td>
<td>Shielded Metal Arc Welding (Plate)</td>
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<tr>
<td>WEL 182T</td>
<td>Blueprint Reading and Development</td>
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<tr>
<td>WEL 194T</td>
<td>Layout Techniques</td>
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<td>WEL 184T</td>
<td>OSHA Rules and Compliance</td>
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<tr>
<td>WEL 185T</td>
<td>Flux Core Arc Welding</td>
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<tr>
<td>WEL 189T</td>
<td>Metal Fabrication I</td>
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Successful completion of the courses listed above result in the award of a Certificate of Completion in Welding.

Second Year

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<td>BUS 242T</td>
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<td>COM 155T</td>
<td>Technical Writing</td>
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<tr>
<td>CRT 123T</td>
<td>Computer Aided Design and Drafting</td>
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<td>MPR 214T</td>
<td>Advanced Related Metals Processes</td>
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<td>WEL 280T</td>
<td>Gas Tungsten Arc Welding</td>
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<td>WEL 281T</td>
<td>Metal Fabrication II</td>
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<tr>
<td>WEL 282T</td>
<td>Pipe Welding—SMAW and GTAW</td>
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<td>WEL 283T</td>
<td>Gas Metal Arc Welding</td>
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<td>WEL 285T</td>
<td>Automation in Welding</td>
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<tr>
<td>WEL 286T</td>
<td>Welding Certification and Codes</td>
<td>2</td>
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</table>

Total: 18 credits

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. Credits beyond this maximum do not count toward a degree.

Building Maintenance Engineering (BME)

U 122T Electricity 6 cr. Offered spring. The electrical laws and principles pertaining to DC and AC circuits. Includes current, voltage, resistance, power, load, panels, feeders, lamps, motors, and fuses. Introduction to wiring methods and materials in conformance with the National Electrical Code (NEC). Includes installation and replacement of light fixtures, heaters, GFCI's, switches, receptacles, and electrical thermostats.

U 123T Carpentry 6 cr. Offered autumn. Application of carpentry principles and techniques. Construction and maintenance of foundation, floor, wall, ceiling, and roof systems. Includes safe use of tools and materials common to the industry. Additional topics are painting, masonry, insulation, and ventilation of commercial buildings.

U 127T Low Pressure Boilers 3 cr. Offered spring. The fundamentals of low pressure boiler operation and maintenance. Covers steam, feed-water, fuel, and draft systems. Includes boiler water treatment and hot water heating systems. Introduces safe mechanical operating procedures used in the industry.

U 128T Maintenance 6 cr. Offered autumn. Maintenance principles pertaining to lawns, groundcovers, trees, swimming pools, plumbing, and building cleaning. Emphasis is placed on safe application of chemicals; maintenance frequency; and the identification and safe uses of associated tools and materials.

U 130T Heating and Air Conditioning 6 cr. Offered spring. The fundamentals of heating, ventilating, and air conditioning. Covers heating and refrigeration cycles, gas furnaces, refrigerants, system evacuation and charging, and components used in associated systems. Introduces the basic mechanical service procedures used in the industry.

U 228T Machine and Equipment Installation 2 cr. Offered spring. 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 tackle. Skills pertaining to the proper use of ladders, scaffolds, safety belts, and life nets used in maintenance work are discussed.

Carpentry (CAR)

U 120T Carpentry Level 1 Lecture 4 cr. Introduction to the carpentry trade, including history, career opportunities, and requirements. The course covers building materials, fasteners, adhesives, hand tools, and power tools. Students learn about and are required to build a small building with a floor, walls, ceiling, and a roof. Windows and exterior door are also installed.

U 121T Carpentry Level 1 Lab 3 cr. Lab to accompany CAR 120T.

U 130T Carpentry Level 2 Lecture 2 cr. This course includes advanced blueprint reading, material estimating, site layout, measurement, and differential leveling. Concrete forms are constructed, including continuous, pier, grade beam, slabs, and footings. Form application and construction methods are demonstrated. Cutting, bending, splicing, and tying of reinforcing steel is required. Students learn methods for handling, placing, and finishing concrete. Manufactures forms are introduced for walls, columns, deck slabs, roof slabs, beams, and girders.

U 131T Carpentry Level 2 Lab 3 cr. Lab to accompany CAR 130T.

U 140T Carpentry Level 3 Lecture 4 cr. Study of various types of siding, gutter systems, roof venting requirements, and framing with metal studs. Installation of sheathing, exterior siding, roofing felt, shingles, insulation vapor barriers, and stairs on small building constructed in Carpentry 1. Installation of wood and metal doors including frames, locksets, and closers. Demonstration of materials, layout and installation of suspended ceilings. Selection and installation of countertops, base cabinets and wall cabinets. Window, door, floor, ceiling trim and drywall are installed in a small building.

U 141T Carpentry Level 3 Lab 5 cr. Lab to accompany CAR 140T.

U 220T Carpentry Level 4 Lecture 4 cr. The process of angular measurement, using transits, theodolites, electronic distance measuring devices, lasers, and trisnomeric calculations to lay out foundations and determine locations. Installation of standing seam, lap seam, and built-up roofing
systems; concrete, vinyl, wooden, tile, and carpeted floors as well as radiant heating; paneling, wainscoting, movable partitions, curtain walls and fire-rated commercial wall construction. Advanced stair systems, including shop built and prefabricated stairs, balustrades, mitered risers and treads, and layout of elliptical fastening methods, and assembly techniques. Project planning, scheduling, estimating, and management skills included.

U 221T Carpentry Level 4 Lab 3 cr. Laboratory to accompany CAR 130T.

U 230T Building Management 3 cr. Introduction to building business and project management including overhead costs, payroll costs, estimating and scheduling. Covers elements of payroll computation and preparation, payroll tax returns, information returns, and identification and compensation of independent contractors. Students are introduced to building cost estimating, and scheduling of subcontractors and building inspections.

U 231T Building Management Lab 3 cr. Laboratory to accompany CAR 130T.

U 235T Building Energy Conservation 3 cr. Study of the analysis techniques used for reduction of energy consumption and energy management, including energy accounting and energy auditing. Residential and commercial building energy efficiency opportunities will be covered. Other topics addressed include motors, pumps, green building, and purchasing energy supplies. Career opportunities in energy efficiency will be discussed.

U 240T Alternative Construction Materials 3 cr. Review of alternative construction materials and other alternative building materials, as well as building materials using recycled components. Re-use of salvaged materials and use of non-traditional building methods such as straw bale and rammed earth construction will be covered.

**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 232T 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.

U 270T Diesel and Gaseous Fueled Engines 3 cr. Offered summer. Prereq., completion of an accredited diesel program or consent of instr. Overview of the diesel engine and its operating principles including the fuel systems found in the power generation field. Both mechanical and electronic type systems studied in depth. Gaseous/spark ignited internal combustion with in-depth look at both the ignition system and fuel system. Emission systems, preventive maintenance and general tune-up included.

U 271T Power Generators 5 cr. Offered summer. Prereq., completion of accredited diesel program and DET 270T. Introduction to generators as found in the power generation field including the review of electrical laws that pertain to A/C and D/C current. The operation of a typical internal combustion powered generator will be covered in depth including troubleshooting and rebuilding practices found in the power generation field. Generator mounting/alignment practices and generator installations, including flow requirements for combustion and cooling.

U 272T Power Generation Controls 4 cr. Offered summer. Prereq., completion of accredited diesel program and DET 271T. Operation of the generator and controls including governing devices and other specialized devices such as reverse power relays and voltm/amp reactive power factor (VAR) controllers. Intensive troubleshooting including in depth coverage of service and repair of control systems.

**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 146T. 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, threads 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, propping, 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 1 cr. Offered spring. Prereq., CRT 100. 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 1 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 115T, 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 280T Gas Tungsten Arc Welding 4 cr. Offered autumn. 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. Programming and use of a PUMA 650 Industrial Robot.

U 286T 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.

U 285T 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.

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., University of Montana, 1994 (Applied Arts and Science)
Anne Delaney, M.B.A., University of Montana, 2002 (Health Professions)
Deborah Fillmore, M.E., University of Montana, 2000, R.N. (Health Professions)
Cheryl Galipeau, M.E., University of Montana, 1999 (Business Technology)
Cec Gallagher, Ed.D., Montana State University, 1998 (Academic Support)
Patty Gauthier, M.S., Montclair State College, 1986 (Health Professions)
Tom Gallagher, M.S. Western Washington University, 1996 (Computing and Electronics, Chair)
James Headlee, M.E., Northern Montana College, 1987 (Industrial Technology)
Colin Henderson, Ph.D., University of New Mexico, 1985 (Applied Arts and Sciences)
Karen Hill, M.A., University of Montana, 1998, R.N. (Applied Arts and Sciences; Health Professions, Chair)
Penny Jakes, M.E., University of Montana, 1981 (Computing and Electronics)
Brian Larson (Business Technology, Chair)
Ross Lodahl, Certificate, Spokane Community College, 1967 (Business Technology)
Mary McHugh, B.S., University of Montana, 1978 (Health Professions)
Mark Medvetz, M.F.A., University of Montana, 1989 (Applied Arts and Sciences)
Carrie W. Miller, M.S.N., University of Phoenix, 2006 (Health Professions)
Ed Moore, M.E., University of Montana, 1988 (Applied Arts and Sciences)
Mary Nielsen, M.S.N., Clarkson College, 2000, R.N. (Health Professions)
Sue Olson, M.E., University of Montana, 1996 (Business Technology)
Tim Olson, M.B.A., University of Montana, 1997, C.P.A. (Business Technology)
Steven Rice, M.E., Northern Montana College, 1991 (Computing and Electronics)
Niki Robinson, M.E., University of Montana, 2000 (Business Technology)
Michele Sare, M.S.N., University of Phoenix, 2005 (Health Professions)
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., University of Montana, 2001  
(Computing and Electronics)

Lynn Stocking, M.E., University of Montana, 1987  
(Associate Dean; Director, Academic Computing; Business Technology)

Linda Strelnick, B.S., University of Montana, 1976,  
CST/CFA (Health Professions)

Lisa Swallow, M.S., California State University, Chico, 1990,  
C.P.A., C.M.A. (Business Technology)

Rhonda Tabish, Certificate, University of Montana, 1974  
(Computing and Electronics)

Margaret Wafstet, M.N., Montana State University, 1981,  
R.N. (Health Professions)

Robert Wafstet, M.S., Eastern Washington University, 1974,  
R.R.T. (Health Professions)

John Walker, M.B.A., University of Montana, 1990  
(Industrial Technology)

Donald Warden, B.A., Iowa State University, 1974  
(Health Professions)

Adjunct Faculty

Candace Alberi, B.S.N., Montana State University, 1974  
(Health Professions)

(Health Professions)

Michael Bailey, L.L.B., University of Sydney Law School,  
1985 (Business Technology)

Anthony Becker, M.B.A., University of Montana, 2003  
(Applied Computing and Electronics)

Michelle Boller, M.A., George Washington University, 2004  
(Business Technology)

Kathryn Brauer, B.S., University of Montana, 1983, C.Ph.T,  
1997 (Health Professions)

Megan Brophy, A.A., University of Montana, 1997 (Health Professions)

Debra Burleigh-Gilbert, B.S.N., Washington State University, 2003  
(Health Professions)

Dora Cardillo, B.S., Boise State University, 1985 (Health Professions)

Kirsten Cooper, B.S., University of Montana, 2002 (Business Technology)

Tom DiNoia, A.A.S., University of Montana, 2003 (Industrial Technology)

Melinda Dorn, A.A.S., New Jersey Academy of Culinary Arts, 2005 (Business Technology)

Colleen Dowdall, J.D., University of Montana, 1981  
(Business Technology)

Jacki Elam, M.A., University of Montana, 2007 (Health Professions)

Ethan Eyestone, A.A.S., University of Montana, 2001 (Health Professions)

Beverly Freeman, A.A.S., University of Montana, 1988  
(Business Technology)

Rodney Frost (Industry Technology)

Laurie Gries, M.A., University of Montana, 2004 (Applied Arts and Sciences)

Diana Haker, B.S.N., Montana State University, 1991 (Health Professions)

Wendy Haller, M.S.N., University of Utah, 1995 (Health Professions)

Jim Harris (Industrial Technology)

Colleen Holmquist, A.A., University of Montana, 1994  
(Health Professions)

Scott Johnson, B.A., University of Montana, 1981 (Business Technology)

Vern Larson, B.A., University of Great Falls, 1987 (Applied Computing and Electronics)

Donnie Laughlin, B.A., University of Montana, 1968  
(Industrial Technology)

Karen Logan, A.A.S., College of Great Falls, 1990 (Health Professions)

Scott Louis, A.A., Community College of the Air Force, 1999  
(Health Professions)

Mark McLaverty, J.D., University of Montana, 1992  
(Business Technology)

Charles Miller, M.S., Indiana University, 1977 (Health Professions)

Charles Myers, M.E. (Applied Arts and Sciences)

David Neu, M.F.A., University of Montana, 1993 (Industrial Technology)

LeAnn Ogilvie, B.S.N., Montana State University, 1993  
(Health Professions)

Ashley Preston, Ph.D., The University of Montana, 2001  
(Applied Arts and Sciences)

Brianna Randall, M.S., University of Montana, 2004 (Applied Arts and Sciences)

Kim Reiser, M.A., University of Montana, 2000 (Applied Arts and Sciences)

Cheryl Richards, B.S.N., Montana State University, 1989,  
R.N. (Health Professions)

Robert Schlegel, M.F.A., University of Montana, 1994  
(Applied Arts and Sciences)

Michael Steffenson, A.A.S., Alexandria Technical College, 1990 (Industrial Technology)

Linda Eagleheart Thomas, Ph.D., University of Montana, 2002 (Applied Arts and Sciences)

Teresa Thompson, J.D., University of Montana, 1986  
(Business Technology)

Laurie Trudeau, A.S., Spokane Falls Community College,  
1998 (Health Professions)

Lynnette Walker, Certificate, University of Montana (Health Professions)
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. Credits beyond this maximum do not count toward a degree.

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.


Intercultural Youth and Family Development

Rita Sommers-Fianagan (Professor of Counselor Education), Acting Director

This master’s degree program is designed for students who wish to engage in culturally-relevant volunteer work or paid employment in the realm of child and family assistance. It is affiliated with the United States Peace Corps as a partner school for their master’s international program. Requirements include one year of full-time instruction at UM, a significant period of time engaging in internship work in an applied intercultural setting, and a final professional paper or thesis. Internships will typically be 1-2 years and will involve work in a culture other than one’s own. Students participating in this program are expected to gain the following background and competencies:

- important interculturally-informed helping skills for working with youth, women, and communities in culture other than their own
- a solid background in issues, concerns, and critiques regarding assistance and interventions across culture, both historically and currently
- opportunity to pursue and participate in a significant field experience, working with an established helping agency in another culture or country.

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. Credits beyond this maximum do not count toward a degree.

Intercultural Youth and Family Development (IYFD)

G 501 Intercultural Aspects of Human Development I 3 cr. Offered autumn. Explorations of childrearing practices, parenting beliefs, and cultural variations in infancy and early child development.

G 502 Intercultural Aspects of Human Development II 3 cr. Offered spring. Explorations of cultural variations in later childhood, adolescence and adulthood, with particular focus on issues such as multicultural adoption, identity, and the role of poverty.

G 510 Applied Intercultural Skills Development 2 cr. Offered autumn. Focus on applied skills in two areas: cross-cultural negotiation and conflict management; program development and grant writing.

G 595 Special Topics 2-6 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 1-6 cr. (R-6) Offered every term. Directed readings and other individualized study topics guided by faculty.

G 598 Internship 1-6 cr. (R-6) Offered every term. Introduction to service learning in applied settings.

G 599 Professional Project 1-2 cr. (R-2) Offered every term. Final Master’s project related to internship; may be presented as a grant proposal, policy analysis, or other professional paper.

G 698 Internship 1-4 cr. (R-4) Offered every term. Supervised intercultural experience through Peace Corps, VISTA, or other organization approved by program faculty.

G 699 Thesis 1-2 cr. (R-2) Offered every term. Final master’s thesis based on research related to internship placement.
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. Credits beyond this maximum do not count toward a degree.

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.

UG 497 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.

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)

Steven Levine, Ph.D., Harvard University, 1972 (Adjunct Mansfield Professor of Modern Asian Affairs)
The Maureen and Mike Mansfield Library

Bonnie Allen, 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 1.5 million bound volumes, including more than 50,000 electronic books, access to over 30,000 print and electronic journals, an expanding array of electronic databases, nearly 100,000 media, a federal government 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 111 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 and wireless access throughout the building provide 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. Credits beyond this maximum do not count toward a degree.

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 200 Research Strategies 1 cr. Offered every term. Introduces on-campus and distant students to academic library research methods and resources with a focus on remote access and services for distant students. Explores all steps of academic research including how to find information and use critical thinking to evaluate sources.

G 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.

G 296 Independent Study 1-6 cr. (R-6) Prereq., consent of instructor.

G 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.

G 396 Independent Study 1-9 cr. (R-9) Prereq., consent of instructor.

UG 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.

UG 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

Bonnie Allen, M.L.S., Indiana University, 1980 (Dean)
Sue Samson, M.A., University of Missouri, 1977

Associate Professors

Barry Brown, M.I.L.S., University of Michigan, 1989
Kimberley 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

Assistant Professors

Jennie Burroughs, M.L.I.S., University of Illinois, 2004
Julie Edwards, M.L.I.S., University of Illinois, 2005
Jordan Goffin, M.L.S., Indiana University, 2003
Samantha Hines, M.L.I.S., University of Illinois, 2003
Steve McCann, M.L.I.S., University of Washington, 2003
Donna McCrea, M.L.S., University of Wisconsin-Milwaukee, 1999
Tammy Ravas, M.L.S., State University of New York at Buffalo, 2001
Kate Zoellner, M.L.I.S., University of Michigan, 2005

Librarian

Steven Atkin, J.D., The University of Montana, 1994 (College of Technology)

Emeritus Professor

Devon Chandler, Ed.D., University of Oregon, 1973
Karen Diessen, M.A., University of Denver, 1967
Richard T. Dunn, M.A.L.S., Rosary College, 1972
William W. Elison, M.A., University of Denver, 1970
<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>University</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karen Hatcher</td>
<td>M.S.</td>
<td>University of Wisconsin</td>
<td>1964</td>
</tr>
<tr>
<td>Douglas E. Mills</td>
<td>M.A.</td>
<td>University of California</td>
<td>1950</td>
</tr>
<tr>
<td>Christopher Mullin</td>
<td>M.A.</td>
<td>University of Washington</td>
<td>1969</td>
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<td>Dennis Richards</td>
<td>M.L.S.</td>
<td>Florida State University</td>
<td>1963</td>
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<td>Bonnie Schuster</td>
<td>M.L.S.</td>
<td>University of Minnesota</td>
<td>1968</td>
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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 a major in any of the following areas: accounting, finance, 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 M.B.A. Program, School of Business Administration.

Foundation Program for Graduate Work in Business
The Master of Business Administration (M.B.A.) and Master of Accountancy (M.Acc.) 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.Acc at The University of Montana-Missoula by one year.

ACCT 201 Financial Accounting
ACCT 202 Managerial Accounting
IS 257 Business Law
FIN 322 Business Finance
IS 270 Management Information Systems
IS 341 Operations Management
MGMT 340S Management and Organizational Behavior
MKTG 360 Marketing Principles
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
IS 257 Business Law
IS 270 Management Information Systems
2. Complete the following requirements during the junior-senior years (with grades of C- or better in each course):
FIN 322 Business Finance
IS 341 Operations Management
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: In order to take 300 and 400 level classes in the School of Business Administration, a student must have achieved junior standing in business. Junior standing in business is defined as having completed a minimum of 60 semester credits and having completed all of the freshmen-sophomore requirements listed in section above with a grade of C (2.0) or better in each course.

Special Degree Requirements
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: Only elective courses may be taken on a credit/no credit basis. All courses required for the major and all general education courses must be taken for a traditional letter grade. For additional information see the General Education section of the catalog.

For business majors, exceptions to the letter-grade requirement in the major may be made by the instructor with the approval of the department chair unless the course is identified as traditional letter graded only.

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 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: Students may take courses in the School of Business Administration 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.

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For business majors, exceptions to the letter-grade requirement in the major may be made by the instructor with the approval of the department chair unless the course is identified as traditional letter graded only.
the junior year: accounting, finance, information systems, international business, management, or marketing.
4. Complete course work required in the selected major during the junior-senior years with grades of C- or better in each course.
5. Complete three different business-oriented experiential learning exposures 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 exposures 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 (typically in a business capstone course) from the approved list in the Academic Policies and Procedures section of this catalog.
7. Pass the major field examination.
8. 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.
9. 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.
10. Complete at least a total of 120 credits of which at least 39 are at the 300- or 400-level.
11. Earn a minimum grade-point average of 2.00 for all credits in business administration courses for which a grade is received and a minimum grade-point average of 2.00 for all credits in major-area courses for which a grade is received.
12. Please note that not all business courses are offered every academic term.

Department of Accounting and Finance

Terri L. Herron, 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 majors within the Bachelor of Science in Business Administration degree: accounting and finance.

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 Major
The undergraduate accounting major 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 Major

Required: Credits
ACCT 310 Accounting Information Systems ........ 3
ACCT 311 Intermediate Accounting I .................. 3
ACCT 312 Intermediate Accounting II .................. 3
ACCT 421 Cost Management I ............................ 3
ACCT 422 Cost Management II ........................... 3
ACCT 431 Income Tax .................................... 3
ACCT 441 Auditing ........................................ 3
ACCT 451 Governmental/Non-Profit Accounting .... 3

Plus three (3) credits from the following:
ACCT 313 Advanced Accounting Topics .............. 3
ACCT 492 Cost Management II .......................... 3
ACCT 495 Special Topics ................................ 3

Note: Students should select, in consultation with their faculty advisor, the 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--The following courses must be completed with a C or better:
ACCT 310 Accounting Information Systems .......... 3
ACCT 311 Intermediate Accounting I .................. 3
ACCT 312 Intermediate Accounting II .................. 3
ACCT 313 Advanced Accounting Topics ............... 3
ACCT 421 Cost Management I ............................ 3
ACCT 422 Cost Management II ........................... 3
ACCT 431 Income Tax .................................... 3
ACCT 441 Auditing ........................................ 3
ACCT 451 Governmental/Nonprofit Accounting ....... 3

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.

Finance Major
The finance 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 Finance Major
All students must complete 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
Department of Information Systems and Technology

Belva L. Jones, Chair

The Department of Information Systems and Technology offers a major in Information Systems within the Bachelor of Science in Business Administration.

Information Systems Major

The information systems curriculum prepares students to manage an organization's information resources. The major 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 Major

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
IS 498 Information Systems Internship ...................................... 3
Choose two courses (6 credits) from the following: .................. 6
IS 471 Fundamentals of Network Management

Department of Management and Marketing

Nader H. Shooshtari, Chair

The Department of Management and Marketing offers three majors within the Bachelor of Science in Business Administration: International Business, Management, and Marketing.

International Business Major

The international business major 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 Major

Required:
Management Major

The management major is designed to provide students with the interpretative, analytical, and integrative skills required in managerial positions in a variety of business and nonprofit organizations.

**Basic Requirements for Management Major**

- Required: 
  - MGMT 344 Human Resource Management 3
  - MGMT 345 Entrepreneurship 3
  - MGMT 440 Business Ethics 3
  - MGMT 444 Management Communication 3
  - Plus three (3) courses from the following:
    - MGMT 401 Event Management 3
    - MGMT 402 Principle of Entertainment Management I 3
    - MGMT 403 Principle of Entertainment Management II 3
    - MGMT 430 Business Negotiations 3
    - MGMT 449 Business Plan Implementation 3
    - MGMT 458 Advanced Entrepreneurship Seminar 3
    - MGMT 465 World Trade and Commerce 3

- MGMT 480 Cross-Cultural Management 3
- MGMT 485 Seminar in Contemporary International Issues 3
- MGMT 495 Special Topics 3
- MGMT 498 Management Internship 3

Courses recommended outside of Business:
- PSYC 350 Social Psychology 3
- ECON 323 Labor Economics 3
- ECON 324 Industrial Relations 3

*Check course descriptions for prerequisites.

Marketing Major

The marketing major 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.

**Basic Requirements for Marketing Major**

- Required: 
  - MGMT 368 International Business 3
  - MKTG 362 Consumer Behavior 3
  - MKTG 363 Marketing Communication 3
  - MKTG 365 Marketing Research 3
  - Nine (9) credits from the following:
    - MKTG 369 Advertising Competition 3-6
    - MKTG 410 Marketing Channels 3
    - MKTG 411 Services and Relationship Marketing 3
    - MKTG 412 Nonprofit Marketing 3
    - MKTG 460 Marketing of High-Technology Products and Innovations 3
    - MKTG 495 Special Topics 3
    - MKTG 498 Marketing Internship 3

Courses recommended outside of Business:
- PSYC 350 Social Psychology 3
- RECM 483 Commercial Recreation, Marketing and Tourism 3
- MAR 111A Fundamentals of Media Arts Production 3
- CS 181 Electronic Publishing on the World Wide Web 3

*Please check course descriptions for prerequisites.

**MKTG 362, 363, and 366 are prerequisites for MKTG 461.

Suggested Course of Study

For all business majors:

**First Year**

- IS 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
- OR for Finance majors, MATH 150, Applied Calculus 4
- Electives or General Education 2 3 3
- 15-16 15

**Second Year**

- ACCT 201 Financial Accounting 3
- ACCT 202 Managerial Accounting 3
- MATH 241 Statistics 4
- IS 257 Business Law 3
- IS 270 Management Information Systems 3
- Electives and General Education 8 6
- 13 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 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 beyond this maximum do not count toward a degree. 
Courses at the 500 and 600 levels are open only to graduate students admitted to degree programs.

**Accounting (ACCT)**

- U 201 Financial Accounting 3 cr. Offered every term. 
- Prereq., Math 117 or Math 150. 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 with a grade of C or better. Continuation of ACCT 201 with a focus on managerial accounting topics.

- U 298 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 310 Accounting Information Systems 3 cr. Offered autumn and spring. Prereq., Junior standing in Business. Provides thorough understanding of manual and computerized business processes, risks, and internal controls. Computer applications may be used to demonstrate concepts.

U 311 Intermediate Accounting I 3 cr. Offered every term. Prereq., junior standing in Business, ACCT 201 and 202 with grade of C or better or consent of instr. Topics include concepts in financial accounting, the accounting cycle, time value of money, assets and related income statement accounts.

U 312 Intermediate Accounting II 3 cr. Offered every term. Prereq., junior standing in Business, ACCT 311 with a grade of C or better, 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 with a grade of C or better, 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 make better decisions in a wide variety of business and not-for-profit organizations. Current readings in cost management and related topics.

UG 431 Income Tax 3 cr. Offered autumn or spring. Prereq., Junior standing in Business or consent of instructor. Coreq., ACCT 312. The application of the federal income tax law to determine income, deductions and losses. Special topics include property transactions.

UG 432 Income Tax Practicum 1 cr. Offered spring. Prereq., junior standing in Business. Service course that provides free tax preparation to low income taxpayers and students, in conjunction with the IRS. Students apply their knowledge of tax law to the preparation and e-filing of income tax returns under the direction of a practicing CPA. Graded credit/no credit only.

UG 441 Auditing 3 cr. Offered autumn or spring. Prereq., junior standing in Business, ACCT 310 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/Nonprofit Accounting 3 cr. Offered autumn or spring. Prereq., junior standing in Business or consent of instr. Coreq., ACCT 312. Principles of accounting and financial reporting for governmental units 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.

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

UG 498 Accounting Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 509 Financial Reporting and Control 3 cr. Offered autumn. Prereq., admission or approval 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.

UG 605 Administrative Controls 2 cr. Offered spring. Prereq., admission to the program. The application of accounting information to managerial and/or financial decision-making.

UG 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.

UG 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.

UG 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.

UG 632 Advanced Tax Practicum 1 cr. Offered spring. Prereq., graduate standing in business or consent of business graduate director and instr. Service course that provides free tax preparation to low income taxpayers and students, in
conjunction with the IRS. Graduate students apply their knowledge of tax law to the preparation and e-filing of income tax returns under the direction of a practicing CPA, review the work of undergraduate preparers, and assist in the organization and training of undergraduate prepares. Grade option credit/no credit only.

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 643 Fraud Examination 3 cr. Offered intermittently. Prereq., graduate standing. A study of signs of fraud, internal controls, ethics in business, and fraud prevention. An examination of fraud cases and an introduction to fraud examination techniques. Intended for graduate students, without regard to specific major, who have an interest in fraud prevention and detection.

G 656 Accounting Information Systems Topics 1-3 cr. (R-3) Offered intermittently. 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 first summer session. Prereq., or coreq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, student must be in good academic standing. 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 credit/no credit.

G 694 Seminar 3 cr. (R-15) Offered intermittently. 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.

G 699 Thesis Variable cr. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director. Grade option credit/no credit only.

**Business Administration (BADM)**

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 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 intermittently. 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 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 321 Real Estate Fundamentals 3 cr. Offered intermittently. Prereq., junior standing in Business. 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 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.

U 410 $50,000 Portfolio 3 cr. Offered autumn. Prereq., junior standing in Business, grade of C or better in 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, grade of C or better in 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, grade of C or better in FIN 322, 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, grade of C or better in 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, grade of C or better in FIN 322 or consent of instr. Raising capital, capital structure issues and debt and equity markets.

UG 450 Banking 3 cr. Offered spring. Prereq., junior standing in Business, grade of C or better in 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.

UG 473 Multinational Financial Management and Accounting 3 cr. Offered autumn or spring. Prereq., junior standing in Business, grade of C or better in FIN 322, or consent of instr. Students are strongly encouraged to complete MGMT 368 prior to FIN 473. Financial skills required of corporate executives in international business. Topics may include differences in global accounting practices and the resulting effects on multinational corporations.

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 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. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 (15)

U 1005 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 IS 1005 and BUS 1035.

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 257 Business Law 3 cr. Offered every term. An analysis of the legal and ethical implications of domestic and international commercial transactions. Credit not allowed for both BUS 135T and IS 257.

U 270 Management Information Systems 3 cr. Offered every term. Prereq., CS 172. Introduces the development, use, and management of computer-based information systems.

U 296 Independent Study 1-3 cr. (R-3) Offered every term. Prereq., consent of instr.

U 298 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 341 Operations Management 3 cr. Offered every term. Prereq., junior standing in Business. A survey of the processes that organizations, public or private, use to produce goods and services. Includes management science topics.

UG 370 Database Management Systems 3 cr. Offered spring. Prereq., junior standing in Business and IS 270. Information systems design and implementation within a database management system environment. Topics include data models, structured 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.

UG 373 Business Systems Analysis and Design 3 cr. Offered autumn. 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.

UG 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.

UG 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.

UG 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.

UG 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.

UG 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.

UG 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.

UG 476 Project Management 3 cr. Offered spring. Prereq., junior standing in Business and IS 270, 370, 371 and 373. Emphasis 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.

UG 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.

UG 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.

UG 491 Information Systems Practicum 3 cr. Offered every term. Prereq., junior standing in Business and consent of instr. Practical hands-on experience with area organizations. Provides application of classroom learning.

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.

UG 496 Independent Study 1-6 cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

UG 498 Information Systems Internship 1-6 cr. (R-6) 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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.

G 571 Enterprise Modeling 2 cr. Offered autumn. Prereq., graduate standing. Explores knowledge management systems, data warehouses, data mining, ERP, SANS, and data distribution. Focuses on management; does not require a technical background.

G 572 IT Strategy and Leadership 2 cr. Offered autumn. Prereq., graduate standing. Explores how alignment of IT infrastructure and capabilities can achieve competitive advantage with an industry. Includes the role of IT management in leading change, managing decisions and integrating information systems across the organization. Focuses on management; does not require a technical background.

G 573 Business Processes and Security 2 cr. Offered summer. Prereq., graduate standing. Analyzes business processes and the security challenges created from the emergence of new technology. Includes the effect of legal, regulatory and security technology on policy development. Focuses on management; does not require a technical background.

G 574 Management of Information Systems 2 cr. Offered spring. Prereq., IS 571, 572. The tactical/operational responsibilities and roles of the CIO. Includes governance issues, supporting the learning organization, managing the technologies, and managing the development of systems. Focuses on management; does not require a technical background.

G 575 Fundamentals of Consulting 2 cr. Offered spring. Prereq., graduate standing. The technical, interpersonal, and consulting skills necessary to effectively work with clients. Focuses on management; does not require a technical background.

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.

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 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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.
UG 348 Entrepreneurship 3 cr. Offered autumn and spring. Prereq., junior standing in Business, FIN 322, MGMT 348S, 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.

UG 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.

UG 401 Event Management 3 cr. Offered fall. Prereq., junior standing and consent of instructor; open to non-business majors. Students are introduced to skills that are necessary for managing entertainment events. Topics include: market research; artist research; negotiating events; producing live events; and working with community and non-profit organizations. Students will develop and participate in several live events throughout the semester.

UG 402 Principles of Entertainment Management I 3cr. Offered spring. Prereq., junior standing and consent of instructor; open to non-business majors. Students are introduced to the fundamental aspects of the entertainment business. Topics include: market research; artist research; negotiating events; producing live events; and working with community and non-profit organizations. Students will develop and participate in several live events throughout the semester.

UG 403 Principles of Entertainment Management II 3 cr. Offered spring. Prereq., junior standing, MGMT 402, and consent of instructor; open to non-business majors. Students build on the concepts learned in MGMT 402. Topics include: tour development and marketing; agency relations and responsibilities; and new forms of entertainment media and distribution. Students will produce an artist development plan.

UG 420 Leadership and Motivation 3 cr. Offered autumn and spring. Prereq., junior standing in Business and MGMT 340S. Study of fundamental concepts, theories, and models of leadership and motivation. Selected topics include: trait and behavioral theories of leadership, charismatic and transformational leadership, power and influence, emotions and justice perceptions in motivation, expectancy and equity theories.

UG 430 Business Negotiations 3 cr. Offered intermittently. Prereq., junior standing in Business. Theories and processes of negotiation in various business settings. Theories and concepts of negotiation presented through illustrative case studies proven to increase the value of negotiated deals. Students become cognizant of their instinctive negotiation styles and build on their accumulative knowledge progressing to sophisticated skills such as multiparty negotiation, mediation and arbitration.

UG 440 Business Ethics 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.

UG 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.

UG 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.

UG 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.

UG 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.

UG 457 Entrepreneurship for Non-Business Students 3 cr. Offered autumn. Prereq., junior standing; open to non-business majors only. 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 starting a business of their choice.

UG 458 Advanced Entrepreneurship Seminar 3 cr. Prereq., junior standing, MGMT 457 for non-business majors, MGMT 348 or concurrent enrollment in MGMT 348 for Business majors. Extends previous course work in entrepreneurship with focus on managing and marketing a growing business, legal and technology issues for entrepreneurs, and financing new ventures. Course utilizes local and regional experts in the field of entrepreneurship to deliver course content under the supervision of UM instructor. Students refine their existing business plan and participate in business plan competition or write case analyses.

UG 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. Study of issues related to cultural diversity within the work force 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.

UG 495 Special Topics Variable cr. (R-9) Offered autumn and spring. Prereq., junior standing in Business or consent of
instructor. 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. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 doing business 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 Internship 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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.

U 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.

U 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.

U 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. 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.

U 410 Marketing Channels 3 cr. Offered intermittently. Prereq., junior standing in Business and MKTG 360. Study of functions and interrelationships among channel intermediaries in the value chain, including suppliers, producers, wholesalers, and retailers within the broader context of the channel environment.

U 411 Services and Relationship Marketing 3 cr. Offered intermittently. Prereq., junior standing in Business and MKTG 360. Service marketing integrates marketing concepts and techniques for organizations whose core product is service; topics include quality service delivery, customer attraction and retention, and relationship marketing. Focus is on service fields such as financial, healthcare, and communication services.

U 412 Nonprofit Marketing 3 cr. Offered intermittently. Prereq., junior standing in Business and MKTG 360. Integration of core concepts of marketing into philanthropic and other nonprofit organizations. Includes strategies for large-scale enterprises such as unions, educational and religious institutions to small organizations that provide local support such as cultural services, human and environmental services. Student work with nonprofit organizations creating marketing communications plans in an experiential learning environment.

U 460 Marketing of High Technology Products and Innovations 3 cr. Offered autumn. Prereq., MKTG 360; marketing major 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.


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 Marketing Internship 1-6 cr. Offered every term. Prereq., junior 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 statistic 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 credit/no credit.

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 640 Organizational Behavior 2 cr. Offered autumn. Prereq., admission to the M.B.A. or M.Acct. programs. Professionally oriented strategic overview of technical and pragmatic application of human resource policy and administration, emphasizing personnel management processes, systems, procedures and methods.

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 workplace commitment.

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 by managers 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 credit/no credit 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

Jerry L. Furniss, J.D., University of Idaho, 1980

Larry D. Gianchetta, Ph.D., Texas A & M, 1974 (Dean)

Timothy A. Manuel, Ph.D., University of South Carolina, 1988

Jakki J. Mohr, Ph.D., University of Wisconsin-Madison, 1989

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)


Nader H. Shooshari, 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; C.P.A., Illinois, 1983

Bruce Costa, Ph.D., Florida State University, 2000

Anthony J. Crawford, Ph.D., Pennsylvania State University, 1993

Scott C. Douglas, Ph.D., Florida State University, 2000

Terri L. Herron, Ph.D., University of Texas at Arlington, 1996; C.P.A. Texas, 1987; C.I.S.A., 2000 (Chair, Department of Accounting and Finance)

Keith J. Jakob, Ph.D., University of Utah, 2000

Belva L. Jones, Ph.D., Oklahoma State University, 1976 (Chair, Department of Information Systems and Technology)**
Jeffrey P. Shay, Ph.D., Cornell University, 1999
Klaus Uhlenbruck, Ph.D., University of Colorado, 1996

Assistant Professors
Michael R. Braun, Ph.D., University of Massachusetts, Amherst
Shawn F. Clouse, Ed.D., University of Montana, 2001
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 (Associate Dean)
Joshua Herbold, Ph.D., University of Illinois, Champaign-Urbana, 2005; C.P.A., Illinois, 1995
Monica LaBarge, A.B.D., University of Oregon, 2007
Cameron D. Lawrence, Ph.D., London School of Economics, 2005
Fengru Li, Ph.D., University of Washington, 1996
Clayton A. Looney, Ph.D., Washington State University, 2003
Simona Stan, Ph.D., University of Missouri-Columbia, 2001

Adjunct 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
Maureen J. Fleming, Ph.D., Southern Illinois University, 1969
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

Roberta Evans, 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 coordinates The University of Montana Professional Education Unit, a unit comprised of initial teacher preparation at the elementary and secondary levels, and the advanced preparation of teachers, educational leaders, school counselors, and school psychologists. The Departments of Curriculum and Instruction and Educational Leadership and Counseling prepare professionals for careers in education with bachelor, masters, Education Specialist and Doctor of Education programs while the school psychology program, housed in the Psychology Department in the College of Arts and Sciences, prepares students for careers in education with its masters, education specialist, and doctoral degrees. 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 Professional Education Unit at The University of Montana is accredited by the National Council for Accreditation of Teacher Education (NCATE), http://www.ncate.org.

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 applied health science, athletic training, exercise science, exercise and performance psychology (on moratorium), health enhancement, and health promotion. 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

Ann N. Garfinkle, Chair

The Department of Curriculum and Instruction offers the Bachelor of Arts in Education degree and teaching licensure in elementary education. As well, it offers teaching licensure at the secondary level for students who are earning or already have completed the baccalaureate degree in one of the following state-approved content endorsement areas: Art, Biology, Business and Information Technology Education, Chemistry, Drama, Earth Science, Economics, English, English as a Second Language, French, General Science Broadfield Major, Geography, German, government, Health and Human Performance, History, Latin, Mathematics, Music, Physics, Psychology, Russian, Comprehensive Social Science, Sociology, and Spanish. (See specific requirements for each in the following pages.) At the graduate level, the department offers the masters and doctoral degrees in Curriculum and Instruction. Programs across all degree levels are organized to foster the development of learning communities and incorporate three basic themes: integration of content knowledge and experience; collaboration among participants; and inclusiveness, caring, 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 also earn the masters degree in combination with requirements for initial teacher licensure at the elementary and secondary levels. This option is further explained below. The department offers as well the Doctor of Education (Ed.D.) in curriculum and instruction. Information about these graduate programs is available from the department office, UM Graduate Programs and Admissions Catalog, and online: www.soe.umt.edu/cni/graduate.php.

Teacher Preparation

Elementary Education: Individuals preparing to teach in elementary school (license for grades K-8) complete a major in elementary education. Prior to their admission to the Teacher Education Program, usually at the end of the sophomore year, students are pre-education majors and are advised by the pre-education advisor in the School of Education. Upon admission
to the program, students are become elementary education majors and are advised by faculty within the Department of Curriculum and Instruction.

Secondary licensure: Students preparing to teach at the middle or high school levels (license for grades 5-12) will declare a major in the subject area(s) they wish to teach, e.g., English, mathematics, or any other of the state-approved major content endorsement areas listed above. They are advised within their major department(s) and, upon admission to the Teacher Education Program, they also are advised within the Department of Curriculum and Instruction regarding the requirements necessary to earn secondary licensure. All secondary licensure students seek admission to the Teacher Education Program, usually at the end of the sophomore year, and complete course work required for licensure in Curriculum and Instruction and in their major content area(s).

Applicants for Montana teaching licensure must: (1) satisfy all degree and licensure requirements as outlined below; and (2) be at least 18 years of age. Information about the Teacher Education Program is available in the department office and online at: http://www.soe.umt.edu/

Masters Degree and Initial Licensure

Individuals who have completed a degree may elect to apply to the department’s Graduate Program and combine the masters degree in curriculum and instruction (curriculum studies option) with licensure to teach. At the secondary licensure level, the combined program may be completed in a summer-autumn-spring-summer sequence provided the student previously has completed most of the content courses listed on the following pages by subject area. At the elementary licensure level, the program typically takes two academic years.

Assessment at Admission to the Undergraduate Teacher Education Program

Individuals seeking licensure to teach must apply for admission to the professional Teacher Education Program. Admission is limited to approximately 125 elementary and 125 secondary candidates per year. Deadlines for application are September 15 and February 15. Individuals are eligible for consideration for admission if they have:

- been admitted to The University of Montana;
- completed at least 30 semester credits;
- earned a minimum cumulative GPA (including all transfer credits) of 2.75;
- demonstrated evidence of writing ability as in an application essay;
- documented appropriate experience in working with children or youth;
- secured supportive recommendations from two faculty members; and
- presented results of a national fingerprint-based background check.

The Teacher Education Admission Application packet includes a policy and procedures handbook and is available from the UC Bookstore or can be downloaded from the website: http://www.soe.umt.edu/cni/.

Once admitted, licensure candidates must maintain a minimum GPA of 2.75 each semester to continue in the program. Candidates who interrupt their studies for more than two years are placed in inactive status and must request to resume their studies.

Candidates seeking a K-12 endorsement in library-media, literacy, or special education must have full admission to the Teacher Education Program or be a licensed teacher before applying to one of these specialized programs.

Degree-holding individuals are invited to submit transcripts for review to determine how previous course work applies. They may earn a second baccalaureate degree and/or a teaching license, or they may combine elementary or secondary licensure with a masters degree. They should enroll with the Admissions Office as “post-baccalaureate” unless pursuing a graduate degree.

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 students with disabilities and for members of racial, ethnic and other minorities, as for other students; however, students who do not meet one or more of the criteria for admission are encouraged to describe in their applications any special circumstances, experiences, skills and/or special talents that may compensate for unmet criteria. The physical, social, economic, and cultural circumstances that may have influenced a student’s ability to achieve minimum eligibility for admission will be considered. A special effort will be made to determine the student’s abilities and potential to overcome disadvantage or discrimination and become a successful beginning teacher.

Upon entry to the program, the candidate will be assigned to a faculty mentor. The candidate and mentor will design a course of study appropriate for the candidate’s progression toward the degree and/or licensure.

Assessment at Application for Student Teaching

Candidates begin planning for student teaching two semesters prior to placement. Candidates are eligible to student teach if they have:

- full admission into the Teacher Education Program;
- a grade of C- or better in all required licensure courses;
- a minimum cumulative GPA of 2.75 (and 2.75 in each field of licensure);
- a passing score on the Writing Proficiency Assessment;
- results of a current national fingerprint-based background check (candidates with misdemeanors or felonies may be subject to further review by the Field Experience Committee); a
- completed application to student teach and the consent of the Director of Field Experiences;
- for elementary education majors, the Professional Methods Block, a minimum of 9 credits in the selected area of concentration, a minimum of 9 credits from the following: ART 314, DAN 327, DRAM 327, HHP 339, and MUS 335; and approval by advisor;
- for secondary licensure candidates, all methods courses, two-thirds of content course work, and approval by departments in the major/minor content area.

Consult the Teacher Education Policy Handbook for application deadlines and procedures. The Student Teaching Application is available in the UC Bookstore and on the School of Education web page www.soe.umt.edu/forms.php

Internships and practica in library-media, reading, and special education do not substitute for the student teaching semester required for licensure in a subject field.

Assessment at Program Completion:

As active participants in this learning community, candidates are expected to assume roles as both learners and teachers in course work and clinical performance. Through personal disposition, classroom performance, and professional action, candidates who complete the teacher preparation program at the University of Montana will be able to:

- demonstrate knowledge of the disciplines and subject matter related to curriculum;
- design and organize learning environments to accommodate learners;
- design interdisciplinary and discrete subject area instruction to achieve curriculum goals;
- use appropriate technologies and resources to enhance instruction and student performance;
- select and design appropriate, authentic means of assessing student learning and progress;
- implement instructional and behavioral management strategies to promote a safe and positive learning environment;
- engage students in learning activities that promote critical and creative thinking;
- communicate clearly, accurately and professionally to diverse audiences;
- reflect on professional practices and demonstrate commitment to fulfilling responsibilities.

**Indian Education for All**

It is Montana's constitutional intent that the state's education system will recognize the distinct and unique cultural heritage of American Indians and will be committed in its education goals to the preservation of their cultural heritage. The intent of the legislature as expressed in MCA 20-1-301, Indian Education for All, is that every Montanan, whether Indian non-Indian, be encouraged to learn about the distinct and unique heritage of American Indians in a culturally responsive manner. It is also intended that educational personnel provide means by which school personnel will gain an understanding for the American Indian people.

Candidates preparing for teaching licensure in all endorsement areas are required to complete a minimum of one course in Native American Studies. Candidates also may choose ANTH 323H, Indians of Montana, to meet this requirement. Throughout their programs of study candidates must demonstrate a) ability to integrate into their content areas knowledge of the history, cultural heritage, and contemporary status of American Indians and tribes in Montana; b) knowledge of how students within different populations, including Montana American Indians, differ in their approaches to learning; and c) ability to create instructional opportunities that are adapted to diverse learners, including situations where concentrated generational poverty has affected student academic achievement.

**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 as specified below. Candidates must complete all specific requirements listed below with a grade of "C-" or better. None of these courses may be taken as credit/no credit except where that is the only grading option.

Elementary education candidates must complete a 12-credit minimum area of concentration, selected from one of the following six 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.

Candidates interested in preparing to teach K-3 are encouraged to take C&I 330 Early Childhood Education. Those interested in teaching 4-8 are encouraged to take PSYC 240S, Child and Adolescent Development.

See the Teacher Education Policy Handbook for additional information regarding the elementary education program, including options and requirements for completing the area of concentration.

**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>PSYC 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></td>
</tr>
</tbody>
</table>

**Secondary Teaching Licensure Requirements (Grades 5-12)**

To qualify for the Montana secondary teaching license, individuals must earn a baccalaureate degree from the University of Montana or other approved institution of higher education in the content area(s) they plan to teach at the middle and/or high school level. They also must complete the corresponding requirements for the teaching major/minor (see below). If the chosen major does not qualify as a single-field endorsement, individuals also must complete requirements for a teaching minor. All requirements listed below must be completed with a grade of C- or better. None of these courses may be taken credit/no credit except where that is the only grading option.

Candidates should seek advising from both the degree-granting departments and the Department of Curriculum and Instruction. Candidates are encouraged to complete licensure in more than one teaching field, even if the chosen field qualifies as a single-field endorsement.

See the Teacher Education Policy handbook for additional information regarding the secondary licensure program.

**Curriculum for Secondary Licensure**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 130-131</td>
<td>Math for Elementary Teachers</td>
<td>9</td>
</tr>
<tr>
<td>SCI 350</td>
<td>Environmental Perspectives</td>
<td>2</td>
</tr>
<tr>
<td>Selected history course (HIST 151 or 152 recommended)</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>Selected literature course</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>Native American Studies course</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Current Standard First Aid and CPR certificates OR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HHP 288/289</td>
<td>0-3</td>
<td></td>
</tr>
<tr>
<td>Area of concentration</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>Writing course</td>
<td>3</td>
<td></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 300 Field Experience/Elem Language Arts | 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 Elem Methods Field Experience: Grades K-3 or 4-8 | 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 |

*Candidates are encouraged to enroll concurrently in the courses listed in Block I.*

**Candidates are required to enroll concurrently in the courses listed in Block II. Students are required to enroll concurrently in the same section of all courses in Block III.**

Candidates may add other courses as 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.
First and Second Years
ENEX 101
PSYC 1005 Introduction to Psychology
HHP 233 Health Issues of Children and Adolescents
Current Standard First Aid and CPR certificates
Native American Studies course
Electives, General Education and/or Courses in Major
Credits
3
4
3
0-3
3

Third and Fourth Years
*Block I:
C&I 200 Exploring Teaching through Field Experiences
C&I 303 Educational Psychology and Measurements
C&I 306 Instructional Media and Computer Applications
C&I 410 Exceptionality and Classroom Management
Credits
1
3
3
3

Block II:
C&I 301 or 302 Professional Field Experience: Grades K-8
or 9-12 (coreq with content area methods course)
C&I 427 Literacy Strategies in Content Areas
Teaching field(s) methods course(s)
Credits
1
3
Variable

Electives, General Education and/or Courses in Major
and/or Minor Teaching Field(s)
Credits
Variable

*Licensure in Library Media: The library media program is
designed to prepare library media specialists for K-12 settings.
This on-line program is combined with that of UM-Western.
To be eligible for library media licensure, candidates must meet
the teacher licensure requirements as well as complete a
minimum of 27 credits in the following required courses:
C&I 316, 470, 479, 480, 483, 484, 485, 488, and LIB 461 offered
through UM-Western. Equivalent courses from UM-Western
for C&I 316, 470, 479, and 485 may substitute for C&I
courses. C&I graduate courses also may substitute for 316, 470,
and 479.

*Licensure in Reading: The reading 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, candidates accepted into the program must complete
the following courses: C&I 420 or elective, 433, 453, 457, 459,
463, 469. Candidates completed C&I 453 prior to beginning the
endorsement; they must be admitted into the Special Education
program before enrollment 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.

Requirements for Non-Teaching Minors
Library Media
To complete a non-teaching minor in library media, the
individual must complete the following courses:

Credits
C&I 316 Children's Literature and Critical Reading
C&I 470 Young Adult Literature
C&I 479 Reference Resources
C&I 480 Collection Development
C&I 483 Library Media Technical Processes
C&I 484 Administration and Assessment of
Library-Media Programs
C&I 485 Library-Media Practicum
C&I 488 Libraries and Technology
LIB 461 Information Literacy
Total
3
3
3
3
3
3
3
3
27

Administrative Systems Management
To earn a non-teaching minor in administrative systems
management the individual must complete the following
courses:

Credits
ACCT 201 Financial Accounting
BADM 257 Business Law
C&I 287 Business Communications
C&I 341 Information Systems and Design
C&I 444 Advanced Technology and Supervision
CS 172 Introduction to Computer Programming
ECON 111S Introduction to Microeconomics
MATH 117 Probability and Linear Math
MGMT 340S Management and Organizational Behavior
Total Credits
3
3
3
3
3
3
3
3
27

Course Requirements for Major
and Minor Teaching Fields

Individuals who wish to qualify for the Montana secondary
teaching 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.

Maj.
ART 123A Drawing Fundamentals
ART 125A Color and Design
ART 135A Three-Dimensional Fundamentals
ART 150L-151L Art of Western Civilization
ART 203 Introduction to Art Criticism
ART 215A Photography I
ART 223 Drawing I
ART 229A Ceramics I
ART 231A, 232A, 233A, 244A Printmaking
(choose one)
ART 235 Sculpture I
ART 240A Painting I
ART 323 Drawing II
ART 407-408 Teaching K-12 Art (coreq C&I 301 or 302)
DAN 427 Teaching Creative Movement
ART upper-division studio courses
ART upper-division art history courses
ART upper-division art criticism
Total Credits
3
3
3
3
3
3
3
3
3
66
### 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>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 108N-109N Diversity of Life</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 110N Principles of Biology</td>
<td>4</td>
<td>4</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>-</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 340-341 Ecology and Laboratory</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 444-445 Plant Physiology and Laboratory</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 (coreq C&amp;I 301 or 302)</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 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>GEOS 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, a student must complete the requirements for the B.A. with a major in Business Administration with a minor in Information Systems (see below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For licensure in the minor teaching field of business and information technology education, 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>ACCT 201 Financial Accounting</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 202 Managerial Accounting</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>BADM 257 Business Law</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 287 Business Communications</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 341 Information Management &amp; Design</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 429 Teaching Business Subjects (coreq C&amp;I 301 &amp; 302)</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>C&amp;I 444 Advanced Technology and Supervision</td>
<td>3</td>
<td>3</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>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 Management Information Systems</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>IS 341 Operations 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 371 Business Applications Development</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>IS 372 Telecommunications Management</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>IS 373 Systems Analysis and Design</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>IS 476 Project Management</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>MGMT 340S Management and Organizational Behavior</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>MGMT 445 Small Business Administration or MGMT 446 Strategic Management or IS 448 Management Game</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>MKTG 360 Marketing Principles</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>74</td>
<td>31</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.

### 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 licensure. 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>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 101N Chemistry for the Consumer</td>
<td>-</td>
<td>3</td>
</tr>
<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>-</td>
<td>3-4</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>BIOC 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>-</td>
<td>10</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 (coreq C&amp;I 301 or 302)</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.

### 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 Endorsement Preparation (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.

- **DAN 327 Dance in Elementary Education** 2
- **DRAM 103A Introduction to Theatre Design** 3
- **DRAM 106A Theatre Production I: Running Crew** 1
- **DRAM 107A Theatre Production I:** Construction Crew 3
- **DRAM 203 Stagecraft II** 3
- **DRAM 210 Voice and Speech I** 2
- **DRAM 214-215 Acting I, II** 6
- **DRAM 220L Dramatic Literature I** (Script Analysis) 3
- **DRAM 244 Stage Makeup** 2
- **DRAM 320-321 Theatre History I, II** 6
- **DRAM 327 Drama in Elementary Education** 2
- **DRAM 371 Stage Management I**
- **DRAM 379 Introduction to Directing** 3
- **DRAM 402 Methods of Teaching Theatre (coreq C&I 301 or 302)** 2
- Senior Project

Total Credits 40

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 Geosciences 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.

- **GEOS 100N-101N General Geology** 3
- **GEOS 105N Oceanography** 2
- **GEOS 130 Introductory Field Geology and Maps** 3
- **GEOS 196 Mineralogy and Petrology** 3
- **GEOS 301 Environmental Geology** 3
- **GEOS 310 Invertebrate Paleontology** 3
- **GEOS 330 Structural Geology**
- **GEOS-any course numbered 100 or above**
- **GEOS-Courses numbered 300 or above**

Total Credits 12

**ECON**

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>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 111S-112S</td>
<td>Introduction to Micro- and Macroeconomics</td>
<td>6 6</td>
</tr>
<tr>
<td>ECON 304</td>
<td>Public Finance: Expenditures</td>
<td>3 3</td>
</tr>
<tr>
<td>ECON 311 Intermediate Microeconomics</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>ECON 313 Intermediate Macroeconomics</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>ECON 317 Money and Banking</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>ECON 323 Labor Economics</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>ECON 460 Econometrics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Economics electives</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ECON 487-489 Senior Thesis sequence</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 428 Teaching Social Studies in Middle and Secondary Schools (coreq. C&amp;I 301 or 302)</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>MATH 117, 150 or 152-153 Probability, Linear Math, Applied Calculus OR Calculus I, II</td>
<td>7-8</td>
<td></td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits 51 24

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 equivalency.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENLT 223L</td>
<td>British Literature</td>
<td>3 3</td>
</tr>
<tr>
<td>ENLT 224L and 225L American Literature</td>
<td>6 6</td>
<td></td>
</tr>
<tr>
<td>ENLT 301 Applied Literary Criticism</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>ENLT 320 Shakespeare</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>One course in poetry chosen from ENLT 121L, 222L or ENCR 211A</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>One 300-level ENLT course emphasizing American literature</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>One 300-level ENLT course</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>ENLI 465 Structure and History of English for Teachers</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>ENT 439 Studies in Young Adult Literature</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>ENT 440 Teaching Writing</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>ENT 441 Teaching Reading and Literature</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>ENT 442 Teaching Oral Language and Media Literacy (coreq. C&amp;I 301 or 302 with either ENT 440, 441, or 442)</td>
<td>3 3</td>
<td></td>
</tr>
<tr>
<td>English Electives</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits 45 36

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>Min.</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>
</tbody>
</table>

At least two courses from the following:

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 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>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREN 101-102 Elementary French</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>FREN 201-202 Intermediate French</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>FREN 301 Oral and Written Expression</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>FREN 302 French Civilization and Culture</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>FREN 311-313 Survey of French Literature</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>FREN 401 Applied Linguistics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>FREN 408 Advanced Composition and Conversation</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FREN literature at the 400-level</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>FREN upper-division electives</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HIST - one course from 306, 307, 310, 311H, 312H, 314, 315</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>LING 270 Introduction to Linguistics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MCLG 410 Methods of Teaching Foreign Languages</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Languages (prereq. to student teaching; coreq. C&amp;I 301 or 302)</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 27

*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 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>Min.</th>
</tr>
</thead>
<tbody>
<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>C&amp;I 428 Teaching Science in Middle and Secondary Schools (coreq. C&amp;I 301 or 302)</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits 78

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.

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.

**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 Enhancement (see the Department of Health and Human Performance 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.

Students seeking an endorsement in Health and Human Performance must earn a minimum grade of C- in all required courses, including prerequisites. All HHP majors must be certified in First Aid/Emergency Care and CPR (see First Aid and CPR Exit Certifications within the Department of Health and Human Performance section of this catalog) upon entry into student teaching.
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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 104H or 105H European Civilization</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>HIST 151H-152H The Americans</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>HIST 269 Montana and the West</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>HIST 300 The Historians' Craft</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>HIST electives in Asian, Islamic, African, and Latin American</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Upper-Latin courses in American history</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Upper-Latin courses in European history</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>History electives in upper-Latin courses in history</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 428 Teaching Social Studies in Middle and Secondary Schools (coreq. C&amp;I 301 or 302)</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 44

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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAT 101-102 Elementary Latin or equivalent</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>LAT 211 Latin Readings and Grammar Review</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>LAT 212 Latin Readings: Vergil</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>LAT 300 Major Latin Writers</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>LAT 402 Composition</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MCLG 160L Classical Mythology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MCLG 361L Roman, Early Christian, and Byzantine Art</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MCLG 410 Methods of Teaching Foreign Languages (prereq. to student teaching; coreq. C&amp;I 301 or 302)</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

HIST 303H Classical Rome                     | 29  | 29  |

Total Credits: 47

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**


<table>
<thead>
<tr>
<th>Course</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 316 Children’s Literature and Critical Reading</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 470 Young Adult Literature and Critical Reading</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 479 Reference Resources</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 480 Collection Development</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 483 Library Media Technical Processes</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 484 Administration and Assessment of Library Media Program</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 485 Library Media Practicum</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 488 Libraries and Technology</td>
<td>3</td>
</tr>
<tr>
<td>LIB 461 Information Literary</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 27

A Library Media Practicum is separate from student teaching. It includes 90 hours of field work in a library and 10 hours of seminar. Equivalent courses from UM-Western may substitute for C&I 316, 470, 479, and 485. C&I graduate courses may also substitute for these courses.

**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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj</th>
<th>Min</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 152-153 Calculus I, II</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>MATH 221 Linear Algebra</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MATH 301 Mathematics with Technology for Teachers</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 305 Introduction to Abstract Mathematics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 326 Elementary Number Theory</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 341 Introduction to Probability &amp; Statistics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 406 History of Mathematics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 421 Abstract Algebra</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MATH 431 Euclidean &amp; Non-Euclidean Geometry</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 251 or additional 300-400-level course</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 430 Teaching Math in Middle and Secondary Schools (coreq. C&amp;I 301 or 302)</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

Total Credits: 41-42

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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 100A Performance Study</td>
<td>2</td>
</tr>
<tr>
<td>MUS 151-251-351 Principal Performance</td>
<td>5</td>
</tr>
<tr>
<td>MUS 111-112 Theory I, II</td>
<td>4</td>
</tr>
<tr>
<td>MUS 115A-116A Piano in Class I, II</td>
<td>2</td>
</tr>
<tr>
<td>MUS 117A Voice in Class</td>
<td>1</td>
</tr>
<tr>
<td>MUS 124-131 Strings, Woodwinds, Brass, Percussion Class</td>
<td>8</td>
</tr>
<tr>
<td>MUS 135L Introduction to Music Literature</td>
<td>3</td>
</tr>
<tr>
<td>MUS 137-138 Aural Perception I, II</td>
<td>4</td>
</tr>
<tr>
<td>MUS 211-212 Theory III, IV</td>
<td>4</td>
</tr>
<tr>
<td>MUS 215-216 Intermediate Piano in Class I, II</td>
<td>2</td>
</tr>
<tr>
<td>MUS 219 Piano Proficiency Assessment</td>
<td>0</td>
</tr>
<tr>
<td>MUS 220 Upper-Division Required Performance</td>
<td>0</td>
</tr>
</tbody>
</table>
### 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.

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 121N-122N or 221N-222N Fundamentals of Physics (coreq. of Calculus for 221N)</td>
<td>10</td>
</tr>
<tr>
<td>PHYS 301 Mathematical Methods for Physical Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 325 Optics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 330 Methods of Communicating Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 341 Fundamentals of Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 371 Classical Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 414 Electromagnetism I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 461 Quantum Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>Electives-courses in physics</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 131N-132N Elementary Astronomy</td>
<td>6</td>
</tr>
<tr>
<td>MATH 152-153 Calculus I and II</td>
<td>8</td>
</tr>
<tr>
<td>MATH 241 Statistics or MATH 341 Introduction to Probability and Statistics</td>
<td>4</td>
</tr>
<tr>
<td>MATH 251 Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 311 Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>CS 101 Introduction to Programming or CS 131 Fundamentals of Computer Science I or CS 201 Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 426 Teaching Science in Middle and Secondary Schools</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 151N General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 485 Laboratory Safety</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 110N Principles of Biology or BIOL 108N Diversity of Life or BIOL 120N General Botany or BIOL 121N Introductory Ecology</td>
<td>3</td>
</tr>
<tr>
<td>GEOS 100N-101N General Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOS 301 Environmental Geology</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>77-78</td>
</tr>
</tbody>
</table>

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 (see the Department of Psychology 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 Psychology, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 120 Introduction to Psychological Research</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 220 Psychological Statistics</td>
<td>3</td>
</tr>
<tr>
<td>At least two of the following: PSYC 260S Fundamentals of Learning PSYC 265S Cognition PSYC 270N Fundamentals of Biological Psychology</td>
<td>6</td>
</tr>
<tr>
<td>At least three of the following for the major: PSYC 240S Child and Adolescent Psychology PSYC 330S Abnormal Psychology PSYC 330S Social Psychology PSYC 351S Psychology of Personality</td>
<td>3</td>
</tr>
<tr>
<td>At least one of the following for the minor: PSYC 240S Child and Adolescent Psychology PSYC 350S Social Psychology PSYC 351S Psychology of Personality</td>
<td>3</td>
</tr>
<tr>
<td>Math 117 Probability, Linear Mathematics</td>
<td>3-4</td>
</tr>
<tr>
<td>Math 150 Applied Calculus</td>
<td>3-4</td>
</tr>
<tr>
<td>Math 152 Calculus I</td>
<td>3-4</td>
</tr>
<tr>
<td>At least one of the following for the minor: PSYC 335S Fundamentals of Clinical Psychology PSYC 330S Abnormal Psychology PSYC 336S Child and Adolescent Psychological Disorders</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 337 Principles of Cognitive Behavior Modification</td>
<td>3</td>
</tr>
<tr>
<td>Four other psychology courses (at least three of which must be at the 200-level or higher), not to include PSYC 396, 398, 493 or 499</td>
<td>12</td>
</tr>
<tr>
<td>Two of the following for the minor: PSYC 260S Fundamentals of Learning PSYC 270N Fundamentals of Biological Psychology PSYC 371 Fundamentals of Human Neuropsychology PSYC 372 Intermediate Behavioral Biology</td>
<td>6</td>
</tr>
<tr>
<td>C&amp;I 428 Teaching Social Studies in Middle Schools (coreq. C&amp;I 301 or 302)</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>43-44</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 316 Children's Literature and Critical Reading or 470 Young Adult Literature and Critical Reading</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 318 Teaching Language P-8</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 405 Teaching Reading K-8</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 427 Literacy Strategies in Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 433 Basic Diagnosis and Correction of Reading and Writing</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 435 Organizing Classroom Reading and Writing Programs</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 437 Application of Literacy Models</td>
<td>6</td>
</tr>
<tr>
<td>Total Credits</td>
<td>24</td>
</tr>
</tbody>
</table>

### 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>Maj.</th>
<th>Min.</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; coreq. C&amp;I 301 or 302)</td>
<td>3</td>
</tr>
<tr>
<td>HIST one course chosen from 344, 345, 348</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 major teaching field 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>Maj.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 104H or 105H European Civilization</td>
</tr>
<tr>
<td>HIST 151H-152H The Americans</td>
</tr>
<tr>
<td>HIST 269 Montana and the West</td>
</tr>
<tr>
<td>HIST 300 The Historians’ Craft</td>
</tr>
<tr>
<td>HIST elective in Asian, Islamic, African, or Latin American</td>
</tr>
<tr>
<td>HIST upper-division American history</td>
</tr>
<tr>
<td>HIST upper-division European history</td>
</tr>
<tr>
<td>PSC 100S Introduction to American Government</td>
</tr>
<tr>
<td>PSC 120S Introduction to Comparative Government</td>
</tr>
<tr>
<td>PSC 130E International Relations</td>
</tr>
<tr>
<td>PSC 150E Political Theory</td>
</tr>
<tr>
<td>PSC upper-division American government and politics</td>
</tr>
<tr>
<td>Upper-division comparative government and/or international relations, organization and law</td>
</tr>
<tr>
<td>Credits in one of the following fields: economics, geography, psychology, or sociology</td>
</tr>
<tr>
<td>C&amp;I 428 Teaching Social Studies in Middle and Secondary Schools (coreq. C&amp;I 301 or 302)</td>
</tr>
</tbody>
</table>

Total Credits 75

### 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.

*CS 171 Communicating via Computers or CS 172 Introduction to Computer Modeling or a higher-level

| CS course | 3 | 3 |
| SOC 110S Principles of Sociology | 3 | 3 |
| SOC 201 Social Science Methods | 3 | 3 |
| SOC 202 Social Statistics | 3 |
| SOC 220S Race, Gender and Class | 3 | 3 |
| SOC 230S Criminology or 330S Juvenile Delinquency | 3 |
| SOC 455 Classical Social Theory | 3 | 3 |
| Two of the following: SOC 270 Introduction to Rural and Environmental Change or SOC 300 Sociology of the Family | |
| SOC 306S Sociology of Work | |
| SOC 320 Complex Organizations | |
| SOC 325 Social Stratification | |
| SOC 355S Population Problems | |
| SOC 485 Political Sociology | 6 |
| Sociology electives | 9 | 6 |
| C&I 428 Teaching Social Studies in Middle and Secondary Schools (coreq. C&I 301 or 302) | 3 |

*Total Credits 36

*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 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>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 101-102 Elementary Spanish</td>
<td>10</td>
</tr>
<tr>
<td>SPAN 201-202 Intermediate Spanish</td>
<td>8</td>
</tr>
<tr>
<td>SPAN 301 Written Expression in Cultural Contexts</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 302 Phonetics and Oral Expression</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 311L/312L Introduction to Contemporary Spanish Literature (minors take one)</td>
<td>6</td>
</tr>
<tr>
<td>SPAN 405 Applied Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 408 Advanced Composition and Conversation</td>
<td>3</td>
</tr>
<tr>
<td>SPAN two literature courses at 400-level</td>
<td>6</td>
</tr>
<tr>
<td>SPAN 270 Introduction to Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>MCLG 315L Major Hispanic Authors</td>
<td>3</td>
</tr>
<tr>
<td>MCLG 410 Methods of Teaching Foreign Languages (prereq. to student teaching; coreq. C&amp;I 301 or 302)</td>
<td>2</td>
</tr>
</tbody>
</table>

*CS course | 3 | 3 |
| SOC 110S Principles of Sociology | 3 | 3 |
| SOC 201 Social Science Methods | 3 | 3 |
| SOC 202 Social Statistics | 3 |
| SOC 220S Race, Gender and Class | 3 | 3 |
| SOC 230S Criminology or 330S Juvenile Delinquency | 3 |
| SOC 455 Classical Social Theory | 3 | 3 |
| Two of the following: SOC 270 Introduction to Rural and Environmental Change or SOC 300 Sociology of the Family | |
| SOC 306S Sociology of Work | |
| SOC 320 Complex Organizations | |
| SOC 325 Social Stratification | |
| SOC 355S Population Problems | |
| SOC 485 Political Sociology | 6 |
| Sociology electives | 9 | 6 |
| C&I 428 Teaching Social Studies in Middle and Secondary Schools (coreq. C&I 301 or 302) | 3 |

*Total Credits 36

*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 teaching minor) should be in a field in high demand.
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 420 Assessment & Curriculum In Early Childhood Special Education OR elective* 2-3
C&I 433 Basic Diagnosis and Correction of Reading and Writing (coreq. C&I 318 or 427) .................................. 3
C&I 453 Introduction to Special Education 3
C&I 457 Assessment and Instruction for Exceptional Learners ........................................... 3
C&I 459 Consulting/Resource Teacher (prereq. C&I 453) 3
C&I 463 Advanced Classroom Management for Exceptional Learners/Practicum (prereq. C&I 453) 3
C&I 469 Student Teaching: Special Education ........................................... 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. Credits beyond this maximum do not count toward a degree.

**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 note taking, time management, reading textbooks, test taking, and critical thinking. Elective credit only.

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 co-requisite theory classes. Seminars include professional development portfolio, developmental level of students, diversity, learning/teaching strategies, motivation, classroom management, and assessment of learning.

U 287 Business Communications 3 cr. Offered every term. Prereq., ENEX 101. Emphasis on consistent and logical approaches to solving communication problems and creating successful communication products.

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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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 Professional Field Experience: Grades K-8 1 cr.
(R-4) Offered autumn and spring. Prereq., C&I 200; coreq., a secondary methods course. Arranged field experience in an elementary or middle school classroom, grades 4-8. For secondary licensure candidates whose C&I 200 experience was in a high school classroom.

U 302 Professional Field Experience: Grades 9-12 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 secondary licensure candidates 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 and passing score on the Writing Proficiency Assessment; coreq., C&I 318 and 300. Genre survey including multi-ethnic literature. Focus is on extensive reading and responding to high quality children’s literature through listening, speaking, writing, drama, and media activities that emphasize criteria for selecting literature, teaching critical thinking skills, and effectively integrating 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, C&I 316. Language development and primary and secondary language acquisition; theory and application of teaching listening, speaking, writing and viewing in a PK-8 setting.

UG 330 Early Childhood Education 3 cr. Offered spring odd-numbered 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.

U 341 Information Management and Design 3 cr.
Offered spring. Prereq., CS 172. Emphasis on the development and maintenance of a file management system, application of effective design concepts in the creation of professional print and digital images and documents, and the creation of digital videos for use in education and/or business.

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 367 Pre-School Practicum Laboratory 3 cr. Offered autumn and spring. 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.
Must attend mandatory meeting at 12:00 or 4:00 p.m. on first day of the semester.

U 393 Omnibus Variable cr. (R-9) Offered intermittently. Independent work under the University omnibus option. See index.

U 394 Seminar Variable cr. (R-9) Offered intermittently. Group analysis of problems in specific areas of education.

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 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, 404, and 405. 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 grades 4 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, 404 and 405. 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.


UG 403 Teaching Social Studies K-8 3 cr. Offered autumn and spring. Prereq., C&I 300, 306, 316, 318, 410, and all general education/content/specialty classes. Coreq., C&I 400/401, 402, 403 and 405. 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.

UG 404 Teaching Science K-8 3 cr. Offered autumn and spring. Prereq., C&I 300, 306, 316, 318, 410; SCI 225N, 226N, 350 and all general education/content/specialty classes. Coreq., C&I 400/401, 402, 403 and 405. 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, 306, 316, 318, 410, and all general education/content/specialty classes. Coreq., C&I 400/401, 402, 403 and 404. Preparation for teaching reading in a P-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. Addresses the Individuals with Disabilities Education Act and subsequent reauthorizations, presents practices for working with students who are at-risk and students with disabilities in inclusive settings, and includes technological considerations.


UG 421 Issues in Early Intervention 3 cr. Offered autumn odd-numbered years. For case managers, school psychologists and special educators involved in preschool services. Issues in parent and child advocacy, least restrictive placements in preschool 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 433 Basic Diagnosis and Correction of Reading and Writing 3 cr. Offered autumn and spring. Prereq., C&I 318 or 427 for education students. 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 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 high quality
School of Education - Department of Curriculum and Instruction

UG 437 Application of Literacy Models 6 cr. Offered summer intermittently. Prereq., C&I 433 or C&I 533. Provides classroom teaching experience under direct supervision. Candidates teach reading and writing and apply knowledge of assessing and correcting reading and writing difficulties in grades K-12.

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 453 Introduction to Special Education Law and Policy 3 cr. Offered autumn and even-numbered summers. 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 pre-referral, referral, multidisciplinary evaluation and individual educational programming required under state and federal mandates.

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 457 Assessment and Instruction for Exceptional Learners 5 cr. Offered autumn and even-numbered summers. Prereq. or coreq., C&I 453, admission to special education program. 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 and odd-numbered summers. Prereq., C&I 453. 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 and odd-numbered summers. Prereq., C&I 453. 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. Supervised field experience in special education.

UG 470 Young Adult Literature and Critical Reading 3 cr. Offered intermittently. Genre surveys; extensive reading, and analyzing of literature, authors and media addressed to students ages 12-18. Emphasizes effective teaching strategies for using high quality literature with middle school and secondary students. Not a substitute for C&I 316.

UG 479 Reference Resources 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., passing score on Writing Proficiency Assessment; the Professional Methods Block, a minimum of 9 credits in the selected area of concentration, and a minimum of 9 credits from the following: ART 314, DAN 327, DRAM 327, HHP 339, and MUS 335; approval by advisor, and consent of Director of Field Experiences and Student Teaching. Coreq., C&I 494.

UG 482 Student Teaching: Secondary Variable cr. (R-14) Offered autumn and spring. Prereq., passing score on Writing Proficiency Assessment and consent of Director of Field Experiences and Student Teaching. Coreq., C&I 494.


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., 19 credits in library Media 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 of even years. Prereq., MATH 117 or equiv. or consent of instr. Same as HHP 486. Concepts and procedures characterizing both descriptive and inferential statistics. Awareness of common statistical errors.

UG 488 Libraries and Technology 3 cr. Offered spring. Coreq., C&I 483. Uses of digital technologies in all aspects of library media center operations, including cataloging and circulation, collection development, reference services and administration.

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 every semester for portfolio credit. Prereq., consent of instr. Offered intermittently for 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.

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

UG 498 Internship Variable cr. Offered intermittently. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

G 501 Curriculum Design, Implementation, and Evaluation 3 cr. Offered spring even-numbered years; offered summer. Underlying principles of design, factors affecting implementation, and evaluation and assessment of K-12 curricula at the student and program levels.

G 502 Philosophy of Education 3 cr. Offered spring and summer odd-numbered years. Same as EDLD 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 EDLD 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 506 Comparative Education 3 cr. Offered spring even-numbered years. How the American educational system compares with those in selected other countries.

G 508 Sociology of Education 3 cr. Offered autumn even-numbered years. Modern public education as it affects and is affected by religious, economic, and political systems and other social institutions.

G 510 Advanced Educational Psychology 3 cr. Offered autumn odd-numbered years and summer even-numbered years. The exploration of theoretical and empirical issues in psychology (e.g., learning theory and intelligence).

G 514 Education Across Cultures 3 cr. Offered autumn and spring odd-numbered years; offered every summer. Educational foundations of the study of diversity in American schools.

G 515 Computer and Other Technological Applications in Education 3 cr. Offered summer; offered spring even-numbered years. Prereq., a basic computer course or demonstrated computer literacy. Computer systems and other hardware utilizing various software applications by administrators, counselors, librarians, teachers, and students.

G 518 Inclusion and Collaboration 3 cr. Offered autumn even-numbered years; offered summer. Legal and ethical issues involved in the responsible inclusion of all individuals with disabilities through multi-disciplinary and collaborative efforts.

G 519 Authentic Assessment 3 cr. Offered online spring odd-numbered years. Focus on assessment practices in K-12 classrooms including a wide variety of assessments that meet curricular objectives as well as nationally required standardized exams to meet NCLB mandates.

G 520 Educational Research 3 cr. Offered every term. Same as EDLD/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 521 Foundations in Environmental Education 3 cr. Offered autumn. Prereq., graduate standing in environmental studies. Same as EVST 521. Problem-solving approach 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 spring even-numbered years. Prereq., consent of instr. Same as EVST 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 527 Advanced Literacy Strategies in Content Areas 3 cr. Offered autumn; offered summer even-numbered years. Prereq., teaching experience. Advanced theories, models, instructional approaches for using reading/writing for learning in content fields. Emphasis on research, instructional practice, classroom assessment.

G 530 Socio-Cultural Foundations of Literacy 3 cr. Offered summer odd-numbered years. Survey of history and research related to literacy practices in schools/communities. Theories, models, politics of literacy in K-12/Adult education.

G 533 Advanced Diagnosis and Correction of Reading and Writing 3 cr. Offered summer even-numbered years. Based on the case study approach, emphasis on diagnosing and devising instructional strategies for students with reading/writing strengths and needs.

G 540 Supervision and Teaching Language Arts 3 cr. Offered summer even-numbered years. Prereq., teaching experience. Advanced theories and instructional approaches for teaching and assessing the facets of communication within an integrated elementary curriculum.

G 541 Supervision and Teaching of Children's Literature and Critical Reading 3 cr. Offered summer even-numbered years. Prereq., undergraduate course in children's literature. Literature-based study involving extensive critical reading and integrated curricular use of high quality nonfiction and classical, contemporary, and multi-cultural fiction, addressed to grades 1 through 8.

G 542 Supervision and Teaching of Mathematics 3 cr. Offered spring even-numbered years and summer odd-numbered years. Curriculum trends, instructional materials, research and supervisory techniques relevant to a modern school mathematics program.

G 543 Supervision and Teaching of Reading 3 cr. Offered summer odd-numbered years. Survey of theory and research related to developing and supervising reading instruction programs.

G 544 Supervision and Teaching of Science 3 cr. Offered intermittently. Prereq., SCI 225, 226 or equiv., teaching experience. Designing curricula based on the structure of knowledge, and analyzing existing science programs.

G 545 Social Studies Education 3 cr. Offered summer even-numbered years. Historical trends and curriculum issues related to social studies instruction. Emphasis on current research concerning social studies curriculum design, instructional practices, and use of resources.

G 546 Supervision and Teaching of Young Adult Literature and Critical Reading 3 cr. Offered intermittently. Extensive reading among classical, contemporary, and multicultural literature including novels, poetry, short stories, and drama; selection of high quality works, evaluation, and curricular utilization in grades 8 through 12.


G 552 Planning, Preparing, and Assisting Educational Technology Media 3 cr. 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 Foundations 3 cr. Offered autumn even-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 spring odd-numbered years. Same as EDLD 571. Principles and practices of instructional design for integrating 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 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 Strategic Planning for Technology 3 cr. Offered every term even-numbered years. Same as EDLD 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. Same as EDLD 584. Development of practical competencies in such components of instructional technology as development, production, materials evaluation, and project management and implementation.

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 autumn and spring.

G 594 Seminar Variable cr. (R-9) Offered autumn and spring. 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., SPPS-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. Includes 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 experience 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

Janice LaBonty, Ph.D., University of Nebraska, 1987
Jean A. Luckowski, Ed.D., Oklahoma State University, 1983
Marian J. McKenna, Ph.D., University of Colorado, 1987
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, 1994
David R. Erickson, Ph.D., The Ohio State University, 1994
Ann N. Garfinkle, Ph.D., University of Washington, 1999 (chair)
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
Susan Harper-Whalen, Ed.M., Harvard University, 1984
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

Emeritus Professor

Carolyn J. Lott, Ed.D., The University of Montana, 1985
Department of Educational Leadership and Counseling

Catherine Jenni, Chair
Merle Farrier, Program Director, Educational Leadership

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/or 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.A.) or Agency (Mental Health) Counseling (M.A.). Each option 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., Ed.S., and Ed.D. are offered in Counselor Education; the M.Ed., Ed.S., and Ed.D. are offered in education administration and supervision. 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. Graduate programs are accredited by NCATE and CACREP.

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: Education Leadership degree programs lead to certification at the Class III level. The Counselor Education, M.A., School Counseling option, leads to licensure at the Class IV level.

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. Credits beyond this maximum do not count toward a degree.

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.

U 485 Counseling Theories in Context 3 cr. Offered fall. Prereq., PSYC 1005. Same as PSYC 485 and SW 485. Introduction to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies, and diversity issues.

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., 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 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 560 Lifespan Developmental Counseling 3 cr. Offered
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 these 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 professional counseling.

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 Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

G 600 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 625 Introduction to Mental Health Systems 2 cr. Prereq., acceptance into Counselor Education program mental health track. Essential knowledge for professional identity, understanding of public policy, and community assessment procedures. Includes brief lectures, guest speakers, discussion, and student presentations.

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)

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 502 Philosophy of Education 3 cr. Offered spring and summer odd-numbered years. 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 summer even-numbered years and autumn odd-numbered years. 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 and autumn. 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 autumn even-numbered years. 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 spring odd-numbered years. 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 spring even-numbered years. 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 autumn odd-numbered years, spring and summer. Prereq., EDLD 550. Conflict views and models of supervision; supervision in relation to administration and evaluation. 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 odd-numbered years, spring 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 autumn even-numbered years, 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 autumn even-numbered years, 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 odd-numbered years, spring, and summer. Examination of the roles and 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 autumn even-numbered years, spring and summer. 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. 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 spring odd-numbered years. 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 autumn even-numbered years, spring and summer. 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. Same as C&I 584. 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 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 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 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 or HHP 486 or equiv. and use of EDLD 618. Same as C&I 625. Principles and techniques 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 autumn even-numbered years, summer odd-numbered years. 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 autumn odd-numbered years, summer even-numbered years. 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 summer and spring odd-numbered years. Prereq., EDLD 550. Working with architects, school personnel, and others on educationally and financially sound plans for new and remodelled 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 spring and summer even-numbered years. 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 spring. 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 autumn odd-numbered years. 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.

G 667 The American College Professor 3 cr. Offered autumn even-numbered years. Investigation of the prevailing curriculum and instruction in American undergraduate and graduate education and consideration of reform reports.

G 668 College and University Administration 3 cr. Offered spring even-numbered years. Prereq., EDLD 667 or consent of instr. Administration of college and university programs, departments, and schools; the roles of program director or coordinator, department chairperson, dean, vice president, provost, president, chancellor, and commissioner.

G 674 Internship in College Teaching 1 cr. Offered intermittently. Prereq. or coreq., EDLD 667 and consent of instr. Provides an opportunity for guided and supervised teaching at the college level and assistance to the aspiring college teacher in meeting the needs of a diverse student population; assistance provided in methods of teaching at the college level, theories of learning, use of technology, and evaluation and assessment techniques.

G 676 Internship in Higher Education Administration 1-3 cr. (R-6) Offered intermittently. Prereq., EDLD 668 and consent of instr. Supervised and guided work in an administrative unit/department at the college/university level.

G 694 Advanced Seminar: Educational Administration and Supervision Variable cr. (R-9) Offered intermittently.

G 697 Advanced Research in Educational Administration and Supervision Variable cr. (R-9) Offered autumn and spring.

G 699 Professional Seminar/Dissertation Variable cr.

Department of Health and Human Performance

Thomas Whiddon, 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 education, scholarly 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 these 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 referral, therapeutic exercise, pharmacology, pathology of injuries/illnesses, health care administration, general medical conditions and disabilities, assessment and evaluation, professional development and responsibilities, and nutritional aspects. Successful graduates should possess the knowledge and skills to qualify for the Board of Certification.

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 health 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 physical activities 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 public and private school 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 and familiarity with the literature in one’s chosen specialization, 3) appropriate technological skills, 4) ability to design, conduct, and report research in a scholarly fashion, 5) investigative skills to promote independent pursuit of learning beyond the confines of curricular requirements, and 6) personal characteristics, sense of responsibility, and professional behaviors requisite for effective functioning as an advanced health and human performance professional. Graduate options include Exercise Science, Health Promotion, and Health and Human Performance. For more information regarding the department’s graduate program, refer to The University of Montana Graduate Programs and Admissions catalog (http://www.umt.edu/grad/programs/default.htm).

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. All HHP majors and minors must earn a minimum grade of C- in all required courses, including prerequisites, except that athletic training students must earn a grade of C (2.00) in these areas. 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 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 retook the course and received 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 Option**

The Health Enhancement option is designed for individuals who wish to teach in the public school system. Application for admission to the School of Education must be made (refer to http://www.soe.umt.edu/hhp). Applications are accepted twice a year; however, 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 1005, ENEX 101, and C&I 427. 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 Athletic Training Education (CAATE). 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 sent to the candidate prior to the preregistration period for autumn semester.

Candidates who are not admitted to the ATEP also will
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
3. Three professional letters of recommendation.
4. Completion of 70 hours of clinical observation in athletic training and Level 1 modules and clinical efficiencies. See the Pre-ATEP Policy & Procedure Manual (http://www.soe.umt.edu/hhp/athletic_training/) 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 and pass a pre-program physical examination by the team physician (please contact the program director).
8. Criminal Background Check (see 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. The University of Montana provides liability insurance for all ATEP professional students.
3. Accumulate a minimum of 1,000 hours of clinical practice 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 CAATE 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.umt.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.
10. Meet established technical standards and pass a pre-program physical examination by the team physician.

**General Program Requirements**

**First Aid and CPR Exit Certifications**
All Health and Human Performance students are required to have the appropriate certification in first aid/emergency care and CPR at graduation. 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
  - First Responder
  - American Academy of Orthopedic Surgeons (AAOS)
  - National Safety Council Level III
  - Wilderness First Responder

- Plus one of the following CPR certifications:
  - American Heart Association (Health Care Provider is required for the training admission option)
  - American Red Cross (Professional Rescuer is required for the athletic training option)

**Upper-division Writing Expectation**
The Upper-division Writing Expectation must be met by successfully completing the designated upper-division writing course required in each of the HHP options.

**Options**
Undergraduate students must complete requirements for at least one of the options listed below. The typical student may take more than four years to complete these requirements, especially in the Athletic Training option and the Health Enhancement option.

**Athletic Training Option (required courses).** Within Department (72-74 crs.): 181, 184, 226, 240, 241, 242, 288-289 or appropriate course, 340, 341, 342, 343, 361, 365, 366, 367, 366, 369, 372, 375, 377, 378, 384, 401, 402, 411, 412, 446, 475E, 479, 485, 3 crs. of electives from biology, biochemistry, mathematics, physics, psychology upon consent of advisor; ENEX 101; COMM 111A; CHEM 151N, 152N; BIOL 106N, SCN 201N, 202N or BIOL 312-313; PSYC 100S; FOR 220; PHAR 110N; CS 171.

**Exercise Science Option (required courses).** Within Department (45 crs.):
- 181, 184, 226, 236N, 368, 369, 377, 378, 384, 446, 450, 475E, 483, 482 or 484, 499, 6 crs. of electives in courses numbered 300 and above. Out of Department (43-45 crs.): COMM 111A; CHEM 151N, 152N, 154N; SCN 201N, 202N or BIOL 312, 313; FOR 220; MATH 241; PHYS 121N, PSYC 100S; 8 crs. of electives from biology, biochemistry, mathematics, physics, psychology upon consent of advisor; CS 171.

**Applied Health Science Option (required courses).** Within Department (39 crs.): 181, 184, 226, 236N, 288 or appropriate certification, 289 or appropriate certification, 330, 365, 377, 378, 450, 475E, 483, 484. 4 crs. of 498. Out of Department (31-35 crs.): COMM 111A; CHEM 151N; BIOL 106N; BIOL 121N or SCI 350; SCI 201N-202N or BIOL 312, 313; MATH 117; FOR 220; PSYC 100S; CS 171. In addition, students must complete an additional 24 credits, including at least 18 from the list below. The remaining 6 credits can be obtained from courses not on the list with the prior approval of advisor. HHP 370, 371, 384, 386, 415, 425, 428, 482, 485, 486; ACCT 201; ANTH 388, 444; BIOL 265N; CHEM 152N; EVST 225; MATH 241; MKTG 360; PSYC 260, 352; SW 423, 455S (note: at least 16 of the 24 credits must be at the 300 level or higher and students may not count more than 60 HHP credits toward graduation).

**Health Enhancement Option (required courses).** Within Department (50-54 crs.): 181, 184, 224, 225, 226, 233, 236N, 288 or appropriate certification, 289 or appropriate certification,
### Suggested Course of Study

#### Athletic Training Option:

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### Health Enhancement Option:

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<td>BIOL 106N Elementary Medical Microbiology</td>
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<td>BIOL 121N Introductory Ecology or SC 350 Environmental Perspectives</td>
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<td>HHP 225 Professional Activities: Individual</td>
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<td>Dual/Team Sports</td>
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<td>HHP 233 Health Issues/Child and Adolescents</td>
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<td>HHP 361 Assessment in Physical and Health Education</td>
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<td>PSYC 240S Child and Adolescent Development</td>
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<tr>
<td>C&amp;I 306 Instructional Media/Computer</td>
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### 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. Credits beyond this maximum do not count toward a degree.

#### Health and Human Performance (HHP)

**U 100-179 Health and Human Performance Activity Classes** 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 based on participation and a strict attendance policy. For a complete list of all classes offered go to the HHP Activity Program website at http://www.soe.umt.edu/hhp/hhp2002/default.htm

**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 the historical and philosophical foundation, 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 189 Basic First Aid and CPR 1 cr.** Offered first summer session. Instruction will cover CPR, use of an automated external defibrillator (AED) and relief of foreign-body airway obstruction (FBAO). The First Aid component will cover general principles as well as medical, injury and environmental emergencies. Students will receive AHA Heartsaver CPR and First Aid certification. This class does not meet First Aid requirements for HHP 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 200-223 Professional Activities for Majors and Minors 1 cr. Offered intermittently. 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 226 Theory and Practice of Basic Exercise Prescription for Aerobic and Resistance Training 3 cr. Offered every term. Theory, principles, and practice of exercise prescription for aerobic and resistance exercise programs for health, fitness and performance. Students must register for the lecture and a linked lab.

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 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 249 Wilderness First Responder 2 cr. Offered intermittently. Instruction in the prevention, recognition, and treatment of backcountry illness and injury. Successful students receive an Aerie Wilderness First Responder certification and an American Heart Association Heartsaver CPR certification. This course meets HHP department First Aid requirement but does not meet the CPR requirement.

U 250 Ski Instructor's Qualification Program 2 cr. Offered spring. Prereq., consent of instr. 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 American Academy of Orthopedic Surgeons 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 317 Coaching Clinic 1-2 cr. (R-4) Offered intermittently. Covers a variety of activities to include coaching theories, competitive coaching strategies, training methods and techniques. Covers requirements for the bronze level of the American Sport Education Program (ASEP).

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 331 Wilderness Emergency Technician 3 cr. Offered intermittently. EMT-Basic curriculum with significantly more detail concerning care for patients in remote settings. Students must be 18 year old and never been convicted of a felony. This course meets HHP department First Aid and CPR graduation requirements.

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.


U 343 Advanced Techniques of Athletic Training Laboratory 1 cr. Offered spring. Prereq., HHP 240, 366, 367, 368, 369; coreq., HHP 342. Laboratory sessions examining practical applications of current techniques for the prevention and treatment of athletic injuries used by certified athletic trainers.
School of Education - Department of Health and Human Performance -291

UG 361 Assessment in Physical and Health Education 3 cr. Offered autumn. Prereq., math course numbered above 100 and CS 171. 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 366 Measurement and Modalities 3 cr. Offered autumn. Coreq., HHP 367, 368, 369 or consent of instr. Physiology, indications, contraindications, and application of physical agents; manual muscle testing, and goniometry.

U 367 Measurement and Modalities Laboratory 1 cr. Offered autumn. Coreq., HHP 366, 368, 369 or consent of instr. Clinical application of physical agents; manual muscle testing and goniometry.


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.


U 373 Rehabilitation of Athletic Injuries Laboratory 1 cr. Offered spring. Prereq., HHP 366, 367, 368, 369; coreq., HHP 372. 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.

U 377 Physiology of Exercise 3 cr. Offered every term. Prereq., BIOL 313 of SC 202N, HHP 226; 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.

U 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 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 402 Evaluation of Athletic Injuries Laboratory 1 cr. Offered autumn. Prereq., HHP 368, 369 or consent of instr.; coreq., HHP 401. Laboratory sessions to develop recognition and assessment techniques for the identification of sport and activity related injuries.


U 415 Advanced Principles of Health Education and Health Promotion 3 cr. Offered spring even-numbered years. Prereq., HHP 184 and HHP 330, and junior standing. Assists students in applying the theory of Health Education and Health Promotion into practice. Students develop and apply methods and activities related to the roles, responsibilities, and competencies of health educators in practice settings. Emphasis is on enhancing program planning skills covered in HHP 330 and developing a comprehensive program plan based on the Precede-Proceed model.

U 425 Relaxation and Self Enhancement 3 cr. Offered autumn and spring. Prereq., junior status. The study of psychosomatic and somatopsychic techniques for relaxation and self-enhancing strategies.

U 430 Health Aspects of Aging 3 cr. Offered spring. Same as HS and SW 430. Overview of the health aspects of aging in the United States including biological theories of aging, normal physiological changes associated with aging systems, common pathological problems associated with aging, cultural and ethnic differences in the health of elders, health promotion and healthy aging, and the health care continuum for care for older persons.

U 440 Instructor First Aid and CPR 1 cr. Offered autumn. Prereq., HHP 288, 289 or equiv. Provides knowledge and certification to teach the skills of CPR for victims of all ages, use of automated external defibrillator (AED), relief of foreign body airway obstruction (FBAO) and first aid procedures. Upon successful completion of this course students will receive certifications to teach American Heart Association and National Safety Council First Aid and CPR courses at all levels.

U 446 Nutrition for Sport 3 cr. Offered autumn. Prereq., HHP 236N or SC 202N or BIOL 313 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.

U 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.

U 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.

U 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.

U 470 Foundations in Sport and Exercise Psychology 3 cr. Offered autumn. Prereq., upper-division or graduate status
or consent of instr. Introduction to professional practices, ethics, and employment opportunities in applied sport psychology. Additional course content is based on individual and team motivation, team cohesion and leadership, youth sport applications, and health and wellness applications.

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 479 Sport Medicine 2 cr. Offered spring. Prereq., HHP 377 and HHP 368. The pathophysiologic management of sports related injuries/illnesses. Includes: therapeutic use of drugs, pre-participation screening techniques, ergonomic aids, the aging athlete, the sports medicine team concept and current orthopedic treatments for sports injuries.

UG 482 Electrocardiogram Assessment 1 cr. Offered autumn and spring. 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 autumn and spring. Prereq., HHP 337 and HHP 378; Coreq., HHP 484. Focus on guidelines for exercise testing and prescription for individuals with chronic disease including heart disease, diabetes, hypertension, arthritis, osteoporosis, elderly and pulmonary disease. Class requires 25 assigned hours of service learning. Covers material necessary for ACSM certification exam when combined with HHP 226, 377, 378, 482 and 484.

UG 484 Exercise, Disease and Aging Laboratory 1 cr. Offered autumn and spring. Prereq., HHP 377 and HHP 378. 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 226, 377, 378, 482 and 483.

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 even-numbered years. 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 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.

UG 496 Independent Study 1-3 cr. (R-6) Offered every term. Prereq., consent of instr.

UG 497 Research 1-3 cr. (R-6) Offered every term. Prereq., consent of instr.

UG 498 Internship 1-4 cr. (R-4) Offered every term. Prereq., minimum junior standing. Supervised field experiences with private businesses, public agencies, or institutions. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 499 Senior Project 3 cr. Offered autumn. 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 intermittently. 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 intermittently. 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 intermittently. 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 377, 378 or equiv. Advanced study of systolic 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 odd-numbered years. Prereq., consent of instr. 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
Laura Dybdal, Ph.D., University of New Mexico, 1996
Arthur W. Miller, Ph.D., University of New Mexico, 1981
Brent Ruby, Ph.D., University of New Mexico, 1994
K. Ann Sondag, Ph.D., Southern Illinois, Carbondale, 1988
Thomas R. Whiddon, Ed.D., The University of Montana, 1975 (Chair)
Sharon Dinkel Uhlig, Ed.D., University of Utah, 1982

Associate Professors
Blakely Brown, Ph.D., R.D., University of Minnesota, 2000
Steven Gaskill, Ph.D., University of Minnesota, 1998
Scott Richter, Ed.M., Oregon State University, 1982
(Program Director, Athletic Training)

Assistant Professors
Carla Cox, Ph.D., The University of Montana, 2003
(Adjunct)
Dennis T. Murphy, M.S., University of Arizona, 1976 (Head Athletic Trainer)
Thomas R. Whiddon, Ed.D., University of Montana, 1975 (Chair)

Instructors
Adrienne M. Corti, M.S., The University of Montana, 1989
Linda Green, B.S., Florida State University, 1976
Karla Judge, M.S., ATC, Idaho State University 1991
Ellen Parchen, B.S., West Chester University, 1994
J. C. Weida, M.S., ATC, The University of Montana, 1995

Emeritus Professors
Kathleen Miller, Ph.D., University of Iowa, 1971
Gary Nygaard, Ed.D., 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, the only School of Fine Arts in Montana, is a comprehensive professional school committed to leadership in teaching, scholarship, professional performance and service at state, regional, national, and international levels. The School is comprised of outstanding artist/faculty/scholars, staff and administrative personnel, all of whom are committed to providing a challenging, positive education environment for students as well as an atmosphere characterized by collegiality, cooperation and interdependence.

The mission of the School of Fine Arts is to serve the University, the State of Montana, and the nation as a cultural center of national significance and as a leader in the performing and visual arts, arts education, and new media and technologies. In pursuit of this mission the School seeks:

-serve students at The University of Montana-Missoula by teaching each of the performing and visual arts with rigor and devotion, and by offering preparation and experience that will enable students to take their places in the world of art, to perform and create with grace and maturity, and to teach with expertise and perspective;

-serve the University at large, as well as the community, state, region and nation, by presenting concerts, productions, and exhibitions of high quality, and by offering educational and research opportunities in the arts for non-majors as well as majors;

-provide national leadership in the arts by enhancing the excellence of traditional arts curricula, instruction and research with innovative and imaginative programs that utilize new technologies, new media, and new cultural and intellectual environments;

-inspire the pursuit of excellence, encouraging creativity and expression through the arts;

-preserve artistic values and traditions of the past, and provide fertile soil for the arts of the future.

Department of Art

M.A. Papanek-Miller, 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, 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 try to challenge only the foundation courses (Art 123A, Drawing Fundamentals; 125A, 2-D Color and Design; 135A, 3-D Fundamentals).

All students must submit a portfolio to challenge art classes, including students who have taken AP examinations.

Two weeks prior to the semester students may submit a portfolio of ten jpeg files or pieces of actual work to the department office. If challenging more than one course, students need ten works in each area, for example: 10 drawing works for 123A, 10 color works for 125A, and/or 10 3-D pieces for 135A.

Submission of work does not guarantee advanced placement. Portfolios are reviewed at the beginning of autumn and spring semesters by a committee of representative faculty from the 2-D and 3-D areas. Note: Credits are not awarded for subjects that are successfully challenged.

Students with transfer credits from another institution must contact their advisor 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 a major in Art must earn a "C" (2.00 on a 4.00 scale) grade or better in all Art courses fulfilling requirements in order to graduate.

Bachelor of Fine Arts Review Process

All students initially enter as Bachelor of Arts (B.A.) candidates. To qualify 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 2.5 overall GPA on a 4.00 scale. BFA portfolio review takes place each semester. Art majors and transfer students who would like to apply for the B.F.A. program must submit their portfolio once they have earned between 33 and 45 Art credits. Transfer students who enter with more than 45 earned credits must be reviewed the first semester of their residency. Completion of pre-requisite courses and the review can take place the same semester. Should a student not be admitted to the B.F.A. program with their first application, a second and final application the following semester is encouraged. Application forms are available in the Art office three weeks before the scheduled review. The following course selections are review pre-requisites: ART 150H, 151H, 123A, 125A, 135A, four 200-level studio courses, and two 300-level studio courses. Applications for the BFA program must include: the application form with the area faculty signature, statement of purpose, and portfolio. Applications are reviewed each semester prior to preregistration. Incomplete or late applications will not be considered.

Bachelor of Fine Arts with a major in Art

For the Bachelor of Fine Arts degree, areas of specialization are: Ceramics, Drawing, Painting, Photography, Printmaking, and Sculpture. This 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/senior thesis, 6. All students must successfully complete 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 Art**

Students seeking the Bachelor of Arts degree with a major in Art must complete 57 credits in art: 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 (300- and 400-level) art studio courses (to include 4 of the 6 studio areas counting Drawing II); 12; upper-division art criticism, 3. All students must successfully complete 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 Art, endorsement in Art Education**

Art education is an area of specialization 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 of this catalog).

All students must successfully complete 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**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 123A.-125A Art Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ART 150H-151H Art of World Civilization</td>
<td>3</td>
</tr>
<tr>
<td>ART 135A Three-Dimensional Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ART 215A Photography I</td>
<td>3</td>
</tr>
<tr>
<td>ART 233A Beginning Printmaking</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>Other General Education courses</td>
<td></td>
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</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ART 203L Introduction to Art Criticism</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>ART 235 Sculpture I</td>
<td>3</td>
</tr>
<tr>
<td>ART 240A Painting I</td>
<td>3</td>
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<tr>
<td>General Education</td>
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</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>Art History (300-level)</td>
<td>3</td>
</tr>
<tr>
<td>Studio II courses</td>
<td>3</td>
</tr>
<tr>
<td>Studio courses (B.F.A. option courses)</td>
<td>(3)</td>
</tr>
<tr>
<td>Art 303L or 403L Art Criticism</td>
<td>3</td>
</tr>
<tr>
<td>Art 323 Drawing II</td>
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</tbody>
</table>

**General Education**

<table>
<thead>
<tr>
<th>Credits</th>
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<td></td>
<td>15-18</td>
<td>15-18</td>
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</tbody>
</table>

**Fourth Year**

| Course                                      | Credits | |
|---------------------------------------------|---------|
| Studio courses (B.F.A., courses in option)  | 3       |
| Studio art courses (300-400-level)          | 3       |
| ART 494 Professional Practices (B.F.A.)     | 3       |
| ART 499 Senior Thesis (B.F.A.)              | 3       |
| Elective & General Education                |         |

<table>
<thead>
<tr>
<th>Credits</th>
<th>6-126-12</th>
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<tbody>
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<td>15-18</td>
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</table>

**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 150H, 151H, ART 203L; 9 credits from 300-level art history courses; 3 credits from ART 303L, or 400-level art history and criticism courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ART 123A Drawing 1: Figure Drawing</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>ART 235 Sculpture I</td>
<td>3</td>
</tr>
<tr>
<td>ART 240A Painting I</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Art Studio**

To earn a minor in studio the student must complete at least 27 credits to include the following: ART 123A, 125A, 135A; ART 150H, 151H; 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. Credits beyond this maximum do not count toward a degree.

**Art (ART)**

**Studio Courses**

U 123A Drawing Fundamentals 3 cr. Offered every term. An introduction to visual language, concepts, and studio practice. 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. 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 critical expertise and issues of content and personal expression.

U 223 Drawing I: Figure Drawing 3 cr. Offered autumn and spring. Prereq., ART 123, 125 and 150 or 151. 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 3 cr. (R-9) Offered autumn and spring. Prereq., ART 123. 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 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.


U 323 Drawing II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A, 150, 151, 203, and 223A. Exploration and production of drawings with emphasis on individual expression. Studio practicum, lectures, critiques, reading and writing.

U 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.

U 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.

U 333 Printmaking II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 233A. Continued work in various printmaking media.

U 335 Sculpture II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 135A and 235. Focus on contemporary issues and techniques of sculpture.

U 340 Painting II: The Figure 3 cr. Offered autumn and spring. Prereq., ART 150, 151, 203, 223, and 240. Exploration of painting with emphasis on the human figure and classical compositions and techniques, studio practicum, lectures, critiques, reading and writing.


U 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.

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 414 Photography III 3 cr. (R-9) Offered autumn or spring. Prereq., ART 123A, 215A, 315. Further exploration of photographic theory, criticism, technique and expression as an art form.


U 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.

U 423 Independent Study in Drawing 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A, 150, 151, 203, 223, and 323, and consent of instructor. Advanced drawing techniques.

U 424 Advanced Research in Drawing 3 cr. (R-9) Offered intermittently. Prereq., ART 323 and consent of instructor. Investigation of drawing with emphasis on student proposals, including specific technical and conceptual aspects.

U 429 Independent Study in Ceramics 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 135A, 229A, 6 credits of ART 329, ART 330 and consent of instructor. Continued exploration of ceramic art. Individualized approach with student initiative in determining projects.

U 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.

U 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.

U 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.

U 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.

U 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.

U 440 Independent Study in Painting 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A, 150, 151, 203, 223, 240A, 340, and 341 and/or consent of instructor. Minimum of 9 credits of 300 level painting courses. (Exceptions for special circumstances such as January term courses, study abroad, etc.) Independent projects in painting.

U 442 Advanced Research in Painting 3 cr. (R-9) Offered intermittently. Prereqs., ART 123A, 125A, 150, 151, 203, 223, 240A, 323, 340, and 341 and/or consent of instructor. Investigation of painting with emphasis on student proposals, including specific technical and conceptual aspects.

U 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.

U 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. Required of all graduating B.F.A. students. Introduction to professional practices and standards in the visual arts, including presentation, portfolio development, career and exhibition opportunities, arts advocacy and graduate school.

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/Architecture 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 Seminar 3 cr. Offered autumn. Prereq., graduate standing. Preparation to teach foundation and entry level art courses.

G 594 Seminar Variable cr. (R-6) Offered intermittently. Advanced research in printmaking.

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 and spring. 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 150H Art of World Civilization: Ancient to Medieval Art 3 cr. Offered autumn. Survey of history of visual art from pre-history to 1400.

U 151H Art of World Civilization: Early Modern to Contemporary Art 3 cr. Offered spring. Survey of history of visual art from 1400 to the Present.

U 336H History of Architectural Design: Pre-history to 1850 3 cr. Offered autumn. Same as DRAM 336H. Knowledge and understanding of architectural styles, designs and choices of the built environment from prehistory megalithic architecture to the start of the modern age.

UG 367H Art of the Ancient Americas 3 cr. Offered spring. Prereq., ART 150H or 151H or 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., ART 150H or 151H or 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 intermittently. Prereq., ART 150H or 151H or consent of instr. Same as LS 340H and MCLG 360H. Ancient Greek works of art and architecture, related to and explained by contemporary ideas and values of Greek society.

UG 381H Roman and Early Christian Art in Context 3 cr. Offered intermittently. 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., ART 150H or 151H or consent of instr. American painting, sculpture and architecture from the Civil War to the present.

UG 450H Advanced Research in Art History 2-6 cr. (R-6) Offered autumn and spring. Prereq., ART 150H-151H, a 300-level art history course and consent of instr. Advanced research in art history topics agreed upon by student and instructor.

UG 451H Seminar in Art History and Criticism 3 cr. (R-9) Offered intermittently. Prereq., ART 150H-151H, a 300-level art history course and 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., ART 150H or 151H or 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. Prereq., ART 150H or 151H or consent of instr. 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. Prereq., ART 150H or 151H or consent of instr. 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 150H or 151H 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 130H or 131H 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 ages.

G 550 Graduate Studies/Art History 2-6 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Research in art history and art theories.

G 597 Research in Art History 3-9 cr. (R-18) Offered intermittently. Prereq., consent of instr.

G 698 Methodologies in Art History 3-9 cr. (R-9) Offered intermittently. Prereq., consent of instr. Investigation of the discipline of art history, its elements, boundaries, historiography, and practitioners.

Art Criticism

U 203L Introduction to Art Criticism 3 cr. Offered autumn and spring. Prereq., ART 150H-151H. Introduction to a range of methods and philosophies in art criticism.

UG 303L Contemporary Art and Art Criticism 3 cr. Offered autumn and spring. Prereq., ART 203L or consent of instr. Survey of artists, art works, critics and theories from 1960s to the present. Introduction to major art movements and ideas of the Post-Modern era. Special emphasis given to first-hand experiences with art at local venues and direct engagement with contemporary art criticism published in newspapers, journals, magazines, and other media.

UG 403L Renaissance Theory and Criticism 3 cr. Offered intermittently. Prereq., ART 150H or 151H and consent of instr. An exploration of the writings of major thinkers of the 14th-16th centuries, including theoretical treatises, works of literature, contracts, and personal diaries.

UG 452 Advanced Research in Art Criticism 2-6 cr. (R-6) Offered spring. Prereq., consent of instr.

G 501 Graduate Critiques Seminar 1 cr. (R-4) Offered autumn and spring. Prereq., consent of instr. Weekly meetings to critique graduate student work.

G 503 Critical Theories in the Visual Arts 3 cr. Prereq., consent of instr. Seminar on the history of art criticism as a particular type of discourse about art. Contemporary theories of Modernism including Formalism, Abstraction, Marxism, and Social Realism; and Postmodernism including Deconstruction, Revisionism, and Feminism. Required of all M.A. and M.F.A. students with options in the fields of art.

Art Education

UG 314A Elementary School Art 3 cr. Offered every term. Visual art teaching methods for future elementary school teachers to include production of original works in a variety of media, methods of critique, curricular components, media management, resources and guided teaching experiences in a school setting.

UG 407 Teaching Art K-12 for Fine Arts Majors 3 cr. Offered autumn. Prereq., ART 123A, 125A, 135A; ART 150H, 151H; and junior standing. Preparation for art specialists to include history and current trends in curriculum development, teaching procedures, child growth and development in art, resources, evaluation, advocacy and directed teaching experiences in school setting.


UG 427 Advanced Research in Art Education 2-6 cr. (R-12) Offered intermittently. Prereq., ART 123A, 125A, 135A and ART 314 or 407. Advanced research in art education topics and/or field experiences.

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-8) Same as DRAM, MUS 586. Continuation and synthesis of preceding seminars.

G 587 Arts Education Practicum 1 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 1 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
Hippolito Rafael Chacon, Ph.D., University of Chicago, 1995
David James, M.F.A., University of Arizona, 1984
Elizabeth Lo, M.F.A., The University of Montana, 1974
M.A. Papanek-Miller, M.F.A., University of Houston, 1984 (Chair)
Thomas Rippon, M.F.A., School of the Art Institute of Chicago, 1979
Barbara Tilton, M.F.A., Vermont College of Norwich, 1996

Associate Professors

Mary Ann Bonjorni, M.F.A., University of California, Santa Barbara, 1986
Valerie Hedquist, Ph.D., University of Kansas, Lawrence, 1990
Elizabeth Dove Kinderwater, M.F.A., Vermont College of Norwich, 1999
Cathryn Mallory, M.F.A., University of Oklahoma, 1985

Assistant Professor

Bradley Allen, M.F.A., Southern Illinois University, 2005

Emeritus Professors

Marilyn Bruya, M.F.A., Bard College, 1986
James G. Todd, M.F.A., The University of Montana, 1969
Rudy Autoio, M.F.A., Washington State University, 1952
Department of Drama/Dance

Mark Dean, Chair
The Department of Drama/Dance is accredited by the National Association of Schools of Theatre and is a member of the University/Resident Theatre Association. The department is housed in the Performing Arts and Radio-Television Center 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 Fine Arts with a major in Drama or Dance is a professionally oriented degree designed for the student who plans to pursue a career in these areas. The Bachelor of Arts with a major 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 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 Drama and an area of specialization in Education Endorsement Preparation is designed for the student seeking teaching endorsement in the field of drama. The Bachelor of Fine Arts with a major in Drama is a professionally oriented degree designed for the student who plans to pursue a career in theatre, dance or a related field. Areas of specialization are: Acting, Design/Technology, Choreography and Performance, and Studio Teaching. Graduate programs lead to the Master of Arts in Drama or Integrated Arts and Education and the Master of Fine Arts in Drama with areas of specialization in Acting, Design/Technology, or Directing.

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

Advisement
Each Drama/Dance 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 credit/no credit 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 Dance
The following courses constitute the complete Dance requirements for the Bachelor of Arts degree:

<table>
<thead>
<tr>
<th>Course Title</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>9</td>
</tr>
<tr>
<td>307A Jazz Dance III (or appropriate level)</td>
<td>9</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>3</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 spring, 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>
</tbody>
</table>

OR
320 Improvisation and Contact Improvisation       2

Total 58-59

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 Drama
The following courses constitute the complete Drama requirements for the Bachelor of Arts degree:

<table>
<thead>
<tr>
<th>Course Title</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: Run Crew</td>
<td>1</td>
</tr>
<tr>
<td>107A Theatre Production I: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>108 Intro to House Management</td>
<td>1</td>
</tr>
<tr>
<td>202 Stagecraft I</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 (or DRAM 111A)</td>
<td>3</td>
</tr>
<tr>
<td>220L Dramatic Literature I (Script Analysis)</td>
<td>3</td>
</tr>
<tr>
<td>320 Theatre History I</td>
<td>3</td>
</tr>
<tr>
<td>321 Theatre History II</td>
<td>3</td>
</tr>
<tr>
<td>379 Introduction to Directing</td>
<td>3</td>
</tr>
<tr>
<td>Drama/Dance/Media Arts electives (by advisement)</td>
<td>9</td>
</tr>
<tr>
<td>Senior project</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
</tr>
</tbody>
</table>

Education Endorsement Preparation

Specialization
The Education Endorsement Preparation specialization is designed for the student seeking an endorsement in the major teaching field of Drama.

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>327A Dance in Elementary Education</td>
<td>2</td>
</tr>
<tr>
<td>103A Introduction to Theatre Design</td>
<td>3</td>
</tr>
<tr>
<td>106A-107A Theatre Production (Running and Production)</td>
<td>3</td>
</tr>
<tr>
<td>201A Beginning Composition (offered spring)</td>
<td>2</td>
</tr>
<tr>
<td>202 Rehearsal and Performance</td>
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<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>
</tbody>
</table>

OR
320 Improvisation and Contact Improvisation       2

Total 58-59

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 Drama
The following courses constitute the complete Drama requirements for the Bachelor of Arts degree:

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
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<td>106A Theatre Production I: Run Crew</td>
<td>1</td>
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<tr>
<td>107A Theatre Production I: Construction Crew</td>
<td>3</td>
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<td>108 Intro to House Management</td>
<td>1</td>
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<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 (or DRAM 111A)</td>
<td>3</td>
</tr>
<tr>
<td>220L Dramatic Literature I (Script Analysis)</td>
<td>3</td>
</tr>
<tr>
<td>320 Theatre History I</td>
<td>3</td>
</tr>
<tr>
<td>321 Theatre History II</td>
<td>3</td>
</tr>
<tr>
<td>379 Introduction to Directing</td>
<td>3</td>
</tr>
<tr>
<td>Drama/Dance/Media Arts electives (by advisement)</td>
<td>9</td>
</tr>
<tr>
<td>Senior project</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
</tr>
</tbody>
</table>
Drama Credits

Acting Specialization

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>203 Stagecraft II</td>
<td>3</td>
</tr>
<tr>
<td>210 Voice and Speech I</td>
<td>2</td>
</tr>
<tr>
<td>214-215 Acting I, II</td>
<td>6</td>
</tr>
<tr>
<td>220L Dramatic Literature I (Script Analysis)</td>
<td>3</td>
</tr>
<tr>
<td>244 Stage Makeup</td>
<td>2</td>
</tr>
<tr>
<td>320-321 Theatre History I, II</td>
<td>6</td>
</tr>
<tr>
<td>327A Drama in Elementary Education</td>
<td>2</td>
</tr>
<tr>
<td>371 Stage Management I</td>
<td>2</td>
</tr>
<tr>
<td>374 Introduction to Directing</td>
<td>2</td>
</tr>
<tr>
<td>402 Methods of Teaching Theatre</td>
<td>2</td>
</tr>
<tr>
<td>Senior Project</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>40</td>
</tr>
</tbody>
</table>

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.

Bachelor of Fine Arts with a major in Drama

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 area of specialization, either acting or design/technology.

Requirements for these areas are specified below.

A student may elect a special concentration in directing, music theatre, or another discipline in addition to the B.F.A. core and area specialization 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. students majoring in Drama with an area of specialization in Acting or Design/Technology:

<table>
<thead>
<tr>
<th>Core Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Drama</strong></td>
</tr>
<tr>
<td>106A Theatre Production I: Running Crew</td>
</tr>
<tr>
<td>107A Theatre Production I: Construction Crew</td>
</tr>
<tr>
<td>108 Introduction to House Management</td>
</tr>
<tr>
<td>202 Stagecraft I</td>
</tr>
<tr>
<td>203 Stagecraft II</td>
</tr>
<tr>
<td>206 Theatre Production II: Running Crew</td>
</tr>
<tr>
<td>214 Acting I (or DRAM 111A if Design/Tech option)</td>
</tr>
<tr>
<td>220L Dramatic Literature I (Script Analysis)</td>
</tr>
<tr>
<td>320-321 Theatre History I, II</td>
</tr>
<tr>
<td>379 Introduction to Directing</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

Acting Specialization

Students who intend to pursue the acting specialization will normally enter the University as Bachelor of Arts students in Drama.

To be taken in addition to core courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>215 Acting II</td>
<td>3</td>
</tr>
<tr>
<td>216A Production Acting I</td>
<td>1</td>
</tr>
<tr>
<td>244 Stage Makeup</td>
<td>2</td>
</tr>
<tr>
<td>310 Voice and Speech I</td>
<td>2</td>
</tr>
<tr>
<td>311 Voice and Speech II</td>
<td>2</td>
</tr>
<tr>
<td>312 Physical Performance Skills I</td>
<td>2</td>
</tr>
<tr>
<td>313 Physical Performance Skills II</td>
<td>2</td>
</tr>
<tr>
<td>314 Acting III</td>
<td>2</td>
</tr>
<tr>
<td>315 Acting IV</td>
<td>3</td>
</tr>
<tr>
<td>316A Production Acting II</td>
<td>1</td>
</tr>
<tr>
<td>410 Voice and Speech III</td>
<td>3</td>
</tr>
<tr>
<td>412 Physical Performance Skills III</td>
<td>3</td>
</tr>
<tr>
<td>414 Acting V (repeat once)</td>
<td>8</td>
</tr>
<tr>
<td>415 Acting VI (repeat once)</td>
<td>8</td>
</tr>
<tr>
<td>416 Production Acting III</td>
<td>1</td>
</tr>
<tr>
<td>420 Singing for Actors</td>
<td>2</td>
</tr>
<tr>
<td>439 Advanced Acting: Professional Skills</td>
<td>3</td>
</tr>
<tr>
<td><strong>Sub total</strong></td>
<td>49</td>
</tr>
<tr>
<td><strong>Core Courses</strong></td>
<td>27</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>76</td>
</tr>
</tbody>
</table>

Design/Technology Specialization

Students wishing to pursue a B.F.A. with a specialization 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 specialization will normally enter the University as Bachelor of Arts students in Drama.

To be taken in addition to core courses:

<table>
<thead>
<tr>
<th>Course</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>206 Theatre Production II: Running Crew</td>
<td>1</td>
</tr>
<tr>
<td>207 Theatre Production II: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>231 Drafting for the Theatre</td>
<td>3</td>
</tr>
<tr>
<td>Choose one from:</td>
<td></td>
</tr>
<tr>
<td>331 Drafting for the Theatre</td>
<td>3</td>
</tr>
<tr>
<td>332 CAD for the Theatre</td>
<td></td>
</tr>
<tr>
<td>341 Flat Pattern Design and Drafting</td>
<td>6</td>
</tr>
<tr>
<td>370 Production Construction I (repeat once)</td>
<td>2</td>
</tr>
<tr>
<td>371 Stage Management I</td>
<td></td>
</tr>
<tr>
<td>Choose one from (Junior Project):</td>
<td></td>
</tr>
<tr>
<td>308 Production Team I</td>
<td>2</td>
</tr>
<tr>
<td>309 Production Design I</td>
<td></td>
</tr>
<tr>
<td>Choose one from (Senior Project):</td>
<td></td>
</tr>
<tr>
<td>408 Production Team II</td>
<td></td>
</tr>
<tr>
<td>409 Production Design II</td>
<td></td>
</tr>
<tr>
<td>Electives (minimum of 12 upper-division)</td>
<td>18</td>
</tr>
<tr>
<td><strong>Sub total</strong></td>
<td>45</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>72</td>
</tr>
</tbody>
</table>

Junior Projects

A junior project is required of all B.F.A. design/technology specialization 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 specialization. The senior project is usually production-related and has both practical and written components. Requirements for the project vary and are outlined in the Department of Drama/Dance Handbook.

Bachelor of Fine Arts with a major in Dance

The department offers two areas of specialization, one in choreography and performance and the other in studio teaching. Each requires the same sixty-eight credits in core courses, plus additional specified credits in each area of specialization. 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>1</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>

**Drama**

| 106A Theatre Production I: Running Crew                      | 1 |
| 107A Theatre Production I: Construction Crew (Costume or Lighting) | 3 |
| 378 Stage Management Practicum                               | 1 |
| **Total**                                                   | 64 |

**Studio Teaching Specialization**

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
</tr>
</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</td>
<td>2</td>
</tr>
<tr>
<td>(assisting in a technique class for one semester)</td>
<td></td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>64</td>
</tr>
</tbody>
</table>

**Choreography and Performance Specialization**

<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 Conditioning: Pilates Mat I (two semesters)</td>
<td>2</td>
</tr>
<tr>
<td>Choose two from:</td>
<td></td>
</tr>
<tr>
<td>HHP 101, 141, 159, 162, 171, 173, 177, 179</td>
<td>2</td>
</tr>
<tr>
<td><strong>Sub-Total</strong></td>
<td>8</td>
</tr>
<tr>
<td><strong>Core Courses</strong></td>
<td>64</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>72</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., major in Dance is:

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<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>DAN 204A Ballet II</td>
<td>8</td>
</tr>
<tr>
<td>DAN 207A Jazz Dance II</td>
<td>2</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>30</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAN 204A Ballet II</td>
<td>4</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 307A Jazz Dance III</td>
<td>2</td>
</tr>
<tr>
<td>DRAM 378 Stage Management Practicum</td>
<td>1</td>
</tr>
<tr>
<td>DAN 434L World Dance</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>30</td>
</tr>
</tbody>
</table>

The recommended curriculum for the B.A., major in Drama is:

**First Year**

<table>
<thead>
<tr>
<th>Course</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 (or 111A)</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>32</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</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><strong>Total</strong></td>
<td>32</td>
</tr>
</tbody>
</table>

The recommended curriculum for the Acting student in the B.F.A., major in Drama is:

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAM 106A Theatre Production I: Running Crew</td>
<td>1</td>
</tr>
<tr>
<td>DRAM 107A Theatre Production I: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 108 Introduction to House Management</td>
<td>1</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 214-215 Acting I, II</td>
<td>6</td>
</tr>
<tr>
<td>DRAM 220L Dramatic Literature I</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>30</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAM 206 Theatre Production II: Running Crew</td>
<td>1</td>
</tr>
<tr>
<td>DRAM 210-211 Voice and Speech I &amp; II</td>
<td>4</td>
</tr>
<tr>
<td>DRAM 244 Stage Makeup</td>
<td>2</td>
</tr>
<tr>
<td>DRAM 314-315 Acting III, IV</td>
<td>6</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>17</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>30</td>
</tr>
</tbody>
</table>

The recommended curriculum for the Design/ Technology student in the B.F.A. major in Drama is:

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DRAM 103A Introduction to Theatre Design</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 106A Theatre Production I: Running Crew</td>
<td>3</td>
</tr>
<tr>
<td>(two semesters)</td>
<td></td>
</tr>
<tr>
<td>DRAM 107A Theatre Production I: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 108 Introduction to House Management</td>
<td>1</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 207 Theatre Production II: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 231 Drafting for the Theatre I</td>
<td>3</td>
</tr>
</tbody>
</table>
Electives and General Education .................................. 12
Total ............................................................................. 33
Second Year
DRAM 206 Theatre Production II: Running Crew (two semesters) ........................................ 2
DRAM 220L Dramatic Literature I ................................... 3
DRAM 307 Production Construction I (two semesters) ...................................................... 6
DRAM 331 Drafting for the Theatre II or DRAM 332 CAD for the Theatre or DRAM 341 Flat Pattern Design and Drafting .......................................................... 3
Electives and General Education .................................. 18
Total ............................................................................. 32

The recommended curriculum for the Choreography and Performance or Studio Teaching student in the B.F.A. major in Dance, is:

First Year
DAN 204A or DAN 304 Ballet II or III ................................ 4
DAN 300 Modern III (or DAN 200A) ............................. 6
DRAM 106A Theatre Production: Running Crew ........... 1
DRAM 107A Theatre Production I: Construction Crew (Costume or Lighting) .............. 3
Electives and General Education .................................. 10
Total ............................................................................. 24
Second Year
DAN 201A Beginning Composition ................................ 2
DAN 202A Rehearsal and Performance ........................... 2
DAN 300 Modern III (or DAN 200A) ............................. 6
DAN 304 Ballet III (or Dan 204A) ................................. 4
DAN 320 Improvisation ................................................. 1
DAN 329 Conditioning: Pilates Mat I .............................. 2
DAN 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>201A Beginning Composition</td>
<td>2</td>
</tr>
<tr>
<td>202A Rehearsal and Performance</td>
<td>2</td>
</tr>
<tr>
<td>204A Ballet II (or appropriate level)</td>
<td>2</td>
</tr>
<tr>
<td>300 Modern III (or Dan 204A)</td>
<td>3</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>
</tbody>
</table>

Minor in Dance

Twenty-eight 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>3</td>
</tr>
<tr>
<td>200A Modern II</td>
<td>4</td>
</tr>
<tr>
<td>201A Beginning Composition</td>
<td>2</td>
</tr>
<tr>
<td>202A Rehearsal and Performance</td>
<td>2</td>
</tr>
<tr>
<td>204A Ballet II (or appropriate level)</td>
<td>2</td>
</tr>
<tr>
<td>300 Modern III (or Dan 204A)</td>
<td>3</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>
</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. Credits beyond this maximum do not count toward a degree.

Dance (DAN)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>4</td>
</tr>
<tr>
<td>U 104A Ballet I 2 cr. (R-4) Offered autumn and spring. Introduction to basic ballet positions and steps.</td>
<td>2</td>
</tr>
<tr>
<td>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.</td>
<td>2</td>
</tr>
<tr>
<td>U 194 Dance Seminar 1 cr. Offered autumn and spring.</td>
<td>1</td>
</tr>
<tr>
<td>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.</td>
<td>1</td>
</tr>
<tr>
<td>U 200A Modern II 2 cr. (R-12) Offered autumn and spring.</td>
<td>3</td>
</tr>
<tr>
<td>U 201A Beginning Composition 2 cr. (R-4) Offered spring.</td>
<td>2</td>
</tr>
<tr>
<td>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.</td>
<td>4</td>
</tr>
<tr>
<td>U 204A Ballet II 2 cr. (R-12) Offered autumn and spring. Prereq., DAN 100A. Continuation of the modern dance vocabulary at an advanced-beginner level.</td>
<td>2</td>
</tr>
<tr>
<td>U 207A Jazz Dance II 2 cr. (R-12) Offered autumn.</td>
<td>2</td>
</tr>
<tr>
<td>U 208A Ballet I 2 cr. Offered autumn and spring.</td>
<td>2</td>
</tr>
<tr>
<td>U 294 Dance Seminar 1 cr. Offered autumn and spring. One-time offerings of current topics.</td>
<td>1</td>
</tr>
<tr>
<td>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.</td>
<td>3</td>
</tr>
<tr>
<td>UG 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.</td>
<td>1</td>
</tr>
<tr>
<td>UG 301 Intermediate Composition 2 cr. (R-6) Offered autumn odd-numbered years. Prereq., DAN 301A 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.</td>
<td>2</td>
</tr>
<tr>
<td>UG 302 Dance Touring 1-4 cr. (R-24) Offered autumn and spring. Prereq., audit. Rehearsal and touring to the community.</td>
<td>4</td>
</tr>
<tr>
<td>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.</td>
<td>2</td>
</tr>
<tr>
<td>UG 307A Jazz III 2 cr. (R-12) Offered autumn. Prereq., DAN 204 or equiv. skill and consent of instr. Continuation of 207A.</td>
<td>2</td>
</tr>
<tr>
<td>UG 320 Improvisation 1 cr. (R-3) Offered autumn even-numbered years. Exploration of stimulus, structure and performance of improvised movement. Elements such as</td>
<td>1</td>
</tr>
</tbody>
</table>
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.

U 329 Conditioning: Pilates Mat 1 cr. (R-8) Offered autumn and spring. Pilates mat (floor) exercises to build core control, strength and flexibility.

U 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.

U 397 Junior Creative or Research Projects 1-6 cr. (R-6) Offered autumn and spring. Prereq., B.F.A. dance major. Independent study in choreography or a research paper which could be on such subjects as teaching styles, multiple intelligence theory, dance historical topics, dance injuries, etc. An initial proposal, a journal, and a paper are required.

U 400 Modern IV 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.

U 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.

U 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.

U 425 Dance Pedagogy 3 cr. (R-9) Offered autumn even-numbered years. Prereq., DAN 428. Methods and experiences in teaching modern dance, ballet and jazz.

U 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.

U 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.

U 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.

U 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.

U 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.

U 491 Teaching Projects 1-6 cr. (R-24) Offered autumn and spring. Prereq., consensus 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.

U 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.

U 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., Dance major. 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 108 Introduction to House Management 1 cr. (R-3) Offered every term. Introduction to the skills and experience of the front-of-house staff for a theatrical production.

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, lighting, and sound.

U 203 Stagecraft II 3 cr. Offered spring. Fundamental theories and hands-on application in the areas of scenery, properties, 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 autumn. 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 306 Summer Theatre Variable cr. (R-12) Offered summer. Prereq., consent of instr. Practicum in departmentally approved summer theatre companies in the capacity of actor, designer, director, stage manager and/or technician.

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, light 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 3 cr. Offered autumn. Prereq., DRAM 211. Dialects, accents, and continued development of good voice and speech skills.

U 311 Voice and Speech IV 3 cr. Offered spring. Prereq., DRAM 310. Integration of voice and speech skills, vocal character.

U 312 Physical Performance Skills I 2 cr. Offered autumn. Basics of physical performance: collaboration, concentration, centering, balance, agility, and body awareness through a variety of stage movement techniques.

U 313 Physical Performance Skills II 2 cr. Offered spring. Prereq., DRAM 312. Physical characterization: exploring weight, rhythm, tempo, and kinesthetic relationships through Laban, animal studies, and Michael Chekhov.


U 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, and O'Neill.

U 316A Production Acting II 1 cr. (R-4) Offered autumn and spring. Prereq., DRAM 216A. Credit for acting in approved Drama/Dance productions.

U 320 Theatre History I 3 cr. Offered autumn. 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.

U 321 Theatre History II 3 cr. Offered spring. 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.

U 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.

U 332 Computer-Aided Drafting and Computer Applications for the Theatre 3 cr. (R-6) 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.

U 333 Scenic Painting 1-3 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.

U 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.

U 335 Scene Design II 3 cr. Offered spring. Prereq., DRAM 334. A continuation of the techniques and projects in 334.

U 336H History of Architectural Design: Pre-history to 1850 3 cr. Offered autumn. Same as Art 336H. Knowledge and understanding of architectural styles, designs and practices of the built environment from prehistoric megalithic architecture to the start of the modern age.

U 340 Intermediate Costume Construction 3 cr. Offered spring. Intermediate costume construction focusing on the development of skills needed to function as a stitcher.

U 341 Flat Pattern Design and Drafting 3 cr. Offered autumn. Prereq., DRAM 202. Pattern design using the flat pattern method, pattern drafting of various garment parts, advanced principles of fitting.

U 343 Textile Selection and Manipulation 3 cr. Offered spring alternate years. Analysis of fibers, yarns, structures and finishes, as related to selection and use for the theatre. Basic dyeing, distressing and painting.

U 344 Costume History 3 cr. Offered intermittently. History of Western costume from ancient Egypt to the present day.

U 346 Costume Design I 3 cr. Offered autumn. Prereq., DRAM 103A, 202, 203. Introduction to principles and practices of stage costume design.

U 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 proscenium theatre design concepts.

U 352 Master Electrician for the Stage 2 cr. Offered intermittently. Prereq., DRAM 107A, Lighting, DRAM 202, or consent of instr. Training for the position of master electrician and assistant lighting designer. Practical application of production planning, lighting paperwork, overseeing lighting crews, advanced electrical theory, power distribution, and creative problem solving. Students will work on major departmental productions.

U 361 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.


U 374 Technical Direction 3 cr. Offered intermittently. Prereq., DRAM 231, 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.

U 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.

U 379 Introduction to Directing 3 cr. Offered spring. Prereq., DRAM 103A, 214 or 111A, 220L. Open to juniors, seniors and graduate students. Introduction to the analytical skills, staging and conceptual techniques of the director; includes some practical application in scene work.

U 385 Spirit Squad 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.)

U 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

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 396 Independent Study: Theatre Projects Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

U 398 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 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.

U 401 Professional Performance: Touring 1-9 cr. (R-18) Offered spring. Prereq., consent of instr. Students experience the rigors and develop the skills required for actors in touring theatre; creating characters and maintaining consistent performances through three months of intensive travel and varying venues.

U 402 Methods of Teaching Theatre 2 cr. (R-6) Offered spring. Prereq., consent of instr. Students serve as construction crew in one of the shops for productions.

U 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.

U 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 412 Physical Performance Skills III 3 cr. Offered autumn. Prereq., DRAM 313. Extremes of performance: stage combat, martial arts, and biomechanics/theatre of the
UG 413 Physical Performance Skills IV 3 cr. Offered spring. Prereq., DRAM 412. Advanced specialized physical skills such as period styles, advanced combat/choreography, and commedia.

UG 414 Acting V: Company 4 cr. (R-8) Offered autumn. Prereq., DRAM 315. Selected speeches, scenes and projects from verse drama, especially Shakespeare.

UG 415 Acting VI: Company 4 cr. (R-8) Offered spring. Prereq., DRAM 414. Selected scenes and projects from various historical and stylistic periods.

U 416 Production Acting III 1 cr. Offered autumn and spring. Performance of an approved role in a departmental production accompanied by written self-assessment.

U 420 Singing for Actors 2 cr. (R-4) Offered spring. Prereq., audition, acting specialization, 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 435 Advanced Acting: Personal Performance 3 cr. Offered autumn. Prereq., DRAM 415 or consent of instr. Developing personal performance skills.

UG 436 Advanced Acting: Solo Performance 3 cr. Offered spring. Prereq., DRAM 435 or consent of instr. Creating solo performance material from original material or existing texts.


UG 438 Advanced Acting: Acting for the Camera II 3 cr. Offered spring. Prereq., DRAM 414 or consent of instr. Extended work in techniques in acting for the camera. Work in different areas of film and video acting.

UG 439 Advanced Acting: Professional Skills 3 cr. Offered spring odd-numbered years. Prereq., DRAM 414 or consent of instr. 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 414 or consent of instr. Performance and scene work in contemporary practice and theory.

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 alternate 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. Characterization, prosthetics, 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 and 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.

U 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 Internship Variable cr. 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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/draper 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 Graduate Acting I 3 cr. (R-12) Offered autumn. 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 Studio Training for the Actor 1-3 cr. (R-18) Offered autumn and spring. Prereq., consent of instr. Work in such areas as combat/movement training, improvisation for performance, experimental theatre, and various genre/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, themes and cultural contexts in theatre history.

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 costume.

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 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 Internship 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.

G 599 Professional Paper Variable cr. (R-4) Offered autumn and spring.

G 679 Directing V 3 cr. Offered intermittently. Prereq.,
Department of Media Arts

Richard Hughes, Chair
The Media Arts program offers a uniquely integrated curriculum, centered in digital technology as a storytelling and artistic medium; an emphasis reflected to varying degrees in every course offered. The course of instruction includes directing, writing, motion graphics, web design and digital effects, with technical production training and history/theory to provide students with a deep understanding of the principles and practices in these areas.

The Bachelor of Arts in Media Arts is predominantly a project-based major. Most classes deal with understanding and application of principles of narrative and design through the creation of media products, including video, motion design, web design and animation. The student creates an ongoing portfolio of work that can be organized either on the web or via DVD to allow for critique and comparison. The program has five computer labs with more than 80 stations. Of these, the undergraduate program occupies three labs with 54 stations.

The Media Arts graduate program is a three-year term and the curriculum is for the use and education of students pursuing the M.F.A. degree. If a student wishes to be considered for a non-degree status in a class, he or she may speak to the director of the department for approval.

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

Bachelor of Arts with a major in Media Arts
To earn the Bachelor of Arts with a major in Media Arts, the student must complete a core curriculum of 12 credits and 30 credits in one of two tracks for a total of 42 credits.

After the completion of 101L and 111A (introductory level), students must have achieved a 3.5 grade point average in those courses to move into MAR 210 and 211. Once they have completed these classes, they may apply to the major. Acceptance requires faculty approval (based on student portfolio ranking), a 3.0 GPA in Media Arts classes and no less than a 2.5 GPA in the student’s overall studies. These requirements continue through each assessment period, with annual reviews occurring at the end of spring semester each year, including a portfolio review.

Core Curriculum:
MAR 101L Introduction to Media Arts
MAR 111A Fundamentals of Integrated Digital Art
MAR 210 Creation of Media Story
MAR 211 Principles of Digital Video Production

Track in Integrated Digital Media:
MAR 221 Fundamentals of Digital Design
MAR 222 Fundamentals of Digital Compositing
MAR 321 Digital Image Design Techniques
MAR 322 2D Motion Design
MAR 325 Fundamentals of Digital Animation
MAR 330 Principles of Sound Design
MAR 340 Principles of Web Design
MAR 422 3D Motion Design
MAR 425 Techniques of Digital Animation
MAR 440 Web Design Techniques

Track in Video Production:
MAR 250 Visions of Film
MAR 251 Digital Video Production Techniques
MAR 301 Digital Media Practicum
MAR 353 Production Management
MAR 355 Directing the Fiction Movie
MAR 357 Digital Video Editing
MAR 450 Contemporary Trends in Digital Media
MAR 455 Experimental Documentary
MAR 465 Commercial Video Production

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. The minor consists of four core classes (12 credits): MAR 101L, 111A, 210, and 211. Supplementing this 12-credit core program, students must complete 9 additional credits outside of their major area that support their work and development in Media Arts. The student’s Media...
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 Integrated Digital Art 3 cr. Offered autumn and spring. A project oriented editing and design course that focuses on artistic expression and its relationship to digital technology. Using Final Cut Pro, Adobe Photoshop and Adobe After Effects, students will create audio/visual work in both the still image and time based mediums.

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 screenwriting and visualization for media story. Focus is on developing visual writing skills and effective utilization of critical story elements.

U 211 Principles of Digital Video Production 3 cr. Offered every term. The study and application of basic aesthetic, narrative and organizational principles as well as technical applications integral to the production process of short video works. Preparation of scripting formats for narrative and experimental works; shot selection and design; fundamental camera and sound operations; capturing and editing; production planning.

U 221 Fundamentals of Digital Image Design 3 cr. Offered autumn. Prereq., MAR 210, 211. Introduction to the fundamental concepts, principles and practices of digital still imaging in order to establish a common aesthetic and technical language necessary to develop quality designs on the computer.

U 222 Fundamentals of Digital Compositing 3 cr. Offered autumn. Prereq., MAR 210, 211. Introduction to fundamental concepts, principles and practices of digital compositing and rendering in order to establish a common aesthetic and technical language necessary to develop quality time-based art and design.

U 250 Visions of Film 3 cr. Offered autumn. Prereq., MAR 210, 211. Study of major film theories that led to the constitution of visual film language and their application in contemporary film narrative and direction.


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 301 Digital Media Practicum 1-6 cr. (R-6) Offered every term. Prereq., MAR 211. Practical application of the principles of production through work on graduate and upper level undergraduate projects, either as a crew member, production manager, designer, editor, director of photography or actor.

U 321 Digital Image Design Techniques 3 cr. Offered spring. Prereq., MAR 221. Introduction to the digital vector-based graphics and drawing using Adobe Illustrator and the process of integration between Photoshop and Illustrator, as well as their relationship to video production and animation.

U 322 2D Motion Design 3 cr. Offered spring. Prereq., MAR 222, 321. Project-oriented course which builds on the fundamentals of compositing introduced in MAR 222. Students create a more sophisticated body of integrated 2D work that explores multi-layered digital art and design in greater detail.

U 325 Fundamentals of Digital Animation 3 cr. Offered autumn. Prereq., MAR 321, 322. Introduction to two-dimensional digital animation, focusing on character and motion design animation fundamentals including: cell animation (frame by frame), motion-tweening, working with key frames and motion paths, moving elements on a 2D stage, object choreography and text animation.

U 330 Principles of Sound Design 3 cr. Offered autumn. Prereq., MAR 321, 322. Introduction to fundamental concepts, principles and practices of digital sound recording and editing in order to establish a common aesthetic and technical language necessary to develop quality audio design.

U 340 Principles of Web Design 3 cr. Offered spring. Exploration of the fundamental techniques and principles of creating an interactive web site using Macromedia Dreamweaver and Flash. Focus is on general website structure, directory structure, content, design and navigation.

U 353 Production Management 3 cr. Offered spring. Prereq., MAR 250, 251. Plan! Prepare! Prevent! The critical organizational, managerial and creative tools essential to effectively prepare and plan the process of creating a film or video from the written form to the final product.

U 355 Directing the Fiction Movie 3 cr. Offered spring. Prereq., MAR 250, 251. Developing, directing and editing a five to seven minute fiction movie. In depth work on creation of shooting script, casting, work with actors and location work. Emphasis on collaborative process and diligence and preparation in all levels of production.

U 357 Digital Video Editing 3 cr. Offered spring. Prereq., MAR 250, 251. Investigation of different techniques of narrative editing, including continuity, construction and montage. Students edit short project using supplied footage. Emphasis on finding and shaping the story. Final project uses student's own footage from the project in MAR 355.

U 396 Independent Study 1-6 cr. (R-12) Offered intermittently. Prereq., consent of instr.

U 422 3D Motion Design 3 cr. Offered spring. Prereq., MAR 322. Combining the common aesthetic and technical language with solid design principles, students immerse themselves in the making of a body of integrated digital 3D work that explores the technical and aesthetic possibilities of multiple layered x y z plane manipulations.

U 425 Techniques of Digital Animation 3 cr. Offered spring. Prereq., MAR 325, 422. Advanced techniques of 2D animation using Macromedia Flash as well as integrating those techniques with the basic 3-D digital animation capabilities of Adobe After Effects, including virtual lighting and the virtual camera.

U 440 Web Design Techniques 3 cr. Offered spring. Prereq., MAR 325, 422. Project-based class in advanced techniques of 2-D animation using Macromedia Flash as well as integrating those techniques with the basic 3-D digital animation capabilities of Adobe After Effects, including virtual lighting and the virtual camera.

U 450 Contemporary Trends in Digital Media 3 cr. Offered autumn. Prereq., MAR 353, 355, 357. Research
and exploration of contemporary film, video, digital art and design. Focus on areas of student research both in commercial and non-commercial venues and styles.


U 465 Commercial Video Production 3 cr. Offered spring. Prereq., MAR 450, 455. Focus on the production of short commercial works, including advertisements, industrial work, "how to" video, as well as paper projects with potential clients. Students develop a DVD/Web portfolio for entry into the profession upon graduation. The class serves as a synthesis point for analysis and presentation of techniques and principles learned throughout the program.

UG 495 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 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. Introduction to visual composition, photo and video manipulation and layering on the digital platform. Projects begin with static image composition and move to video time-based work using software-compositing programs.

G 515 Editing Dramatic Action 3 cr. Offered autumn. Prereq., graduate standing in the Media Arts program. Study and application of the principles of editing narrative. Beginning with animated storyboards created from scenes written by the student, the class edits existing footage in action and dialogue scenes. Study of history of editing as well as analysis of classic editing techniques.

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. Advanced writing principles, including the creation of layering and density through further exploration of character and the use of dramatic irony. The semester begins with the creation of the shooting script from the same script used in Directing III. Students also work on pitching full-length film stories and develop short, related treatments. Group creation of story is explored in the development of ideas for a commercial campaign.

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-12) 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-12) Offered autumn and spring. Prereq., consent of instr.

G 597 Research 1-12 cr. (R-12) Offered intermittently.

G 601 Graduate Media Research 3 cr. Offered autumn. 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 680 Media Directing IV 3 cr. Offered spring. Prereq., MAR 577, 578, 579. In depth analysis of significant works in film and media story with emphasis on genre and question of narrative voice. Students analyze and articulate creation of story in foreign film, areas of narrative de-construction, performance art, installation work and theoretical literature dealing with media in other art forms. Several short projects are completed, based on this area of research.

G 687 Final Portfolio Production 3 cr. Offered autumn. Prereq., MAR 508 (3 credits), 587, 680. 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. Work outside of program in an area of professional interest.

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

Professors

Michael R. Murphy, M.F.A., The University of Montana, 1994

Associate Professors

Richard Paul Hughes, M.F.A., The University of Montana, 1999 (Chair)

Assistant Professor

Mark Shogren, M.F.A., Ohio University, 2003
Andrew J. Smith, M.F.A., University of Iowa, 1997

Emeritus Professor

James D. Krieger, Ph.D., University of Utah, 1971 (Dean Emeritus)
Department of Music

Stephen Kalm, Choir
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 areas of specialization in performance or composition/music technology; and Bachelor of Arts in music. Graduate degree programs include the Master of Music with areas of specialization in music education, performance, 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 Evaluation 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 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 (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.

5. 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.

6. 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.

7. 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)

- Music 220 (Upper-Division Required Performance)
- and for those pursuing the B.M.E. and B.A. degrees, Music 219 (Piano Proficiency Assessment).

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 music transfers 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 Expectation. 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 MUS 424, 436, or 437.

13. All lower-division music courses, as well as MUS 324H-325H, counted toward the major must be passed with a grade of C- 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 71 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/Performance 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)
- 219 (Piano Proficiency Assessment)
- 220 (Upper-Division Required Performance)
- 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.
- 388 (Concert Attendance)
- 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 preparation leading to the Bachelor of Music degree 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 students also must obtain approval of the appropriate faculty. This degree does not qualify a student for public school teaching in Montana.

**Areas of Specialization in the Bachelor of Music Degree Program Include:**

**Piano or Organ Performance (B-1)**

Music course requirements for an option in piano or organ total 85 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.
- 219 (Piano Proficiency Assessment)
- 220 (Upper-Division Required Performance)
- 324H-325H (Music History I, II), 6 crs.
- 346 (Advanced Functional Piano), 1 cr.
- 361-362 (Form and Analysis I, II), 4 crs.
- 388 (Concert Attendance)
- 430-431 (Piano Methods and Materials I, II), 4 crs.
- 445 (Senior Recital), 2 crs.
- upper-division music electives 11 crs., toward which piano majors must complete 432 and 433 (Keyboard Literature I & II), 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 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 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.

**Voice Performance (B-2)**

Music course requirements for an option in voice total 84 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 program, 107A/307A, section 1 (University Choir), 107A/307A, section 2 (Chamber Chorale), 307A, section 3 (Women’s Chorus), 113A/313A (Opera Theater), or 150A/350A, section 11 (Jubileers) for an additional 4 credits
- 113A/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.
- 219 (Piano Proficiency Assessment)
- 220 (Upper-Division Required Performance)
- 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.
- 388 (Concert Attendance)
- 441 (Vocal Pedagogy), 2 crs.
- 445 (Senior Recital), 2 crs.
- upper-division 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, German, or Italian. 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.

**Orchestral Instruments Performance (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.
- 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.
- 219 (Piano Proficiency Assessment)
- 220 (Upper-Division Required Performance)
- 324H-325H (Music History I, II), 6 crs.
- 302 (Instrumental Conducting), 2 crs.
- 361-362 (Form and Analysis I, II), 4 crs.
- 388 (Concert Attendance)
- 445 (Senior Recital), 2 crs.
- upper-division 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.

**Composition and Music Technology (B-4)**

Music course requirements for a major in composition and music technology total 85 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 1, 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.
- 219 (Piano Proficiency Assessment)
- 220 (Upper-Division Required Performance)
- 159 (Composition I), 4 crs.
- 170 (Introduction to Music Technology), 2 crs.
- 271 (Sequencing, Synthesis, and Notation), 2 crs.
- 259 (Composition II), 4 crs.
- 135L (Introduction to Music Literature) 3 crs.
- 324H-325H (Music History I, II), 6 crs.
- 302 (Instrumental Conducting) or 303 (Choral Conducting) 2 crs.
- 361-362 (Form and Analysis I, II), 4 crs.
- 379 (Counterpoint), 3 crs.
- 388 (Concert Attendance)
- 359 (Composition I), 3 crs.
- 459 (Composition II), 3 crs.
- 428 (Orchestration) 2 crs.
- 429 (Interactivity and Digital Signal Processing), 2 crs.
- 466 (Computer Programming), 2 crs.
- 424 (Music of the 20th Century), 3 crs.
- 499 (Professional Projects), 2 crs.

and 5 credits of upper-division music electives.

Maximum credits applicable toward music electives 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.

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 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 colleges or 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 51 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, 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, section 2 (Chamber Chorale), 307A, section 3 (Women's Chorus), 313A, section 11 (Jubileers) for an additional 4 credits.

Other music course requirements for Curriculum C include:
- 151 (Major Performance Area I), 2 crs.
- 251 (Major Performance Area II), 2 crs.
- 351 (Major Performance Area III), 2 crs.
- 451 (Major Performance Area IV), 2 crs.
- 108A/308A (Orchestras), 104A (Marching Band), or 110A/310A (Concert Bands), 8crs. (Keyboard and Voice principals see above)
- 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.
- 220 (Upper-Division Required Performance)
- 115A-116A (Piano in Class), 2 crs.
- 324H-325H (Music History I, II), 6 crs.
- 361-362 (Form and Analysis I, II), 4 crs.
- 388 (Concert Attendance)
- Upper-division academic music electives, 4 crs.

Suggested Course of Study

Bachelor of Music Education (A)

First Year
- MUS 107A-110A, 150A, 196 Ensembles
- MUS 111-112 Theory I, II
- MUS 324H-325H Music History I, II
- MUS 151 Major Performance I

Second Year
- MUS 107A-110A, 150A, 196 Ensembles
- MUS 124-125 Stringed in Class I, II
- MUS 126-129 Woodwinds or Brass in Class
- MUS 211-212 Theory III, IV
- MUS 215-216 Intermediate Piano in Class I, II
- MUS 219 Piano Proficiency Assessment
- MUS 220 Upper-Division Required Performance
- MUS 237-238 Aural Perception III, IV
- MUS 251 Major Performance II
- MUS 324H-325H Music History I, II

Fourth Year
- MUS 100A Performance Study
- MUS 126-131 Woodwinds, Brass or Percussion in Class
- MUS 302 Instrumental Conducting
- MUS 303 Choral Conducting
- MUS 305 Instrumental Methods and Materials
- MUS 306 Choral Methods and Materials
- MUS 307A-310A, 350A, 496 Ensembles
- MUS 322-323 General Music Methods & Materials I, II
- MUS 351 Major Performance III
- MUS 428 Orchestration
- Electives and General Education

Bachelor of Music Education (B-1)

First Year
- MUS 107A-110A, 150A, 196 Ensembles
- MUS 111-112 Theory 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 107A-110A, 150A, 196 Ensembles
- MUS 124-125 Stringed in Class I, II
- MUS 126-129 Woodwinds or Brass in Class
- MUS 211-212 Theory III, IV
- MUS 215-216 Intermediate Piano in Class I, II
- MUS 219 Piano Proficiency Assessment
- MUS 220 Upper-Division Required Performance
- MUS 237-238 Aural Perception III, IV
- MUS 251 Major Performance II
- MUS 324H-325H Music History I, II
- Electives and General Education (English 101)
### Second Year

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$^*$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 with Major in Music, Voice Performance (B-2)

#### First Year

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MUS 388 Concert Attendance | 0 | 0 |
MUS 445 Senior Recital | 2 | 2 |
Upper-division music electives | 2 | 2 |
Electives and General Education | 8 | 8 |

$^*$Must include Drama 111A (Acting for Non-Majors I), 3 crs.

### Bachelor of Music with Major in Music, Orchestral Instruments Performance (B-3)

#### First Year

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#### Second Year

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<td>MUS 302 Instrumental Conducting</td>
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<td>MUS 350A Chamber Ensembles</td>
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$^*$String principals also must take Music 409 (Pedagogy of Strings).

### Bachelor of Music with Major in Music, Composition and Music Technology (B-4)

#### First Year

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<td>MUS 137-138 Aural Perception I, II</td>
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<td>MUS 151 Major Performance I</td>
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<td>MUS 159 Composition I</td>
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School of Fine Arts - Department of Music -317
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<td>Major Performance II</td>
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<td>MUS 259</td>
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<td>Sequence, Syntheses, and Notation</td>
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**Bachelor of Arts in Music (C)**

**First Year**

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**Third Year**

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**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=undergraduate credit only, UG=undergraduate or graduate credit, G=graduate credit. R after the credit indicates the course may be repeated for credit to he maximum indicated after the R. Credits beyond this maximum do not count toward a degree.

**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 MUS 101 (Music Theory I), 113A, 114A, and 110A 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 111 Theory I 2 cr. Offered autumn. Coreq., MUS 137. Material and structure of music. Application of principles in twow, three-, and four-part writing and a the keyboard.


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 I 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 117A Voice in Class I 1 cr. Offered autumn and spring.

**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 I 1 cr.** (R-2) Offered autumn. Basic instruction in oboe and bassoon, with emphasis on teaching procedures.

**U 127 Flute and Single Reed Class I 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 spring and summer. 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 spring and summer. 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 1 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 and II 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 138; 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 116A.

**U 216 Intermediate Piano in Class II 1 cr.** Offered spring. Prereq., MUS 215. Continuation of 215, culminates in piano functional examination.

**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 219 Piano Proficiency Assessment 0 cr.** Repeat 8 times. All majors pursuing a B.M. or B.M.E. degree must successfully complete all sections of the Piano Proficiency Assessment in order to attain upper-division standing in music. The eight-part
U 220 Upper-Division Required Performance 0 cr. All majors seeking upper-division standing must present a juried public performance on his/her performing instrument of acceptable quality prior to enrollment in upper-division music coursework. A previous divisional jury based on performance ability, repertoire and sight-reading is a prerequisite for this performance. Successful completion of this requirement requires approval from a 2/3 majority of the music faculty in attendance. Successfully completed performances will receive a grade of CR.

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., upper-division standing 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 brass, woodwinds, 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.

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 Theater I cr. (R-8) Offered autumn and spring. Prereq., consent of instr. See 114A 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 200. 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 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 4 credits in MUS 259. Creative writing of music.

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 388 Concert Attendance 0 cr. All music majors pursuing a B.M., B.M.E., or B.A. degree must attend and/or participate in a minimum of 154 approved recitals/concerts prior to graduation. Students will receive recital credits each semester they are enrolled and should register for 388 the semester they apply for graduation. Successful completion of attendance requirements will be graded CR.

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 396 Independent Studies in Music 1-3 cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

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 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. Continuation of 432.

UG 436 Topics in Music History 3 cr. (R-3) Offered intermittently. Prereq., MUS 325 and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.

UG MUS 437 Cultural Studies in Music 3 cr. (R-3) Offered intermittently. Prereq, MUS 325 and upper division standing in music, or consent of instructor. Course materials will examine music's contemporary role within cultures and societies around the world, introducing students to research methods in cultural studies and ethnomusicology.

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.

UG 445 Senior Recital 1-2 cr. Offered autumn and spring. Coreq., MUS 451.

UG 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.

UG 459 Composition IV 3 cr. (R-6) Offered autumn and spring. Prereq., 3 credits in MUS 359. A continuation of composition with writing in the larger forms.

UG 466 Computer Music Programming 2 cr. Offered autumn. 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.

UG 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 521 Psychology 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 I 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-9) 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 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
Shirley Howell, D.A., University of Northern Colorado, 1987
(Dean)
(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
Mary Jane Belz, Ph.D., University of Minnesota, 1994
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
David Cody, D.M., Indiana University, 2000
Christopher Hahn, D.M.A., University of Oklahoma, 2005
Kimberly James, D.M., Indiana University, 2006
Luis Millán, D.M.A., Michigan State University, 1997
Charles Nichols, Ph.D., Stanford University, 2003
James Randall, Ph.D., University of Illinois, 2004

Instructors
Don Beller, M.M., VanderCook College of Music, 1975
Jeffrey Brandt, M.M., University of Montana, 2004
Roger Logan, B.M., University of Idaho, 1976

Adjunct Assistant Professors
Nancy Cooper, D.M.A., Eastman School of Music, 1983
Kevin Griggs, D.A., University of Northern Colorado, 2004
David Morgenroth, M.M., University of North Texas, 1998

Emeritus Professors
Thomas Cook, D.A., University of Northern Colorado
Gerald H. Doty, Ed.D., Indiana University
Esther England, B.A., The University of Montana
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

Peggy Kuhr, Dean
Carol Van Valkenburg, Chair, Department of Print Journalism
Ray Ekness, Chair, Department of Radio-Television

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, websites, print and online news services and related agencies. The School of Journalism offers Bachelor of Arts and Master of Arts degrees in journalism and radio-television. Students select options in print, photojournalism, broadcast news or broadcast production.

A quality education in journalism is based 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 the Director of Graduate Studies, School of Journalism, The University of Montana, Missoula, MT 59812, or (406) 243-6720, or michael.downs@umontana.edu.

Pre-Professional Program

In the first two years of study students are enrolled in pre-journalism or pre-radio-television and take courses primarily in the liberal arts and sciences. Journalism and radio-television 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 interested in print, photojournalism or broadcast news apply for admission to the two-year professional programs in journalism. Those interested in broadcast production apply for the radio-television professional program. Applications are accepted only in spring and granted only for admission in 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, the student’s progress in completing the pre-professional curriculum, 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-television 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 must achieve 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 readmitted, except in cases where substantialization 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.

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 University general education course of three credits or more in each of the following subjects: economics, political science, and natural science
- One humanities course of three credits or more from the following list: LS 151L, LS 152L, PHIL 200E, PHIL 201E, PHIL 251H, PHIL 253H, ENLT 120L, ENLT 121L, ENLT 222L, ENLT 223L, ENLT 224L, ENLT 225L, HC 121.
- Transfer credit to meet this humanities requirement must be approved by the journalism or R-TV chair.
- 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 radio-television programs must also complete:
  - R-TV 150 - Introduction to Radio Production
  - R-TV 151 - Introduction to Radio-Television Production
  - COMM 111A - Public Speaking

**Professional Programs**

Students in the professional programs must earn a C- or better grade in all journalism or R-TV required skills courses or they must repeat the course.

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
  - JOUR 488 - Preparing for an Internship
- Spring semester:
  - JOUR 367 - Law of Mass Communication
  - JOUR 381 - News Editing II

**Second Year:**
- Autumn semester:
  - JOUR 481 - Senior Seminar
- Before graduation, students also must complete JOUR 333 - Magazine Article Writing (offered summer and fall) or JOUR 415 - Feature Writing (offered spring), plus JOUR 490, a one-credit supervised internship, and electives that will bring the total number of journalism credits to at least 35.

Students majoring in journalism with a photojournalism option must complete:

**First Year:**
- Autumn semester:
  - JOUR 328 - Advanced Photojournalism
  - JOUR 380 - News Editing I
  - JOUR 488 - Preparing for an Internship

- Spring semester:
  - JOUR 367 - Law of Mass Communication
  - JOUR 381 - News Editing I

- JOUR 417 Multimedia Projects

**Second Year:**
- Autumn semester:
  - JOUR 481 - Senior Seminar

Before graduation, students must also complete JOUR 490, a one-credit supervised internship, plus electives, including JOUR 420 - Native News (offered spring) and JOUR 429 - Documentary Photojournalism (offered fall) that will bring the total number of journalism credits to at least 35.

Students majoring in journalism with a broadcast option must complete:

**First Year:**
- Autumn semester:
  - R-TV 360 - Advanced Broadcast Reporting
  - R-TV 489 - Preparing for an Internship
- 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 before graduation in journalism or radio-television to at least 35.

Students majoring in Radio-Television must complete:

**First Year:**
- Autumn semester:
  - R-TV 350 - Television Directing and Production
  - R-TV 489 - Preparing for an Internship
- 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 before graduation in journalism or radio-television to at least 35.
- All journalism and radio-television majors must acquire practical experience through pre-approved internships (JOUR 490 or R-TV 490) 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. Credits beyond this maximum do not count toward a degree.

**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 makes 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 285 Sports Journalism 3 cr. Offered intermittently. Prereq., JOUR 270. Study and practice of sports journalism in print and broadcast, including its history and its finest examples.

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.


UG 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 emphasis on news sources, interpretive writing and the coverage of local, state and federal governments.

UG 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.

UG 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.

UG 375 Kaimin Reporting 1-3 cr. (R-3) Offered autumn and spring. Prereq., JOUR 331. Reporting for the Montana Kaimin.

UG 380 News Editing I 3 cr. Offered autumn. Prereq., JOUR 270. Fundamentals of editing and headline writing for the print media.

UG 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.

UG 389 Literature of Journalism 3 cr. Offered intermittently. Study of literary journalism focusing on fiction and nonfiction by American journalists.

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 Advanced Journalism Problems Variable cr. (R-6) Offered every term. Prereq., consent of the dean. Independent study.

UG 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.

UG 412 Media and Cultures 2 cr. Offered autumn. Critical examination of the U.S. media’s reporting on the growing multicultural 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.

UG 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.

UG 417 Multimedia Projects 3 cr. Offered spring. Prereq., JOUR 328 or consent of instr. Capstone class in core photo curriculum in which students discuss, research, photograph, design and write and record several stories and essays using still photography and audio/video equipment.

UG 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.

UG 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 single story topic. Editors coach reporters and edit their stories. The stories appear in a publication distributed throughout the state and nation.

UG 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.

UG 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.

UG 440 Montana Journalism Review Variable cr. (R-6) Offered spring. Prereq., consent of instr. Students assist writing, editing, design and overall production and distribution of the Montana Journalism Review, a publication of the School of Journalism.

UG 461 New Media 3 cr. Offered spring. 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 the new media.

UG 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.

UG 477 Rural News Network 1-6 cr. (R-6) Offered autumn and spring. Prereq., professional program standing and consent
of instructor. Students will visit rural towns in Montana that have lost their newspapers or never had one and will create an online newspaper. Students write, photograph and record stories for use on the site. Students work with local citizens and co-author pieces. Students and faculty train townspeople to become citizen journalists to keep the news site on going.

UG 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.

UG 488 Preparing for an Internship 1 cr. Offered autumn. Prereq., admission to the journalism professional program or the journalism graduate program. Acquaints students with internship requirements including application procedures, such as building a resume and learning what internships--local through international--are available.


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 527. 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 501 Project/Thesis Seminar 2 cr. Offered spring. Introduction to appropriate research methods and presentation techniques for professional projects and theses in journalism.

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 Montana PBS in tandem with students in R-TV 391, 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 585 Community News Service 1-3 cr. (R-3) Offered autumn and spring. Prereq., consent of instr. Students working under faculty supervision write articles of statewide interest for publication in a network of Montana newspapers.

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. Prereq., consent of instr. 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 for Montana PBS, 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 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 Montana PBS.
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 students in R-TV 351 on special programs for Montana PBS.

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.

U 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.

U 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.

U 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.

U 410 Legislative Reporting 1-6 cr. Offered spring semester during legislative years. Prereq., JOUR 430. Students produce daily radio news reports and newscasts from the Montana Legislature in Helena that are distributed to Montana radio and television stations for broadcast.

U 420 Radio Deliberation Project 1-2 cr. (R-4) Offered every term. Prereq., consent of instr. Students will be responsible for producing The Footbridge Forum, a radio program airing on KBGA College Radio. Students learn the deliberative process, formulate program content, select guests, conduct research, promote the programs and are responsible for technical production of the shows.

U 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.

U 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, and a weekly UMNews program for commercial stations, in tandem with students in R-TV 460 and 450.

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, and a weekly UMNews program for commercial stations, in tandem with students in R-TV 450 and 460.

U 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 television documentary for Montana PBS, in tandem with student of R-TV 482.

U 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 television documentary for Montana PBS, in tandem with students of JOUR 481.

U 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.

U 489 Preparing for an Internship 1 cr. Offered autumn to students admitted to the professional program. Acquaints students with internship requirements, including application procedures, such as building a resume and learning what internships—local through international—are available.

U 490 Broadcast Internship 1-4 cr. (R-4) Offered every term. Prereq., R-TV 351 or 361 and consent of instr. 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.

U 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 autumn. Students direct, photograph and edit a daily Newsbrief report, regular half-hour Montana Journal magazine programs for Montana PBS, 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 Montana PBS 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
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

Raymond Ekness, M.A., The University of Montana, 1995 (Chair, Radio-Television)
Keith Graham, M.A., University of Miami, 1979
Dennis McAuliffe, Jr., B.A., University of Maryland, 1976

Assistant Professor

Denise Dowling, M.A., Western Governor’s University, 2003
Michael Downs, M.F.A., University of Arkansas, 1999 (Visiting)
Teresa Tamura, M.F.A., University of Washington, 1996
Sheri Verena, M.A., University of Minnesota, 1983

Adjunct Professors

John Talbot, A.B., Harvard University, 1951

Lecturers

Printer Bowler
Sherry Devlin
Jeff Hull  
William Marcus  
Sally Mauk  
John Twiggs  
Kagan Yochim  
Gita Saedi  

Emeritus Professors  

Nathaniel Blumberg, Ph.D., Oxford University, 1950  
Charles E. Hood, Jr., Ph.D., Washington State University, 1980  
William L. Knowles, B.A., San Jose State College, 1959  
Gregory S. MacDonald, M.A., University of Michigan, 1973  
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. The Law School conforms in most instances to the calendar established for the entire University. There are some differences, however, because the Law School operates on a different (and longer) semester system than the rest of the University.

Academic Year Calendar

Autumn Semester 2007
August 22-28 (Wednesday-Tuesday) Introductory Program
August 21 (Tuesday) Registration Finalization
August 27 (Monday) Classes Begin
September 3 (Monday) Labor Day (Holiday)
November 12 (Monday) Veterans’ Day (Holiday)
November 21-23 (Wednesday-Friday) Thanksgiving Holiday
Building Closed: Thursday, November 22
November 30 (Friday) Last day of classes
December 3-6 (Monday-Thursday) Reading period
December 7-19 (Friday-Wednesday) Final exams

Spring Semester 2008
January 18 (Friday) Registration Finalization
January 21 (Monday) Martin Luther King Jr. Day (Holiday)
January 22 (Tuesday) Classes begin
February 18 (Monday) President’s Day (Holiday)
March 24-28 (Monday-Friday) Spring Vacation
Building Hours: Monday-Friday, 7:00am - 5:30am
Law Library Hours: Monday-Friday, 7:30am - 5:00am
April 29 (Tuesday) Last day of classes
April 30-May 5 (Wednesday-Monday) Reading period prior to exams
May 6-16 (Tuesday-Friday) Final exams
May 10 (Saturday) UM Commencement
May 17 (Saturday) Law School Hooding Ceremony

Required Curriculum
First Year
500 Civil Procedure I .................................. 3
501 Civil Procedure II ................................ 3
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)

Third Year (minimum of 4 credits required)
599 Clinical Training II ............................... 1-8
600 Clinical Training III .............................. 1-6
601 Clinical Training IV .............................. 1-6
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)
American Indian Natural Resources (Law 619, 2 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, 3 credits)
Environmental Law (Law 650, 3 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 & Literature (Law 607, 1 credit)
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)
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)
Trademark Law (Law 693, 2 credits)
Tribal Courts/Tribal Law (Law 688, 3 credits)
Tribal/State Relations (Law 694, 2 credits)
UCC Articles 203 (Law 609, 3 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
Raymond Cross, J.D., Yale University, 1973
William F. Crowley, LL.M., New York University, 1951 (Emeritus)
E. Edwin Eck II, LL.M., Georgetown University (Dean)
Larry M. Elison, S.J.D., University of Michigan, 1962 (Emeritus)
Cynthia Ford, J.D., Cornell Law School, 1978
Gregory S. Munro, J.D., University of Montana, 1975
Robert G. Natelson, J.D., Cornell Law School, 1973
David J. Patterson, LL.M., University of Michigan, 1966
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
Stacey Gordon, J.D., University of Montana, 2000
Jeffrey T. Renz, J.D., University of Montana, 1979

Assistant Professors
Phillip Cousineau, MLS., University of Texas, 1993
Eduardo Capulong, J.D. City University of New York Law School, 1991
Larry Howell, J.D., M.A., The University of Montana, 1992
Kristen Juras, J.D., University of Georgia, 1982
Andrew King-Ries, J.D., Washington University, 1993
Elizabeth Krunk, J.D., University of Michigan, 2001
John W. McDonald, J.D., University of Montana, 1961
Jeffrey T. Renz, J.D., University of Montana, 1979
Maylinn Smith, J.D., University of Montana, 1987
Margaret A. Tonon, J.D., University of Montana, 1974

Adjunct Faculty
David Aronofsky, J.D., University of Texas, 1982
Klaus Sitte, J.D., University of Montana, 1972
Continuing Education
Undergraduate Advising Center
Affiliated UM Campuses
Expenses, Services, Organizations
Continuing Education and Summer Programs

Sharon E. Alexander, Dean

Mission
Continuing Education (CE) is the outreach arm of The University of Montana, and its 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. Continuing Education's 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 the James E. Todd building, east of the University Center, and provides access to state-of-the-art technology in every room. In addition, CE provides conference and event planning, including equipment rental, technical support and logistical assistance. For more information, visit the web site at www.umt.edu/ce/.

Educational Outreach
The Educational Outreach Department serves as 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; Extended Degree Programs; UMOnline; Summer Semester and Wintersession. For Information, visit our website at www.umt.edu/ce/deo/.

Extended Studies offers academic courses in a variety of subjects throughout Montana and beyond. Educators and other professionals may find workshops to satisfy re-certification or professional development requirements and courses to fit individual needs. Select Extended Studies at www.umt.edu/ce/deo/ to view course schedules and program offerings.

Extended Degree Programs administers several UM off-campus degree programs at various locations around the state including the MBA program, the online MBA Foundation program; Education cohort programs at the Masters and Doctoral levels; and others. For more information about online or off-campus degree programs and locations, select Extended Degree Programs at www.umt.edu/ce/deo.

UM Online courses are available to students both on- and off-campus at times and places convenient to the learner.

Degree programs, General Education courses and many other online courses are offered in cooperation with academic units, to students locally, throughout Montana, nationally and globally. Online degree programs include the Library Media Endorsement Program, the AAS in Surgical Technology, the Masters of Public Administration, and the Masters of Education in Curriculum Studies, and others. For more information and course schedules, select UMOnline at the web site 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. For more information about Summer Semester, contact the Program Manager, Summer Programs, via e-mail at summer@mso.umt.edu or visit www.montanasummer.com.

Wintersession offers UM students an opportunity to earn up to 6 credits during the 3-week session in January. Credits earned during Wintersession count toward full-time Spring Semester status. For example, students registered for 3 credits during Wintersession and 9 credits during the Spring Semester are considered full-time students. Students registered for 12 or more credits during the Spring Semester do not pay additional tuition for courses scheduled during Wintersession. Financial Aid applies to credits earned during Spring, including Wintersession. For more information, view our website at http://www.umt.edu/ce/deo/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/ce/cps/.
Undergraduate Advising Center

Melanie Hoell, Director

The Undergraduate Advising Center is the academic home for exploratory students. It also provides academic advising to pre-psychology and pre-communication studies students. Undergraduate Advising Center 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 and 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

- **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 2 cr.** Offered spring. Development of critical reading, writing, and speaking skills, best academic practices, other college survival issues. Intended for at-risk students who exhibit high academic potential.

- **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.

- **U 194 Seminar Variable 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 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 Internship Variable cr. (R-6)** 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. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

- **U 270 Critical Writing II 2 cr.** Offered autumn and spring. 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 380 FIG Leader Training Seminar 2 cr.** Offered spring. Prereq., consent of director of FIG program. Training seminar for seminar leaders in the Freshman Interest Group program.
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. In order to better facilitate this type of learning, UMW has adopted a course scheduling system, termed Experience Once, where students take a single course at a time for about one month. Western embraces its mission of providing unique opportunities 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 strong program 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; Early Childhood Education; Business; and Natural Horsemanship. In addition, Western offers Bachelor of Arts (BA) and Bachelor of Applied Science (BAS) degrees. BA students have options in Visual Arts; Environmental Sciences; Literature and Writing; Biology; and Environmental Interpretation. 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 18 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 800-962-6688 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, communications, computer literacy, and career development. Located in Montana’s beautiful capitol 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@mtech.edu or see Tech’s webpage at www.mtech.edu.
Expenses

Fees

General

The student expense information provided in this catalog is based upon the rates for the 2006-07 academic year. Current information may be obtained by contacting Business Services, Lommasson Center, The University of Montana-Missoula, Missoula, Montana 59812. The phone number is 406-243-2223 or visit our website at http://www.umt.edu/bussrvcs/. 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 VISA, Mastercard and Discover. A student’s registration is not complete until fee payment/finalization has been processed.

Fee Schedule

The fee schedules shown are for the 2006-2007 academic year. Students with WUE residency, graduate students, law students, unsubsidized residents, post baccalaureate and summer students will find different fee schedules applied. Contact Business Services for more information. These fees may change without notice.

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

Main Campus Student Fee Schedule 2006-2007 Semesters

Undergraduate Lower Division

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<th>Camp Rec</th>
<th>Health Fee</th>
<th>Kaimin/Recyc Fee</th>
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<th>UC Ren. Fee</th>
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* Students enrolled for 6 credits or less have the option of paying additional amounts to cover Activity, Campus Recreation, and clinical services provided by the Cunny Health Center. ** Mandatory health insurance coverage, with right of waiver, is required for all students. The semester rate, subject to limits set by the BOR, is $62.50.

*** At 12 cr. Tech. $37.40; Comp. $40.20; Athletic $18 1-6cr; $36 7cr & above; Activity $30; Kaimin $4; Recycling $4; UC Renovation $30; Radio $5 and Trans. $12.50.
vote in elections and receive reduced rates to programming events.

**Athletic Fee**
This fee is used to assist the Athletic Department in maintaining Division I status and to bring them into compliance with gender equity laws. This fee entitles full-time students to attend most UM athletic events. Part-time students may attend up to 3 football games in addition to most other events.

**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.

**Curry Health Fee**
This fee supports the services and programs of Curry Health Center. Students who pay this fee receive services at low charges (many services are at no additional charge).

**Equipment Fees**
This fee is applied to the purchase, lease and maintenance of equipment which will provide a primary benefit to the educational program, including library and other related capital acquisitions.

**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 will be prompted to elect or waive the student Blue Cross Blue Shield plan. You may waive this option only if you have other major medical coverage. You must make a selection (elect or waive) before you can proceed to the class selection area of Cyberbear. 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 http://www.umt.edu/sa/chc, then select “Student Insurance”.

**Radio and Transportation Fee**
Students enrolled for 7 credits or more are assessed these fees. The Radio Fee is used to support the student radio station. The Transportation Fee is used to address transportation issues.

**Registration Fee**
This 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.

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### College of Technology Student Fee Schedule 2006-2007 Semesters

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<th>Activity Fees*</th>
<th>Camp Rec</th>
<th>Health Fee **</th>
<th>U/C Sur-Charge</th>
<th>Kaimny Recycle Fees***</th>
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<td>30.00</td>
<td>169.75</td>
<td>4.20</td>
<td>8.00</td>
<td>27.00</td>
<td>17.50</td>
<td>1,584.45</td>
<td>36.00</td>
<td>1,548.45</td>
<td>4,171.65</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Students enrolled for 6 credits or less have the option of paying additional amounts to cover Activity, Clinical Services provided by Curry Health Center.

** Mandatory health insurance coverage, with right of waiver, is required for all students. The semester rate, subject to limits set by the BOR, is $532.50

***At 12 credits Technology $37.40; Computer $40.20; Kaimny $4; Recycling $4; Radio $5; Transportation $12.50; Athletic $28 1-5cr and $36 for 7 cr and up.}
Kaimin and Recycling Fees

The $4.00 Kaimin fee supports the student newspaper and the $4.00 Recycling fee supports the recycling program.

Academic Facilities and Technology Fee

The Academic Facility 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 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 M.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 2007-2008 School of Law fees for 12 credits are approximately $2824 for autumn and $2804 for spring for an in-state student and $8042 for autumn and $8022 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 $145.00 per credit 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.

Continuing Education and Summer Programs

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 Continuing Education and Summer Programs, The University of Montana-Missoula, Missoula, MT 59812 or by visiting our website at www.umt.edu/ce.

Refund for Withdrawal from the University

If a student decides to withdraw from classes, the student should contact The University of Montana Registrar’s Office in Griz Central, located in the Lommasson Center, and complete a withdrawal form to begin the official withdrawal process. This procedure will enable The University of Montana to prorate the fees assessed based upon the official date of withdrawal. Students must be attending classes to remain eligible for Federal Financial Aid. If a student drops courses, stops attending classes or withdraws from The University of Montana, The University and/or the student may be required to return federal funds awarded to the student. If a student officially withdraws during the first fifteen days of class, the tuition and fees will be re-assessed for the semester based upon the official date of withdrawal.

A student’s official withdrawal date is determined by:

- the date the student began the institution’s withdrawal process or officially notified the institution of intent to withdraw;
- the midpoint of the period for a student who leaves without notifying the institution; or
- the last date of attendance by the student at a documented academically related activity.

<table>
<thead>
<tr>
<th>Fee</th>
<th>Before classes begin</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>Kaimin/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>

** Students who desire to continue the Blue Cross Health Insurance must contact the Curry Health Center prior to withdrawal. Otherwise the insurance premiums will automatically be refunded and coverage will be lost.

Students who withdraw from The University will receive pro-rated assessment of tuition and fees according to the following schedule. Charges for room and board will be reassessed on a pro-rated basis. During the final two weeks of the semester, room charges will not be reassessed. Student who do not formally and completely withdraw are not eligible for a refund. The University of Montana will reassess the tuition and fees for students using the Deferred Payment Plan if the student officially withdraws during the first fifteen days of a semester. However, the student may still owe a balance to the University.

Return of Title IV Funds (Federal Financial Aid)

The University of Montana Refund Policy exists for calculating the refund of institutional charges. The federal "Return of Title IV Funds" formula dictates the amount of Federal Title IV aid that must be returned to the federal government by the University and the student. The federal formula is applicable to a student receiving Title IV Funds if that student withdraws on or before the 60% point of time in
the semester. The student may also receive a refund of some institutional charges through The University of Montana’s refund policy.

The federal formula requires a return of Title IV aid if the student received federal financial assistance in the form of a Pell Grant, ACG Grant, SMART Grant, Supplemental Educational Opportunity Grant, Federal Perkins Loan, Federal Stafford Loan, or a PLUS loan and withdrew on or before completing 60% of the semester. The percentage of Title IV aid to be returned is equal to the number of calendar days remaining in the semester (effective on the official withdrawal date) divided by the number of calendar days in the semester (scheduled academic breaks of five consecutive days or more are excluded). After all Title IV aid return requirements have been satisfied, remaining credit balances will first be applied to satisfy outstanding University tuition, fees, and institutional charges. Any remaining credit balances will then be refunded to the student.

Once you have completed more than 60% of the semester, you have earned all (100%) of your assistance. If you withdraw from The University of Montana before completing 60% of the semester, you may have to repay any unearned federal financial aid funds that were already disbursed to you. Please contact staff in The University’s Business Services Department, located in Griz Central, if you have any questions about refunds or the calculation of refund amounts.

**Distribution Priority for Return of Title IV Funds**

1. Unsubsidized Federal Stafford Loan
2. Subsidized Federal Stafford Loan
3. Federal Perkins Loan
4. Federal Graduate PLUS Loan
5. Federal Parent PLUS Loan
6. Federal Pell Grant Program
7. ACG Grant Program
8. SMART Grant Program
9. Federal SEOG Program
10. Other Title IV Aid
11. Other Federal, State, Private, or Institutional Aid
12. The Student

**Hardship Withdrawal Policy**

Hardship withdrawals may be granted to students who experience a catastrophic unanticipated condition or event after the fifteenth class day of a semester if the condition prevents the student from completing academic work. If medical, this must be documented by a health care provider and verified by the Curry Health Center. A medical hardship withdrawal will only be granted in cases of extreme hardship resulting from a serious or life threatening medical condition. In order for a student to receive a hardship withdrawal from The University of Montana, the student must contact the Registrar’s Office (non-medical) or the Curry Health Center (if medical) to start the hardship withdrawal process. Upon approval of a hardship withdrawal, the Registrar will enter the appropriate withdrawal information on the student’s academic record. A student receiving a hardship withdrawal will be eligible for a tuition waiver equal to the currently paid amount for the first semester of re-enrollment. After a hardship withdrawal has been approved, for up to two (2) years, if the student meets the following criteria:

1. Is a degree seeking student, and
2. Is either a resident or non-resident student, and
3. Is a continuing student, and
4. Is maintaining satisfactory progress based upon The University of Montana’s scholastic regulations.

Business Services will calculate the tuition waiver amount for all approved hardship withdrawals and will notify the Financial Aid Office of the tuition waiver amount. Upon re-enrollment, the Financial Aid Office will establish a fee waiver for the eligible student’s tuition equal to the pre-determined amount.

Students withdrawing during the first fifteen class days of a semester for medical reasons must contact the Curry Health Center in order to maintain the health insurance coverage. Otherwise, the medical insurance premiums will be automatically refunded and coverage will be lost.

The hardship withdrawal process is not the appropriate venue to resolve or petition academic matters. Such concerns must be addressed in the student’s respective department, school, or college. In addition, the hardship withdrawal process is not an alternative means to drop classes after the normal drop date, to remove unwanted grades, or preclude resulting academic/financial aid actions (warning, probation, suspension, etc.).

**Late Registration**

A student who does not complete registration, including payment of fees or finalizing 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 will be assessed.

**Returned 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 an additional charge. Payment is due at the time courses are added.

**Drop/Add Processing Fee**

A $10.00 processing fee will be charged for each course that is added or dropped after the fifteenth instructional day. See the summer class schedule for summer session deadlines.

**Deferred Payment Plan**

The Montana University System Board of Regents has authorized a Deferred Payment Plan for students who are unable to pay their bill at the time of finalization for the current term. Students’ whose accounts are in good standing, have completed a FASFA from for the current year, and are not able to secure other reasonable lines of credit through private financial institutions will be eligible. The plan 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

Monthly bill statements will be mailed to the student’s current mailing address displayed in Cyberbear. In addition, an electronic notification will be e-mailed to their official University of Montana e-mail account (http://grizmail.umt.edu). It is the student’s responsibility to check their mail and official University of Montana e-mail account for these statements and notices. Payments for billed amounts are due by the due date indicated on the statements and 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. Payments can be made (1) online in Cyberbear; (2) at the cashiers station located in Griz Central (2nd floor Lommasson Center); or by mailing payments to Student Accounts, Business Services, The University of Montana, 32 Campus Drive #2304, Missoula, MT 59812-2304.

Non Payment

A student who owes regular fees and charges including room and board or has an overdue debt owed to the University for any fees, fines, or other charges will not be able to register, secure any transcript or record, or access any University facilities or services until the full amount due has been paid or satisfactorily resolved 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.

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 it is each student's responsibility to meet the requirements 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 the appropriate office 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 on the days remaining in the semester less the cancellation fee.

Residence Halls

*Rates subject to change*  
2007-08 room rates in University residence halls are:  

<table>
<thead>
<tr>
<th>Bedroom Type</th>
<th>Rate</th>
<th>Per Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double Room</td>
<td>$1,363.00</td>
<td></td>
</tr>
<tr>
<td>Single Room</td>
<td>$1,561.00</td>
<td></td>
</tr>
<tr>
<td>Double as Single</td>
<td>$1,654.00</td>
<td></td>
</tr>
<tr>
<td>Pantzer Suite</td>
<td>$1,943.00</td>
<td></td>
</tr>
<tr>
<td>Miller Suite</td>
<td>$1,793.50</td>
<td></td>
</tr>
</tbody>
</table>

Rates include telephone service and $6.00 per semester social fee.

Early arrival prior to opening day on August 25th, 2007, cost an additional $14.00 per day.

Lewis and Clark Village

Rent is $380.00 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 own arrangements for telephone service.

**Dining Services**

Dining Services meal plan prices 2007-2008 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>All Campus</td>
<td>$1600.00</td>
</tr>
<tr>
<td>Lommasson Plus</td>
<td>$1390.00</td>
</tr>
</tbody>
</table>

Students living in residence halls are required to contract for one of the two meal plans. All meal plans are available to off-campus students, faculty and staff.

**University Villages**

*Rates subject to change*

University Villages housing is available. An application together with $20 processing fee should be submitted to University Village Office, Elkhorn Center, Missoula, MT 59801. A $250 deposit will be required when apartment is assigned.

<table>
<thead>
<tr>
<th>Housing Apartment Rates (monthly)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Craighead and Sisson</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>(All Utilities paid)</th>
<th>Elliot</th>
<th>Toole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio</td>
<td>$443.00</td>
<td>$299.00</td>
</tr>
<tr>
<td>1-Bedroom</td>
<td>492.00</td>
<td>356.00</td>
</tr>
<tr>
<td>2-Bedroom</td>
<td>593.00</td>
<td>442.00</td>
</tr>
<tr>
<td>3-Bedroom</td>
<td>667.00</td>
<td>492.00</td>
</tr>
<tr>
<td>4-Bedroom</td>
<td>702.00</td>
<td></td>
</tr>
</tbody>
</table>

Note: These rates are monthly and effective July 1, 2007 through June 30, 2008. All rates include cable TV, water, garbage, and sewer. Tenants are responsible for telephone service and utilities.

**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 $175 a year. Students have the option of purchasing semester decals for $87.50. Reserved parking is available on a first come, first serve basis for $525 a year. Car pools of three or more drivers may register for $10 per person for the year.

Motorcycles are issued "B" decals at $34 per year. Day passes, all day parking for $2.50, 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. The above prices are subject to change pending approval by the Board of Regents.

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 returned 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, a 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, may be 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/financialaid.

**COT students only:**

Enrollment Services-Financial Aid Office
909 South Avenue West
Missoula, MT 59801
(406) 243-7886
http://www.cte.umt.edu/departments/enrollment_services/enrollment.htm

**All other students:**

Enrollment Services-Financial Aid
Lommasson Center - Griz Central
Missoula, MT 59812-1254
http://www.umt.edu/financialaid/

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 1. The application is available from Enrollment
Financial Aid -345

Services-Admissions, the Davidson Honors College, and high school counselors in Montana. The application is also available on-line at http://www.umt.edu. The application deadline is December 31.

Campus-Wide Scholarships

The University offers a campus-wide scholarship program. Students should apply each year as most scholarships are awarded on an annual basis. Students holding a renewable scholarship must complete a renewable application rather than the general application.

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 line at http://www.umt.edu. The filing deadline is December 31 for new incoming students and February 1 for continuing students. Students are notified in March.

The Western Undergraduate Exchange (WUE) scholarship may be available for applicants from participating states. Applications for a WUE scholarship will be considered if a completed Presidential or Freshman scholarship form is submitted by the deadline. 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 federal parent loans, 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 assistance, if they are notified in March.

The application is also located on 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.

Regular student employment positions are also posted electronically.

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.

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 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**
- in-state 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 $450.00 per semester for books. The monthly stipend for scholarship students is $300.00 in the freshman year; $350.00 in the sophomore year; $450.00 in the junior year and $500.00 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 Reserve 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.

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**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. Freshman students required to live in Residence Halls who submit their residence hall application and $220.00 prepayment by the priority Admission deadline of March 1, will be
guaranteed permanent housing assignments. Application forms and information may be obtained on the Residence Life Office website at www.umt.edu/reslife.

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 located off campus just south of Dombleser Stadium on South Higgins Avenue. They are within easy walking or biking distance from the University and are adjacent to Park n' Ride which provides free and easy transportation to the U 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@mso.umt.edu. Your application must be accompanied by $320.00, ($20.00 which is a non-refundable processing fee and a damage deposit of $300.00).

A complete set of policies, photos and site map are available on the website at www.umt.edu/reslife.

Dining Services

Winner of 16 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, Biz Buzz, and 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 entrées, homemade soups, an extensive salad bar, fresh fruits, fresh baked desserts, traditional fast food favorites, and vegetarian selections.

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.

For a peak experience you’ll never forget...stop by LaPeak, located in the Lommasson Center. La Peak features Craven’s gourmet coffee and espresso drinks, fresh crepes and Bear Claw Bakery goodies. The log furniture and lodge-like atmosphere make a great place to meet and socialize with friends.

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, Mr Goodburger, Garden City Greens, Soups & Such, Eastside Deli, and Pacific Rim.

Biz Buzz, located on the lower level of the Gallagher Business Building can help you jump start your day with a fresh cup of Starbucks’ coffee, espresso, Chai tea, and a bagel or fresh baked goodie.

The Think Tank, located on the South side of campus above the Urey Lecture Hall, offers Craven’s gourmet coffee, espresso, Chai tea, Italian soda, ice-cold beverages, and grab and go items like sandwiches, soups, salads, and snacks.

Weather you need that morning boost or a lunch on the go, the Think Tank has you covered in South campus.

Meal Plans

All students living in a residence hall must purchase a meal plan. UM Dining Services offers two different meal plans: The All Campus and the Lommasson Plus. Each plan provides a weekly meal fund balance from which meal purchases are deducted.

The All Campus Meal Plan provides campus-wide dining flexibility and is accepted at all Dining Services locations. The Lommasson Plus Meal Plan is accepted at the Lommasson Center operations (the Food Zoo, Cascade Country Store and LaPeak).

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. If a student moves out of the residence hall, a prorated refund may be issued. 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 website 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 during the three semesters per year. The student must be registered for at least seven (7) credits to maintain 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.

Three 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 spring semester. The accounting/pharmacy/internship fair is held in the Fall semester. The Educators’ Career Fair is open to teaching, administrative and school counseling professionals and is held in the spring semester.

All UM student are eligible to establish a free Griz eRecruiting account which allows students to post their resumes 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) 243-2243 or visit the website at www.umt.edu/career.

Student Employment

Student Employment provides the opportunity for students and employers to connect. Student Employment offers an online job posting system for employers and an online job search and application process for students. This makes it possible to post jobs for on-campus, off-campus, work-study, non work-study, and volunteer employment. Student Employment works closely with Financial Aid and Student Payroll to assure students are being hired and paid within the established guidelines. Student Employment hosts a free Student Job Fairs every fall. We also coordinate National Student Employment Week and the Student Employee of the Year (SEOTY) Award.

For additional information, contact the office of Student Employment at 154 Lommasson Center, call (406) 243-5627, email studentjobs@mso.umt.edu or visit www.umt.edu/studentjobs.

Testing Services

The Office of Testing Services coordinates the administration of educational and professional certification national standardized tests. Examples of tests available through Testing Services include: ACT, GRE, GMAT, MCAT, TOEFL and IT certifications, including Adobe, Cisco, Macromedia, Microsoft, Novell, Sun Microsystems, etc. Additionally, Testing Services provides proctoring for faculty and online educational testing.

For additional information, contact Testing Services at 154 Lommasson Center, call (406) 243-6257, email testingservices@umontana.edu or visit www.umt.edu/career/testing services.

Internship Services

Internships are available to students in most disciplines offered at The University of Montana-Missoula. Internships allow a student to work in a field related to his or her academic and career goals while utilizing skills learned in the classroom. Internships are offered locally, state-wide, nationally and internationally in a variety of agencies including government, non-profits, and business. Information, applications and other forms are available at Internship Services, Lommasson Center 154; (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 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 office, leads the University's program access efforts. DSS provides and coordinates reasonable accommodations as well as advocating for an accessible and hospitable learning environment. We promote self-determination and self-reliance by student with disabilities. Examples of services include priority registration, physical accessibility arrangements, academic adjustment, auxiliary aids (readers, scribes, sign language interpreters, etc.), alternative testing, conversion of print textbooks to e-text, assistive 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 at http://www.umt.edu/dss/. 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) or jim.marks@umontana.edu. Please visit the Disability Services homepage to fine details on our services at 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.
immigration regulations and laws and assists students in maintaining legal status and obtaining benefits related to their visa status.

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-mentoring 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 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 US Citizenship and Immigration Service, Department of Labor, Department of State, Internal Revenue Service and Social Security Administration. For more information, visit our website at: www.umt.edu/fsss/or contact us at fsss@umontana.edu.

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 goabroad@mso.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, Itaku University, Kangung 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 Center for Ethics

The Center for Ethics (formerly known as the Practical Ethics Center) was created in 1996 to promote high quality teaching, research and service in applied and professional ethics. The Center for Ethics is charged with conducting responsible moral discourse concerning both societal ethics (e.g., the values that inform health, economic growth, education, and conservation policies) and the ethical practices of a wide range of professionals (e.g., public administrators, business managers, health workers, teachers). The Center’s functions include ethics inquiry and education (to be achieved through courses, public lectures and conferences, professional development workshops, and a resource center) and funded research. For more information, call (406) 243-5744, email ethics@mso.umt.edu or visit the website at www.umt.edu/ethics.

Curry Health Center 243-2122

Curry Health Center provides affordable, accessible, high quality, student-centered health services to University of Montana students to enhance student learning, promote personal health and development and teach important life skills. 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 Curry 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 - 406-243-4330

The Medical Services 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 and policies of the Medical Services.

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 24 hour on going care

5. Diagnostic X-rays and laboratory tests

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.

Counseling and Psychological Services - 243-4711
Counseling and Psychological Services (CAPS) provides rapid access and brief therapy for UM students. CAPS also serves 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 Curry 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 Curry Health Fee. The Dental Clinic’s primary focus is on urgent 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 procedures.
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 options, STD/HIV prevention), positive body image, self-care, drinking safely, and stress reduction. 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 behaviors 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 various 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 Curry 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 a complete prescription service and accepts many 3rd party insurance plans 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 Billing - 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 a training clinic for doctoral students in Clinical Psychology operated by the Department of Psychology. The CPC offers a wide range of psychological services to the Missoula community (both students and non-students), including: individual, couples, child, family and group psychotherapy and psychological testing. All services are confidential and all clients are charged
on a sliding fee schedule. The CPC is located at 1444 Mansfield Avenue, on campus. To make an appointment, call: (406) 243-2367.

Physical Therapy Clinic

The UM NSE Physical Therapy Clinic is open to all UM students, faculty and staff for the evaluation and treatment of problems related to injuries, surgeries and pain that limit or affect activities. The Physical Therapy Clinic is located in room 129 of the Skaggs Building, across from the Urey Underground Lecture Hall. The clinic is staffed by licensed physical therapists who are board certified in sports medicine, orthopedics and manual therapy. The clinic is a valuable component of the professional physical therapy program.

The clinic is open Monday through Friday from 10:00 - 5:00 pm. 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 or for questions please call 243-4006 or visit online at http://www.health.umt.edu/PTClinic.

University Center

As the University’s Student Union, the University Center (UC) is the community center for the campus. With an average of more than 10,000 visitors per day in the academic year, the most popular gathering place in the UC is the atrium featuring 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/FedEx customer counter, box office/information desk, hair/nails/tanning/message salon, credit union, ATM’s, movie theater, copy center, bookstore, cellular phone vendor, web site design, game room, meeting rooms in addition to dining and conference facilities. The UC offers an extensive variety of cultural, educational, social and recreational activities that complement the academic experience. Students may participate in such dynamic programs as the Office of Greek Life, Annual Special Events, Art Fair, Art Gallery, Art Exhibits, UC Theater, MultiCultural Alliance, Game Room, Experiential College and the Center for Leadership Development. Home to the Ursa Major Student Leadership Program. Visit us online at www.umt.edu/uc.

Sports and Recreation

Organized sports and recreational activities are an important part of academic and leisure life at the University.

Intercollegiate Athletics

The University of Montana-Missoula is a Division I 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 competition in basketball, cross country, football (Football Championship Subdivision), 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 gymnasiums, weight rooms, and indoor running track, handball and racquetball courts, tennis courts indoor swimming pool, and 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 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), life guarding 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 has been providing information about Montana’s state and local economies for over 50 years and is proud to be the most comprehensive economic analysis center in the state.

House on the campus of The University of Montana-Missoula, the Bureau is the research and public service branch of the School of Business and Administration. On an ongoing basis, the Bureau:

- analyzes local, state, and national economies
- provides annual income, employment and population forecasts
- conducts extensive research on forest products, manufacturing and health care and Montana Kids Count
- designs and conducts comprehensive survey research at its on-site call center
- presents annual economic outlook seminars in cities throughout Montana
- publishes the award-winning Montana Business Quarterly

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 University of Montana is a member in good stand of The Montana Campus Compact. MTCC is a statewide coalition of college presidents and chancellors committed to renewing the public purposes of higher education by promoting campus-community collaborations and civic engagement activities. Since 1993, these campus leaders have represented two-and-four-year, public, private, religiously affiliated, community, and tribal colleges across Montana. MTCC supports and encourages activities such as volunteering, community service, and service-learning through its programs, which include:

- Campus Corps
- Service-Learning Workshops and Faculty Development
- MTCC VISTA Project
- Community Partners Program
- Raise Your Voice Campaign
- MTCC Community Service Scholarship
- Montana Athletes in Service Award
- Jimmy and Rosalynn Carter Partnership Award for Campus-Community Collaboration

For more information regarding MTCC member benefits and services, please contact the MTCC headquarters office at (406) 243-5177 or online at www.mtc Campus.org. For MTCC services at UM, please contact the Office for Civic Engagement at (406) 243-5531 or see their listing under The Office For Civic Engagement.

The Office for Civic Engagement

The Office for Civic Engagement (OCE) is honored to serve as The University of Montana’s primary agent of community activism and civic responsibility. It is our mission to challenge and improve lives with an ethic of service and community investment. We accomplish this by building partnerships that strengthen both the university community and a variety of nonprofit interests; empowering individuals and organizations to enhance capacity for strategic growth, program exposure, skill development and collaborations; and, enhancing professional, academic, and personal experiences through volunteerism and service learning. The OCE is a unit of the Davidson Honors College and operates as an affiliate of the statewide Montana Campus Compact (MTCC) organization (see separate listing). The OCE is located in the Davidson Honors College, room 015, (406) 243-5531 or http://www.umt.edu/dhc/oce.

- OCE Programs:
  - Student Volunteer Programs - Throughout the school year, OCE coordinates several community service programs for students to get actively involved in the community including America Reads America Counts, Alternative Breaks, Adopt-A-Family and more.
  - AmeriCorps & AmeriCorps* VISTA - The OCE provides students with the opportunity to engage in national service while attending the University.
  - American Humanics and the Minor in Nonprofit Administration - A degree enhancement for students to achieve skills and abilities in preparation for careers in the nonprofit sector.
  - Service Learning - The OCE works with faculty and departments to implement volunteerism as a means to achieve course learning objectives.

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 grant writing. The Office for Civic Engagement operates the American Humanics program in addition to the minor in nonprofit administration. For more information contact (406) 243-5159 or browse the website at http://www.umt.edu/oce/humanics.htm.

Facilities

Information Technology

Information Technology (IT) is a campus service organization that provides computing and communication resources in support of the instructional, research, administrative, and public service activities of The University of Montana. IT maintains and operates complex information systems to support the University’s administrative activities and offers a variety of technology support services to assist the University in using the resources and services that IT is responsible for providing. The IT organization consists of the following areas: campus computing, network, directory and telecommunication series, enterprise information systems, and technology support services.

IT Technology Support Services serves as the user interface for the IT organization and includes: IT Central, the designated initial point of contact for all user issues; five general access student computer labs; numbers free, non-credit short courses for faculty, staff, and students; multimedia classroom support and audio visual equipment rentals; and support of The University of Montana’s public web presence.

Additional information about IT service and facilities may be obtained at the IT website: http://www.umt.edu/it or by contacting IT Central at 243-HELP (x4357).

The Shafizadeh Rocky Mountain Center for Wood and Carbohydrate Chemistry

The Center is a research facility in the Department of Chemistry 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/publicsafety/campus.htm.

**Student Complaint Procedures**

Under the terms of the Collective Bargaining Agreement between The University of Montana University Faculty Association and The Montana University System, there is a formal procedure for students who have a complaint against a faculty member or an administrator. Information about this procedure is available at www.umt.edu/provost/pdf/cba.pdf under 21.000 on pages 55-59. The ASUM Student Resolution Officer is available to answer questions about procedures and to assist with the process. Time restrictions are important, so a student should review procedures immediately if they feel they may have a complaint. The Resolution Officer receives voice mail at 243-5431 or email at asum.resolutionoff@mso.umt.edu.

**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. The right to a hearing before the Student Court to delete any portion of any record which is inaccurate, misleading or inappropriate. Discrepancies should first be brought to the attention of those responsible for maintaining the records so they may have an opportunity to cure any defects. To the extent defects are not cured, upon request a hearing may be initiated by a written request from the student delivered to the Office of the Vice President for Student Affairs. The matter before the Student Court will be the question of the accuracy or appropriateness of the record itself and will not be extended to questions of the judgment of those who contributed to the record. The court will consider (1) whether the record accurately reflects matters intended to be contained here, (2) whether the record is misleading because in its present form it would lead a reasonable person to an incorrect conclusion, or (3) whether matters within the record are inappropriate because the record does not usually or should not reasonably contain such matters as those in question. Upon appropriate determination of the court, any such matters may be ordered deleted from the record.

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.
   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.

4. The right to refuse to permit the designation of any or all categories of personally identifiable information as "directory information" which is not subject to the above restrictions. The University of Montana has defined the following as directory information: student's name, addresses including e-mail, telephone number, dates of attendance, full time/part time status, date of graduation and degree received, school or college, majors, class, and academic awards or honors.

Any student wishing to exercise this right must inform the University Registrar in writing within two weeks after the start of classes of any personally identifiable information which is not to be designated as directory information with respect to that student in that academic year.

5. The right to have available for inspection by the student a written form signed by any representative of the Comptroller General of the United States, the Secretary, or any administrative head of an education agency who requested and was granted access to the records which states the legitimate educational or other interest that each such person had in requesting access to that particular record.

6. The right to have personal student records transferred to third parties only on condition that such parties will not permit any other party to have access to such information without the written consent of the student. All student records transferred to third parties shall have printed or stamped thereon: "No other person may have access to this information without written
Equal Opportunity

The University of Montana is committed to a program of equal opportunity for education, employment and participation in University activities without regard to race, color, sex, age, religious creed, political ideas, marital or family status, physical or mental disability, national origin or ancestry, or sexual orientation.

Statement Of Law


It is illegal in the State of Montana to discriminate against anyone because of race, religion, color, political ideas, age, marital status, sex, mental or physical disability, national origin or ancestry in employment, training, public accommodations, financing, education and government services. With the exception of marital status, this also applies to housing.

Discrimination Grievance Procedure

The University of Montana has established a discrimination grievance procedure for employees, students, and applicants for employment or admission who claim to have been unlawfully discriminated against because of any University regulation, policy, practice or the official action of any University employee.

The University is prohibited from retaliating against an individual who has made charges, testified, assisted or participated in any way in any proceeding, investigation or hearing in regard to the violations or alleged violations of laws or orders requiring equal educational and/or employment opportunity.

Persons believing they have been discriminated against should contact:

Eleanor Laws, Director, Equal Opportunity/Affirmative Action
University Hall 020, The University of Montana
(406) 243-5710

OR

Montana Human Rights Division
PO Box 1728
Helena, MT 59624-1728
(406) 449-2884

Complaints must be filed within 60 days of the alleged discrimination if filing with the University Discrimination Grievance Officer and within 180 days if filing with the Montana Human Rights.

Organizations

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 in excess of $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, ASUM Off-Campus Renter Center and ASUM Legal Services - as well as to a wide variety of special interest groups. It also co-sponsors Students Tutoring Students 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 www2.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 the Montana Kaimin.

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 200 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://www2.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, PRO's, ASUM Senate, Advocates, Peer Advising, and Mortar Board.

The Greek system has five (5) national fraternities (Sigma Alpha Epsilon, Sigma Chi, Sigma Nu, Kappa Sigma and Sigma Phi Epsilon) and four national sororities (Alpha Phi, Delta Gamma, Kappa Alpha Theta and Kappa Kappa Gamma). Information about Greeks can be obtained in the Office of Greek Life (UC 209B) or by visiting www.umt.edu/greek or calling 243-2005.
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