1-1-2006

2006-2007 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
Family Housing ..................................................................................................... (406) 549-0134
Financial Aid .......................................................................................................... (406) 243-5373
Graduate School .................................................................................................... (406) 243-2572
Registrar ................................................................................................................... (406) 243-2995
Residence Halls ...................................................................................................... (406) 243-2611
University Switchboard .......................................................................................... (406) 243-0211

Reserved Rights

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

Calendar

Summer Session, 2006

Summer Sessions will occur between the dates of May 22 and July 28.

Autumn Semester, 2006

April 12 (Wednesday) ......................................................................................... Autumn 2006 Registration Begins
August 11 (Friday) ............................................................................................... Last Day for Registered to Pay Fees
August 15 (Tuesday) ............................................................................................ Late Registration Begins
August 23-25 (Wednesday-Friday) ....................................................................... Semester Begins, Orientation and Registration
August 28 (Monday) ............................................................................................. Classes Begin
September 4 (Monday) ......................................................................................... Labor Day, Holiday
October 30-November 14 .................................................................................... Spring 2007 Registration
November 10 (Friday) .......................................................................................... Veteran's Day, Holiday
November 22-23-24 (Wednesday-Thursday-Friday) ........................................... Thanksgiving Vacation
December 9-10 (Saturday-Sunday) ....................................................................... Final Examinations
December 11-15 (Monday-Friday) ....................................................................... Study Days

Wintersession, 2007

January 2-10 .......................................................................................................... Wintersession Classes
January 15 (Monday) ............................................................................................ Martin Luther King Day, Holiday

Spring Semester, 2007

October 30 (Wednesday) ..................................................................................... Spring 2007 Registration Begins
January 5 (Friday) ................................................................................................ Last Day for Registered to Pay Fees
January 9 (Tuesday) ............................................................................................. Late Registration Begins
January 17-18-10 (Wednesday-Friday) ................................................................. Semester Begins, Orientation and Registration
January 22 (Monday) ............................................................................................ Classes Begin
February 19 (Monday) .......................................................................................... Washington-Lincoln Day, Holiday
March 26-30 (Monday-Friday) .............................................................................. Spring Vacation
April 16-27 ............................................................................................................. Autumn 2007 Registration
May 3-6 (Saturday-Sunday) .................................................................................. Study Days
May 7-11 (Monday-Friday) .................................................................................... Final Examinations
May 12 (Saturday) ................................................................................................... Commencement

Summer Session, 2007

Summer Sessions will occur between the dates of May 21 and July 27.
Administration

The Montana University System

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

Mission

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

Vision

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

Goals

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

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

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

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

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

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

The University of Montana

Mission

The University of Montana capitalizes on its unique strengths to create knowledge, provide an active learning environment for students, and offer programs and services responsive to the needs of Montanans. The University delivers education and training on its four campuses and through telecommunications to sites inside and outside of Montana. With public expectations on the rise, the University asks its students, faculty, and staff to do and accomplish even more than they have in the past. The dedication to education 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 benefiting 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.

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 AACSB; the Chemistry Department’s Bachelor of Science program is approved by the American Chemical Society; computer science is accredited by the Computing 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 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 2006

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Lynn Morrison-Hamilton ................................................... Havre
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Mark J. Semmens .............................................................. Great Falls
Lila Taylor ................................................................. Busby
Sheila Stearns, Commissioner of Higher Education ................ ex officio
Linda McCulloch, Superintendent of Public Instruction .......... ex officio
Brian Schweitzer, Governor ................................................. ex officio

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Deborah Frandsen .......................................................... Missoula
Leonard Landa ................................................................. Missoula

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Assistant Provost
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Daniel J. Dwyer, Ph.D. ......................................................... Missoula
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Perry Brown, Ph.D. .............................................................. Missoula
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E. Edwin Eck II, J.D. .......................................................... Missoula
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Gerald A. Fetz, Ph.D. ............................................................ Missoula
College of Arts and Sciences
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School of Business Administration
Shirley Howell, D. A. .......................................................... Missoula
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6- Administration

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Registrar
Paul Rowland, Ph.D.
School of Education
Harry Sheski, Ed.D.
College of Technology

James Staub, Ph.D.
Associate Provost
Terry Weidner, Ph.D.
Mansfield Center
David Strobel, Ph.D.
Graduate School
Arlene Walker-Andrews, Ph.D.
Associate Provost
academic information
Areas of Study

Accounting - M.Acct., option in B.S. in Business Administration
Accounting Technology - A.A.S.
Acting - option in B.F.A. and M.F.A., Fine Arts
Administrative Management - A.A.S.
African-American Studies - undergraduate minor
Algebra - option in M.A. and Ph.D., Mathematics
Alternative Dispute Resolution - Certificate
American Politics - option in B.A., Political Science
Analysis - option in M.A. and Ph.D., Mathematics
Analytical/Environmental Chemistry - option in M.S. and Ph.D., Chemistry
Animal Behavior - option in M.A. and Ph.D., Psychology
Anthropology - B.A., M.A., Ph.D., undergraduate minor
Applied Analysis - option in B.A., Mathematics
Applied Geosciences - option in Ph.D., Geology
Applied Health Science - option in B.S. in Health and Human Performance
Applied Linguistics - option in M.A., Linguistics
Applied Mathematics - option in M.A. and Ph.D., Mathematics
Applied Science - B.A.S.
Aquatic - option in B.S. in Wildlife Biology
Archaeology - option in B.A., Anthropology
Art - option in B.A. and M.A., Fine Arts; teacher preparation
Art Education - option in B.A., Fine Arts
Art History - option in M.A., Fine Arts
Art History/Criticism - undergraduate minor
Art Studio - undergraduate minor
Asian Studies - option in B.A., Liberal Studies; undergraduate minor
Associate of Arts
Astronomy - option in B.A., Physics; undergraduate minor
Athletic Training - option in B.S. in Health and Human Performance
Biochemistry - M.S., option in B.S., Chemistry
Biological Chemistry - option in B.S., Chemistry
Biological Education - option in B.A., Biology
Biology - B.A., teacher preparation; undergraduate minor
Biomedical Sciences - Ph.D.
Biomolecular Structure and Dynamics - Ph.D.
Botanical Sciences - option in B.A., Biology
Broadcast - option in B.A. in Journalism
Building Maintenance - Certificate
Building Maintenance Engineering - A.A.S.
Business - courses offered
Business Administration - B.S. in Business Administration, M.B.A.

Business French - undergraduate minor
Business and Information Technology Education - teacher preparation
Cartography and G.I.S. - option in B.A. and M.A., Geography
Carpentry - Certificate; A.A.S.
Cellular and Molecular Biology - option in B.A., Biology
Central and Southwest Asian Studies - option in B.A. and M.A., Geography; undergraduate minor
Ceramics - option in B.F.A. and M.F.A., Fine Arts

Chemistry - B.A., B.S., M.S.T.C., M.S., Ph.D., undergraduate minor, teacher preparation
Chinese - undergraduate minor
Choreography and Performance - option in B.F.A., Fine Arts
Classical Civilization - option in B.A., Classics, undergraduate minor
Classical Languages - option in B.A., Classics
Classics - B.A.
Clinical - option in M.A. and Ph.D., Psychology
Combinatorics and Optimization - option in B.A., Mathematics
Communication Studies - B.A., M.A., undergraduate minor
Communication and Human Relationships - option in B.A., Communication Studies
Communications - courses offered
Community and Environmental Planning - option in B.A. and M.A., Geography
Comparative Literature - non-degree advising program
Composition and Music Technology - B.M.
Composition/Technology - option in M.M., Music
Computational Physics - option in B.A., Physics
Computer Applications - undergraduate minor
Computer Science - B.S., M.S., undergraduate minor
Computer Science-Mathematical Sciences - B.S.
Computer Support - option in A.A.S., Accounting Technology
Computer Technology - A.A.S.
Conservation - option in B.S. in Resource Conservation
Creative Writing - M.F.A.; option in B.A., English
Criminology - option in B.A. and M.A., Sociology
Culinary Arts - Certificate
Cultural and Ethnic Diversity - option in B.A., Anthropology
Cultural Heritage - option in M.A., Anthropology
Cultural Heritage Studies and Historical Anthropology - option in Ph.D., Anthropology
Curriculum and Instruction - M.Ed., M.A., Ed.D.
Curriculum Studies - option in M.Ed. and M.A., Curriculum and Instruction
Customer Relations - Certificate
Dance - option in B.A., Fine Arts; undergraduate minor
Design/Technology - option in B.F.A. and M.F.A., Fine Arts
Developmental - option in M.A. and Ph.D., Psychology
Diesel Technology - A.A.S.
Directing - option in M.F.A., Fine Arts
Drama - option in B.A. and M.A., Fine Arts; undergraduate minor, teacher preparation
Drama Education - option in B.A. and M.A., Fine Arts
Earth Science Education - option in B.S., Geology, teacher preparation
Ecology - option in B.A., Biology
Economics - B.A., M.A., undergraduate minor, teacher preparation
Ecosystem Management - M.EM.
Education - B.A. in Education
Electronics Technology - A.A.S.
Elementary Education - option in B.A. in Education; option in M.Ed. and M.A., Curriculum and Instruction
Areas of Study - 9

- English - B.A., M.A., undergraduate minor, teacher preparation
- English as a Second Language - certificate program, teacher preparation
- English Teaching - option in B.A. and M.A., English
- Entrepreneurship - option in A.A.S., Management
- Environmental Chemistry - option in B.S., Chemistry
- Environmental Geology - option in B.S., Geology
- Environmental Philosophy - option in M.A., Philosophy
- Environmental Studies - B.A., M.S., undergraduate minor
- Exercise and Performance Psychology - option in M.S., Health and Human Performance
- Exercise Science - option in B.S. in Health and Human Performance; option in M.S., Health and Human Performance
- Fiction - option in M.F.A., Creative Writing
- Film - nondegree advising program
- Finance - courses offered
- Financial Management - option in B.S. in Business Administration
- Fish and Wildlife Biology - Ph.D.
- Food 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 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
- 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 F.M.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.E., M.M.; option in B.A., Fine Arts; undergraduate minor, teacher preparation
Music Education - option in M.M., Music
Music History and Literature - option in M.A., Fine Arts
Music Media Production - option in M.F.A., Fine Arts
Musical Theatre - option in M.M., Music
Native American Studies - B.A., undergraduate minor
Natural History - option in B.A., Biology
Natural Resource Conflict Resolution - Certificate
Nature and Democracy - undergraduate minor
Nature-Based Tourism - option in B.S. in Recreation Management
Network Management - option in A.A.S., Computer Technology
Neuroscience - M.A., Ph.D.
Nonfiction - option in M.F.A., Creative Writing
Nonprofit Administration - undergraduate minor
Nursing - courses offered
Office Systems Management - undergraduate minor
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
Photojournalism - option in B.A. in Journalism and M.A., Journalism
Physical Chemistry - option in M.S. and Ph.D., Chemistry
Physical Geography - option in B.A., Geography
Physical Therapy - M.S., D.P.T.
Physics - B.A., undergraduate minor, teacher preparation
Piano - option in B.M., Performance
Poetry - option in M.F.A., Creative Writing
Political Science - B.A., M.A., undergraduate minor, teacher preparation
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.
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
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. Beginning Fall 2005, new math proficiency admissions standards were adopted by the Montana Board of Regents. Students must earn a minimum math score of:
   - 17 on the ACT or
   - 420 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 better.

Provisional Acceptance

Students who fail to meet the admissions requirements may be admitted on a provisional basis if the Admissions Committee determines that a student could be successful by taking advantage of the academic support services that are available. Students will be granted full admission, after completing twenty-four credits with a grade point average of at least 2.0. Students are expected to complete the twenty-four credits within two semesters but must complete them within three semesters. In cases where academic preparation falls 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 from the date of high school graduation)
12 - Admission to the University

1. 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.

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 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. Other applicants will be directed to the College of Technology where courses can be taken to strengthen their preparation for success at The University.

How to Apply

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

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

1. Application form. Applications must be complete and signed.

2. $30 application fee or $36 application fee when applying online (includes transmitted fee). This non-refundable fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. Applications are not processed prior to payment of this fee. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.

3. Test scores. Official ACT or SAT results should be sent directly from the testing company or may be posted on the high school transcript.

4. High School Student Self-Report form. This form is part of the standard application form and is the basis for the initial admission decision.

5. Final high school transcript with graduation date. Information provided on the self-report form will be verified from this transcript.

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

When to Apply

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

Transfer Students

Academic Eligibility

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

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

Enrollment Services-Admissions determines whether or not transfer courses are college level, the appropriate grading and credit conversions on transfer work, and the applicability of 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 followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. An application cannot be considered prior to payment of this fee. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.

3. Official college/university transcripts. The student must supply a complete official transcript from each regionally accredited college or university attended, and from each college or university attended holding candidate status for regional accreditation. Applications from students who are enrolled at the transfer school while applying to UM will be considered for admission based on incomplete official transcripts showing all academic work completed and posted to date. The complete official transcript must be on file before the second registration at UM. Academic eligibility will be reviewed upon receipt of the complete transcript.

4. All students are required to submit a completed Pre-Registration Immunization Form to the Curry Health Center two weeks prior to registration. It is especially important that the immunization record be complete, accurate and validated by a health official.
When to Apply
March 1 is the application priority processing date for autumn semester. The application priority processing date for spring semester is November 15. Applications postmarked or completed after the processing priority date will be processed on a space available basis. Students are encouraged to apply early as some programs may fill early. A student must be admitted to The University of Montana-Missoula prior to attending an orientation program. Orientation information is sent to accepted students prior to each semester.

Bachelor of Applied Science Admission

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

How to Apply
Applicants should contact the Bachelor of Applied Science advisor at The University of Montana College of Technology, 243-7801. The applicant and advisor meet to discuss application procedures as well as degree plan identification and required approval.
Receipt of the following constitutes a complete application:

B.A.S. Degree:
1. A University of Montana-Missoula application-identifying desired degree program as Bachelor of Applied Science.
2. Official college/university transcripts of all previous course work.
3. $30 application fee (if the applicant is new to The University of Montana system)
4. Pre-Registration Immunization Form (if the applicant is new or has been absent for more than 24 months from The University of Montana system)

When to Apply
Applications from students who hold an A.A.S. degree with a GPA of 2.5 are accepted on a continual basis. Applicants in the process of completing the A.A.S. degree are encouraged to begin the application process during their final semester. Students are not, however, admitted until after the A.A.S. degree has been awarded.

Associate of Applied Science, Associate of Arts and Certificate Admission

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

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

How to Apply
Applications for admission are available from the College of Technology by request. In addition, applications are sent to all in-state high schools.
An application for admission is complete when the College of Technology receives the credentials described below.

1. Application form. Applications must be completed and signed.
2. $30 or $36 application fee. This non-refundable application fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.
3. Test scores. All students are required to take either the ACT, SAT, ASSET or COMPASS standardized test and submit scores to the Admissions Office. Exceptions to the testing requirement may be approved on an individual basis for students successfully transferring previous math and/or writing course work. Contact the College of Technology Admissions Office for specific information regarding this requirement.
4. Proof of high school graduation/GED. An official high school transcript with graduation date or GED score report must be sent to the College of Technology.
5. Medical History Record. All students are required to submit a completed Pre-Registration Immunization Form to the Curry Health Center two weeks prior to registration. History record forms are sent to students with acceptance notifications. Some health-related programs have additional requirements. Refer to the College of Technology section of this catalog.

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 US dollars). This non-refundable fee is payable once at the undergraduate level when payment is followed by enrollment. In all other cases record of payment will remain on file for one year. Payment of this fee is expected prior to consideration of the application. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology.
Undergraduate Nondegree Status

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

Academic Eligibility

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

Except in the College of Technology, a maximum of 30 semester credits earned as a nondegree student will be applied to an undergraduate degree at The University of Montana-Missoula if the applicant applies and is accepted to a degree program. Whether credits taken in the College of Technology as a nondegree student may apply to a particular degree program is dependent on the courses taken and the degree program to which the student may be admitted. This category is open to students currently on academic suspension from The University of Montana-Missoula.

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

How to Apply

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

1. Application form. The application form may be obtained from the Office of Enrollment Services-Admissions, The University of Montana-Missoula, Missoula, Montana 59812 (406) 243-6266 or the College of Technology (406) 243-7882. It should be completed, signed, and returned. Applications are also available on the university website.
2. $30.00 or $36.00 application fee. This non-refundable fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will remain on file for one year for students who do not enroll. An application cannot be considered prior to payment of this fee. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.
3. Medical History Record. All applicants are required to submit a completed Pre-Registration Immunization Form for international students to the Curry Health Center two weeks prior to registration. It is required that the immunization record (for measles, rubella, diphtheria, tetanus and polio) be complete, accurate, and validated by a physician. Skin testing for tuberculosis will be required upon arrival through the Curry Health Center.
4. Visa Clearance and Advisor's Recommendation Form. F-1 and M-1 students transferring from another college or university in the U.S. must have this form completed by the foreign student advisor of the transfer school and returned to the UM Enrollment Services-Admissions Office or the College of Technology. A new I-20 will be issued by UM once a transfer release date is entered in SEVIS (Student & Exchange Visitor Information System) by the current school.

When to Apply

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

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 January 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 http://www2.umt.edu/registrar/.

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

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.

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 may 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) 243-6206. For information 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 145 other state colleges and universities. This program offers students the opportunity to become better acquainted with different social and educational patterns in other areas of the United States. NSE encourages students to experience new life and learning styles, appreciate differing cultural perspectives, learn more about themselves and others and broaden their educational backgrounds through specialized courses or unique programs which may not be available on the home campus. The qualified sophomore or junior year student may travel to another state and participate in the exchange program for up to one academic year. 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) violence and destructive tendencies, (b) behavior on other college campuses, and (c) any rehabilitative therapy the individual may have undergone.

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

The 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 adjudged 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 welfare 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 major 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 "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 "T" 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 "V". 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 in an associate of arts or baccalaureate degree program. Technical courses are designated by a course number suffix if "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 Certification Officer for the State of Montana can be contacted for specific details about the program. WICHE Student Exchange Program, Montana University System, 2500 Broadway, Helena, MT 59620. (406)444-6570 or Fax: (406) 444-1469.

Western Undergraduate Exchange Program (WUE)

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

The amount of the WUE scholarship is 150% of Montana resident tuition and fees rather than the full nonresident tuition and fees. The WUE scholarship will automatically be renewed each semester providing the recipients follow the rules of the WUE scholarship.

Recipients of the WUE must abide by the following rules:

• The scholarship is in effect for four years or until completion of a bachelor's degree (120 credits), whichever come 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 for each consecutive term of enrollment.

• Students in pre-nursing can only receive the WUE scholarship until they are accepted into the professional program.

Time as a WUE scholarship recipient cannot be used toward admission to the University - 17
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fulfilling in-state residency requirements for fee purposes at any unit of the Montana University System.

To be eligible for the WUE scholarship students must apply for admissions and complete the UM Entering Student Scholarship by December 31st. Further details are available from the WUE Scholarship Coordinator in the Enrollment Services-Admissions Office.

Student Conduct Code

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

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

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

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

Servicemembers Opportunity College

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

Academic Advising and Orientation

Advising

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

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

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

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

The University of Montana-Missoula encourages the enrollment of students who are unsure of their educational and career plans. These students are designated as General Studies students, and are assigned a faculty member or peer advisor from a select advising pool through the Office of Academic Advising in the 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 and staff in the process. In the event a student is dissatisfied with an assigned advisor, he or she may request a change of advisor either from the department or through the Undergraduate Advising Center.

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

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

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

Orientation

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

UM offers three summer orientation sessions. If a student is unable to attend a summer session, UM provides similar sessions at the beginning of autumn and spring semesters. On the mountain campus new freshmen students are assessed a $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.

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

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

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

Students with Disabilities

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

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

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

After registering and through the first fifteen (15) instructional days of the semester, students may use the internet (http://cyberbear.umt.edu) to drop and add courses or change sections and credits. Fees are reassessed on the fifteenth day of the term. Added courses and credits may result in additional fees. For courses dropped by the fifteenth instructional day, no fees are charged and courses are not recorded. (For deadlines and refund policy for withdrawal from all courses, see the Withdrawal 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 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 thirteenth instructional day. A $10.00 processing fee is charged for each drop/add form. Added courses and credits may result in additional fees. There are no refunds or reductions of fees for courses dropped and grades of W (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 after final examinations. An instructor assigns a grade of WP (withdrew/passing) if the student's course work has been passing or a WF (withdrew/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.umt.edu) to avoid receiving a failing grade. Students who know they will be absent should contact the instructor in advance.

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

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

The UM Faculty Senate encourages the faculty to accommodate students incurring an excused absence by allowing them to make up missed work when this can be done in a manner consistent with the educational goals of their courses. Students expecting to incur excused absences should consult with their instructors early in the
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 student. Courses offered on the A-F basis only or CR/NCR only will be indicated in the Class Schedule. In the event a change in the published grading option for a course becomes necessary, the faculty member may make the change during the first ten class days of the semester. The students in the class and the Registrar's office must be notified of the change no later than the tenth class day. Grades preceded by an R indicate remedial courses.

Traditional Letter Grading (A-F)

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

Credit/No Credit Grading (CR, NCR)

Student Option: To encourage students to venture into courses where they might otherwise hesitate because of uncertainty regarding their aptitude or preparation, they may enroll in some courses on a credit/no credit basis. A CR is given for work deserving credit (A through D-) and an NC 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 retaining it.

The incomplete is not an option to be exercised 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 F). 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 reinstatements 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 a writing laboratory. Help with study skills is available in the Curriculum and Instruction course 160.

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

Two tutoring programs are available to students, one administered by the Educational Opportunity Program and the other by the 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 Education Opportunity Program (EOP) is a federally-funded program offering academic support services, including one-on-one academic advising, career search and counseling (using a national career database), mentoring for Native American students, a two-credit study skills class, and tutoring at no cost to eligible students.

To 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 EOP at Lomaxson 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 these services and the Step Ahead program, contact the College of Technology (406) 243-7825.

**Plagiarism Warning**

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

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

Maximum Credit Load

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

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

Full-Time Student Defined

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

Classification of Undergraduate Students

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

Dean's List (Honor Roll)

To qualify for the Dean's List, students must be undergraduates, must earn a semester grade average of 3.50 or higher, and receive grades of A or B in at least 9 credits. No grades of C+, C, 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-baccalaureates and seniors holding a 3.0 (or greater) grade point average may, with consent of instructor, enroll in 500-level courses for undergraduate credit. Variance from these requirements cannot be petitioned.

Credit

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

Prerequisites and Corequisites

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

Cross-listed and Equivalent Courses

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

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

Technical Courses

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

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 six years prior to graduation. University or departmental requirements may change, however, to comply with accreditation requirements, professional certification and licensing requirements, etc. The student may meet major and minor requirements under different catalogs than the catalog under which he or she is meeting University requirements. Pharmacy students should consult the Professional Pharmacy Curriculum section in this catalog.

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

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

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

1. Mathematics one course from MAT 100Tor 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.

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 113, 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
24 - Academic Policies and Procedures

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></td>
</tr>
<tr>
<td>Career Skills</td>
<td>0</td>
</tr>
<tr>
<td>Study Skills Courses (AASC 101, C&amp;I 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></td>
</tr>
<tr>
<td>R.O.T.C. courses</td>
<td>12</td>
</tr>
<tr>
<td>(contracted students may present 24 credits)</td>
<td></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></td>
</tr>
<tr>
<td>Ensemble music (Mus 107A-110,A 113A-114A and 150A)</td>
<td>8</td>
</tr>
<tr>
<td>(Music majors and minors may present more)</td>
<td></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>
</tbody>
</table>

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

Grade Average Requirement

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

Graduation with Honors or High Honors

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

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

2) The combination of all work attempted at The University of Montana-Missoula and all other work, including falling 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 continuing 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 befits the message;
- Respond appropriately and effectively to new or given information;
- Use language that is clear and precise;
- Possess a voice that is consistent and appropriate to the audience and purpose;
- Use correct spelling, punctuation and grammar.

To ensure that all graduates have acquired the writing skills outlined above, students should satisfy the following requirements in this order:

1. English (ENEX 101 or its equivalent);
2. One approved writing course;
3. The Writing Proficiency Assessment (WPA), to be taken between 45-70 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 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 catalog and in the Class Schedule for the semester a student registers for it.
Assessment

A student is prepared for the writing required in upper-division courses if they have completed at least 45 semester credits must take the WP A, known as the Upper-Division Writing Proficiency Assessment (WPA), or its equivalent or have been exempted, and have satisfied the lower-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 may take the assessment concurrently with either their writing course or the writing requirement(s) in their major.

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

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

Students should refer to the preceding list of approved writing courses and the appropriate Class Schedule to determine which courses are designated as upper-division writing courses for 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
- Interpret solutions to problems
- Make critical judgments regarding the validity of competing formulations and solutions.

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

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

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

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

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

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

Upon completion of the Symbolic Systems Competency a student will have sufficient knowledge of a symbolic system to be able to perform elementary operations in the system, including correct notation. The system must have a 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 ESL/LING 250 or 450, or by presenting a department approved application for degree.

OR

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

- Any two of Computer Science 101, 131, 132, 201, (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 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, 185A, 186A


English 210A, 211A, 310A, 311A, 312A

Environmental Studies 373A

Media Arts 111A


Perspective 2 Literary and Artistic Studies:

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

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

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

Art 100L, 203L, 303L, 403L

Communication Studies 250L

Drama 101L, 166L, 220L


Environmental Studies 305L

French 311L, 312L

German 311L, 312L, 313L, 361L

Honors College 121L
28 - Academic Policies and Procedures

Perspective 3 Historical and Cultural Studies:
These courses present the historical or cultural context in which ideas can be illuminated, examine cultural development or differentiation in the human past and avoid focus on a narrow period, topic or geographical area. Courses are either western, emphasizing Greco-Roman, Judeo-Christian, European-American experiences; or nonwestern.

Upon completion of this perspective, a student will be able to:
1. evaluate documents within a historical and/or cultural framework.
2. synthesize ideas and information with regard to historical causes, the course of events, and their consequences.
3. analyze human behavior, ideas and institutions for historical and cultural meaning and significance.

African-American Studies 278H, 378H, 379H
Anthropology 100H, 324H
Dance 334H
Drama 336H
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

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 213S, 214S
Native American Studies 341S
Political Science 463S
Sociology 370S

Asian Studies 102H, 201H, 210H, 211H, 212H, 340H
Geography 283H, 284H
Japanese 210H
Liberal Studies 161H, 210H, 211H, 212H
Modern and Classical Literatures 210H, 211H
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 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.
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.

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.
Major and Minor Requirements

Major Requirements

Declaring a Major and Changing a Major

Students indicate on the application for admission the major or majors in which they are interested. Students undecided as to a field of interest may elect a General Studies major while making program and career decisions. Students must declare a major in a degree-granting program prior to 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 classes. Frequently in contact with one another and dealing with the same issues daily, these students tend to have a more intense learning experience than those in individual classes.

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

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

Assessment of Personal and Academic Goals

A college education invites students to formulate goals and reflect on their progress toward attaining them. Davidson Honors College students are responsible for evaluating their aims and attainments from year to year in collaboration with an advisor. Entering students are asked to assess their abilities and resources and begin to formulate interests and aims in light of the student 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 or 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 way 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 1200 (prior to March 2005) or 1800 (after March 2005). 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 academic performance (GPA of 3.5 or higher) also 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 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 1200 (prior to March 2005) or 1800 (after March 2005). 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 academic performance (GPA of 3.5 or higher) also 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.

- December must complete a separate application for admission to The University of Montana-Missoula.
- Presidential Leadership Scholarships 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.

**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 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 298 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.
- UG 499 Special Topics Variable cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- 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)

- **Adjunct Assistant Professor**
  - Sean O’Brien, Ph.D., University of Colorado, 1989 (Philosophy; Advisor)
college of arts and sciences
Gerald A Fetz, Dean

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 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, sociology, 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 1800
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
385S Indigenous Peoples and Global Development

Courses

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

UG 493 Omnibus 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.

UG 496 Independent Study Variable cr. (R-9) Prereq., consent of instr.

Faculty

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 evolutionary, archaeological, cultural, and linguistic context from prehistoric times to the present. 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 living a productive life in an increasingly diverse world. To accomplish this task, the Department of Anthropology course offerings provide a stimulating and challenging curriculum that will help students understand and appreciate the range of human cultures from prehistory to the present; as well as the significance of biological evolution of the human condition. Through our rigorous and competitive 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.

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, 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 I 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.
ANTH 270 Introduction to Linguistics, 3 cr.

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
ANTH 487 Anthropological Field Experience

**Subarea II, III, IV, 6 Credits**

**Subarea II: Human Adaptation and Diversity**
- ANTH 101H Introduction to Anthropology
- ANTH 102S Race and Minorities
- ANTH 201 Human Sexuality
- ANTH 211N Human Genetics
- ANTH 310N Human Variation

**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 286N Survey of Forensic Science
- ANTH 311 Visual Anthropology, 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
- ANTH 470 Introduction to Linguistic Analysis
- ANTH 473S Language and Culture
- ANTH 484 North American Indian Linguistics

**Anthropology or cognate electives, 12 Credits**

**Upper-Division Writing Expectation**

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

**Archaeology Option**

For a degree in anthropology with an option in archaeology, the student must meet 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

**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 201N 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
- SO 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:
- LIN 471 Phonology and Morphology
- LIN 472 Generative Syntax and Semantics
- LIN 474 Language History, Variety, and Change
- LIN 475 Linguistics Field Methods
- ANTH 473S Language and Culture
- ANTH 484 North American Indian Linguistics

**Suggested Course of Study**

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

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

### First Year

- ANTH 250S Introduction to Archaeology A 3
- ANTH elective 3
- ENEX 101 Composition 3
- MATH 117 Probability and Linear Mathematics 3
- General Education 6
- Elective 3
- **Total** 15 15

### Second Year

- ANTH 210N Introduction to Physical Anthropology 3
- ANTH 220S Comparative Social Organization 3
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<td>MATH 111 Probability and Linear Mathematics</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 110S, 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 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 Subareas 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
- ANTH 270 Introduction to Linguistics

**Subarea I, 3 Upper-Division Credits**

- ANTH electives
- Elective
- Total

**Subarea 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 even-numbered years. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.

U 103 Food and Culture 3 cr. Offered intermittently. Examination of the ways culture shapes the satisfaction of a biological need; food production, preparation, choices, customs, taste, taboos, beverages, spices and food distribution around the globe.

U 104 Orientation to the U.S. 2 cr. Offered autumn. Examination of American cultural and societal trends from a cross-cultural perspective to help new and continuing foreign students adjust to life in the United States and to offer U.S. students an opportunity to examine their own culture from the perspective of members of other cultures.

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

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 spring. U.S. and foreign students read fictional accounts of cultural adaptation. Some accounts written from the perspective of foreigners to give foreign students comparisons with their own acculturation process and provide a contrastive world-view for American students. Intended to give an understanding of the complexity and richness of cross-cultural ambiguity, dissonance, and convergence.

U 231 Indigenous World View Perspectives 3 cr. Offered spring even-numbered years. Same as NAS 231. Examination of indigenous belief systems, with regard to world views, religious ceremonies, cultural ways and the impact that Anglo-European culture has had upon these systems. Focus on indigenous peoples of Australia, New Zealand, and 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 252H Archaeological Wonders of the World 3 cr. Offered autumn. Major archaeological sites and discoveries and their impact on our understanding of prehistory and history.

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

U 286N Survey of the Forensic Sciences 3 cr. Offered spring. A survey of the forensic sciences and related disciplines and their use in criminal investigations, the role of forensic scientists in the investigative process and as expert witnesses.

U 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 of current topics.

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

U 313 Bioarchaeology and Skeletal Biology 3 cr. Offered spring odd-numbered years. Prereq., ANTH 210N. Approaches to the analysis of human skeletal remains for the purpose of investigating archaeologically known populations.

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 rights abuses.

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

U 324H Indians of Montana Since the Reservation Era 3 cr. Offered autumn odd-numbered years. 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 non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.

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

U 327 Anthropology of Gender 3 cr. Offered spring odd-numbered years. Prereq., ANTH 201. Same as WS 327. Comparative study of the history and significance of gender in social life.

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

U 329S Social Change in Non-Western Societies 3 cr. Offered spring odd-numbered years. Prereq., ANTH 220S or consent of instr. Study of the processes of change, modernization and development.
UG 330H Peoples and Cultures of the World 3 cr. (R-9)
Offered autumn and spring even-numbered years. Study of the peoples of various geographic regions and their cultures.

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

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

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

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

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

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

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

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

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

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

UG 393 Omnibus 1-9 cr. (R-9) Offered intermittently. Independent work under the University omnibus option. See index.

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

UG 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. 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 odd-numbered years. Prereq., ANTH 101H. Introduction to anthropological museums, museum work and museum theory.

UG 410 Human Evolution 3 cr. Offered autumn 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 even-numbered years. Prereq., ANTH 412 and consent of instr. Practical approaches to locating, documenting and recovering human skeletal remains, including surface scatters and burials. Emphasis on interpretation of evidence for recovery scene formation and mortuary behavior.

UG 414 Human Identification 3 cr. Offered intermittently. 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 autumn even-numbered years. Prereq., ANTH 210N. An exploration of the emergence of "modern" humans and their relationship 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 autumn odd-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 spring. 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 spring. 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 420S Human Behavioral Ecology 3 cr. Offered spring even-numbered years. The study of the evolution of human behavior in cross-cultural perspective.

UG 422 Psychological Anthropology 3 cr. Offered spring odd-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 odd-numbered years. Cross-cultural comparisons of theories and concepts and health and illness. Examination of the impact of these concepts upon health practices and treatment of disease around the world.

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

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

UG 452 Architecture of the Frontier West 3 cr. Offered spring. Introduction to the methods and techniques of recording and analyzing standing cultural resources. Includes a field project and drawings 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 odd-numbered years. Prereq., ANTH 250S and consent of instr. Laboratory approaches and techniques for analyzing material culture from technological, stylistic, and chronological perspectives.

UG 456 Historic Sites Archaeology 3 cr. Offered intermittently. 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 spring even-numbered years. Introduction to the study of archaeology in the Pacific Northwest region inclusive of the Northwest Coast and Columbia/Fraser-Thompson Plateau. Understanding hunter-gatherer adaptations, evolution of social complexity, and ancient history of contemporary native peoples in the region.

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

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

UG 466 Archaeological Survey Variable cr. (R-12) Prereq., ANTH 250S and consent of instr. Offered any semester in which field parties are organized. A field course in Montana archaeology.

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

UG 473S Language and Culture 3 cr. Offered intermittently. Prereq., ANTH 470. Same as LING 473S. 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 autumn even-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. 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. 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 autumn even-numbered years. 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 spring. 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 odd-numbered years. 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 intermittently in 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 autumn. 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.
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 Proficiency Assessment.
2. Mathematical Literacy
   Complete successfully one mathematics course numbered greater than 100, with a grade of C or better, or demonstrate equivalent skill by competency testing.
3. Foreign Language/Symbolic Systems
   a. Complete successfully the second semester of a foreign language at The University of Montana-Missoula or demonstrate equivalent skill in a foreign language;
   OR
   b. Complete successfully one of the approved sequences in a symbolic system.

B. Perspectives - General Education
   Complete successfully 27 credits in the six identified perspectives. A minimum of two credits is required from each perspective, except perspective 6 in which six credits are required.

A maximum of six credits from each perspective will count toward the general education distribution requirement:
1. Perspective 1 - Expressive Arts
2. Perspective 2 - Literary and Artistic Studies
3. Perspective 3 - Historical and Cultural Studies
4. Perspective 4 - Social Science
5. Perspective 5 - Ethical and Human Values
6. Perspective 6 - Natural Science

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

**Courses**

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

**Asian Studies**

**Alan Sponberg, Chair**

The Asian Studies Program offers undergraduates at The University of Montana-Missoula an opportunity to study Asian lands, peoples, cultures and languages. The program encompasses the geographic areas of East, Southeast, South, Central and Southwest Asia, with particular emphasis on China and Japan. The Asian Studies Program is administered by the Asian Studies Executive Committee, an interdisciplinary group of faculty with teaching and research interests in Asia. The Executive committee works closely with the dean of the College of Arts and Sciences and the Maureen and Mike Mansfield Center at The University of Montana-Missoula. The program draws its faculty from the College of Arts and Sciences, professional schools and the Mansfield Center.

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

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

**Additional Asian Studies Courses**

DAN 435L Arts and Culture of Bali
ECON 336 US-Asian Relations
HIST 283H Islamic Civilization: Classical Era
HIST 284H Islamic Civilization: Modern Era
HIST 380H Modern China
HIST 381H Modern Japan
HIST 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
PSC 329H Politics of Japan
PSC 420 Comparative Legal Systems
RELS 232H Introduction to Buddhism
RELS 233 Traditions of Buddhist Meditation
RELS 360 Classics of Buddhist Literature

**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 201H and 202S.
4. At least 30 credits in upper-level courses (300-level courses and above), of which at least six credits must be in the humanities and six in the social sciences.
5. Language Requirement: Two years (or equivalent proficiency) in an Asian language appropriate to the student’s academic goals and approved by the academic advisor. Students who plan
to pursue graduate work are strongly advised to complete three years, including at least one study abroad in Asia experience.

**Requirements for a Minor**

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

1. Six credits in introductory Asian Studies courses (100-level courses), including AS 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, 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.

UG 340H Contemporary Issues of Southeast Asia 3 cr. Offered autumn odd-numbered years. Same as ANTH 340H. Prereq., ANTH 2205 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 365 South Asian Traditions: Hinduism 3 cr. Offered spring even-numbered years. Same as LS and RELS 365. Critical exploration of selected aspects of Hindu thought, narrative and practice, both in contemporary and historical perspective. Focus primarily on India, but with consideration of Hinduism’s transformation and impact beyond South Asia.

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

UG 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.


UG 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.

UG 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.

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

**Faculty**

**Professors**

Rhea Ashnour, Ed.D., The University of Montana, 1981 (Curriculum and Instruction)

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

Maureen Fleming, Ph.D., Southern Illinois University, 1969 (Management)
Jeffrey Gritzner, Ph.D., University of Chicago, 1986 (Geography)
Louis D. Hayes, Ph.D., University of Arizona, 1966 (Political Science)
Peter Koehn, Ph.D., University of Colorado, 1973
Dennis O'Donnell, Ph.D., Pennsylvania State University, 1974 (Economics)
Daniel Fletcher, Ph.D., Yale University, 1982 (Forestry)
Judith Rabinovitch, Ph.D, Harvard University, 1981 (Modern and Classical Languages and Literatures)
Nader Shooshtari, Ph.D., Arizona State University, 1983 (Business Administration)
Alan Sponeberg, Ph.D., University of British Columbia, 1979 (Liberal Studies)
John Spores, Ph.D., University of Michigan, 1976 (Social Work)
Ruth Vanita, Ph.D., Delhi University, 1992 (Liberal Studies)
Terry Weidner, Ph.D., University of California, 1980 (Mansfield Center)
Philip West, Ph.D., Harvard University, 1971 (Mansfield Center)

**Associate Professors**

Jill Belsky, Ph.D., Cornell University, 1991 (Bolley Center)
Timothy Bradstock, Ph.D., Harvard University, 1984 (Modern and Classical Languages and Literatures)
Jim Burfied, Ph.D., Portland State University, 1984 (Sociology)
Mehrdad Kia, Ph.D., University of Wisconsin, 1986 (History)
Stephen Siebert, Ph.D., Cornell University, 1990 (Forestry)
G.G. Weix, Ph.D., Cornell University, 1990 (Anthropology, Women's Studies)

**Assistant Professors**

Charles Cabell, Ph.D., Harvard University, 1999 (Modern and Classical Languages and Literatures)

Fengru Li, Ph.D., University of Washington, 1996 (Business Administration, Communication Studies)
Yuka Tachibana, M.A., California State University, 1993 (Modern and Classical Languages and Literatures)

**Adjunct Faculty**

Zhen Cao, Ed.D., The University of Montana, 1997 (Modern and Classical Languages and Literatures)
Mark Johnson, M.A., George Washington University, 1964 (Mansfield Center)
Ardi Kia, Ph.D., University of Wisconsin, 1988 (Art, Liberal Studies)
Margaret Mudd, M.A., Instituto Pio Dodicesimo, Florence, 1967 (Art)
Joanne Shelton, M.A., Johns Hopkins University, 1977 (Mansfield Center)

**Emeritus Professors**

Richard Dailey, Ph.D., Pennsylvania State University, 1968 (Management)
Evan Denney, Ph.D., University of Washington, 1970 (Geography)
Roger Dunsome, M.F.A., The University of Montana, 1971 (Liberal Studies)
Darshan Kang, Ph.D., University of Nebraska, 1975 (Geography)
Rustem Medora, Ph.D., University of Rhode Island, 1965 (Pharmacy)

**Astronomy**

*(See Physics and Astronomy)*

**Division of Biological Sciences**

Erick P. Greene, Acting Associate Dean for the Biological Sciences

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

Graduate degrees offered by the Division of Biological Sciences include Master of Science degrees in biochemistry, microbiology, and organismal biology and ecology. Doctor of Philosophy degrees in 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
Ragan M. Callaway, Ph.D., University of California at Santa Barbara, 1990
Kenneth P. Dial, Ph.D., Northern Arizona University, 1984
Kerry R. Foresman, Ph.D., University of Idaho, 1977
James E. Gannon, Ph.D., University of Houston, 1981
Willard O. Granath, Ph.D., Wake Forest University, 1982
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
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**

Carol A. Brewer, Ph.D., University of Wyoming, 1993
Douglas Emlen, Ph.D., Princeton University, 1994
Erick P. Greene, Ph.D., Princeton University, 1989 (Acting Associate Dean)
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
Mary L. Poss, Ph.D., Colorado State University, 1990
Matthias Rillig, Ph.D., San Diego State University, 1997
Frank Rosenzweig, Ph.D., University of Pennsylvania, 1991
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
Winson 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

**Lecturer**

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
Penelope F. Kukuk, Ph.D., University of Kansas, 1980
Barbara E. Wright, Ph.D., Stanford University, 1951

**Research Associate Professor**

John Kimball, Ph.D., Oregon State University, 1995

**Research Assistant Professors**

Vijay Gadkar, Ph.D., University of Delhi, 1999
Matthew J. Kauftman, Ph.D., University of California at Santa Cruz, 2003
Jean-Marc Lanchy, Ph.D., Université Louis Pasteur, France, 1998
Mark Lorang, Ph.D., Oregon State University, 1997
Paul Spruelf, Ph.D., Washington State University, 1994

**Other Adjunct Faculty**

Richard J. Bridges, Ph.D., Cornell University Graduate School of Medical Sciences, 1984
Barry N. Brown, M.S., University of Alaska, Fairbanks, 1987
Elizabeth Crone, Ph.D., Duke University, 1995
Vernon R. Grund, Ph.D., University of Minnesota Medical School, 1974
Craig A. Johnston, Ph.D., Michigan State University, 1982
Charles T. Leonard, Ph.D., Medical College of Pennsylvania, 1985
Thomas E. Martin, Ph.D., University of Illinois, 1982
L. Scott Mills, Ph.D., University of California, Santa Cruz, 1993
George Stanley, Ph.D., University of Kansas, 1977
Paul J. Watson, Ph.D., Cornell University, 1988

**Emeritus Professors**

Mark J. Behan, Ph.D., University of Washington, 1963
David E. Blederback, Ph.D., University of Oregon, 1968
George L. Card, Ph.D., University of Nebraska, 1966
H. Richard Fevold, Ph.D., University of Utah, 1961
James R. Habeck, Ph.D., University of Wisconsin, 1959
Walter E. Hill, Ph.D., University of Wisconsin, 1967
Donald A. Jenni, Ph.D., University of Florida, 1961
Delbert L. Kilgore, Ph.D., University of Kansas, 1972
Galen P. Mell, Ph.D., University of Washington, 1961
Lee H. Metzgar, Ph.D., University of Michigan, 1968
Charles N. Miller, Ph.D., University of Michigan, 1965
Andrew L. Sheldon, Ph.D., Cornell University, 1966
John F. Tibbs, Ph.D., University of Southern California, 1968
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.

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

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

G 561 RNA Structure and Function 1 cr. (R-8) Offered every semester. Prereq., BIOC 482, BIOL 221, and consent of instr. Exploration of current scientific literature and news 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, protein, 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 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.
The Division offers an undergraduate degree in biology that provides a solid foundation in core areas of the biological sciences and in supporting physical sciences and mathematics. Several options are provided within the biology degree. Options in botanical sciences, cellular and molecular biology, ecology, and zoological sciences allow specialization in biological subdisciplines and are appropriate background for certain employment opportunities and for continued graduate or professional study:

**Botanical sciences**: Study of plant life with an emphasis on ecology and evolution.

**Cellular and molecular biology**: For students wishing to concentrate on cellular and physiological aspects of biology.

**Ecology**: For students wishing to emphasize ecology and environmental areas of biology.

**Human biological sciences**: Provides a strong background in the biological sciences for students pursuing a career in the health sciences professional programs, although some programs may require additional coursework in certain areas.

**Natural history**: Designed especially for students wishing to combine basic natural history and biological sciences with another field such as art, journalism, or creative writing. Option is not suitable for students planning a traditional career in the biological sciences.

**Zoological sciences**: Option includes courses in various aspects of animal life including form, development, physiology, evolution, and ecology.

**Teacher preparation in biology**, **Teacher preparation in general science**: Two separate options designed for students seeking careers in secondary or biology science teaching.

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

**Special Degree Requirements**

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

**Upper-Division Writing Expectation**: To meet the Upper-Division Writing Expectations of the Bachelor of Arts in Biological Station, students must successfully complete MICB 404, 420 or BIOL 341 and one course selected from BIOL 304, 306, 316, 366, 403, 405, 406, 410, 444, 480 or MICB 410, 411, 412, 450, or a senior thesis (BIOL 499 minimum 3 credits).

**Option in Botanical Sciences**

Forty-three credits in biology including BIOL 108N-109N, 110N, 221, 223, 316, 340-341, 350, and 444; a minimum of six credits selected from BIOL 418, 430, or 448 and the remaining three credits at the 300 to 400 level emphasizing biological science.
MATH 150 and 241 are required, however the prerequisite courses MATH 117 and 121 may be needed. FOR 210; CHEM 151N-152N, 154N or 161N-162N, 154N plus 221-222-223-224; and PHYS 121N-122N or 221N-222N also are required.

Option in Cellular and Molecular Biology

Forty-four to forty-nine credits in biochemistry, biology, and microbiology including BIOC 481-482; BIOL 108N-109N, 110N, 221, 222, 301, 340, and 495 (Cellular Biology); MICB 300-301; one course chosen from MICB 410 or 420; one course chosen from BIOL 345, 440, 444, 495, MICB 404, or 450; and two lab courses chosen from BIOC 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 are required.

Option in Ecology

Thirty-seven to forty-two credits in biology and microbiology including BIOL 108N-109N, 110N, 221, 222, 340-341; one ecology course chosen from BIOL 366, 446, 448, 453, 454, or MICB 422, 423; one physiology course chosen from BIOL 345, 444 or MICB 400 and 451; and one course chosen from BIOL 304, 306, 308, 316, 356, 405, 406, 410, 449 or 480.

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

Option in Human Biological Sciences

Forty-two to forty-three credits in biology, biochemistry, and microbiology including BIOL 108N-109N, 110N, 221, 222, 301, 312, 313, 340-341, 460; MICB 300-301 (or MICB 302) and the remaining credits at the 300 or 400 level.

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

Recommended Courses: Some graduate schools in the health professions also may require course work in these areas: BIOL 400, General Pathobiology; BIOL 380 or 481, 482.

Biochemistry; COMM 111A, Introduction to Public Speaking; HHP 236N, Nutrition; HHP 377-378, Physiology of Exercise and Laboratory; SOC 110S, Principles of Sociology.

Option in Natural History

Forty-two to forty-four credits in biology including BIOL 108N-109N, 110N, 221, 223, 316, 340-341, 350, 410; one course chosen from 304, 306, or 356; one course chosen from 405 or 406.

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

Option in Zoological Sciences


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

Teacher Preparation in Biology

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

A student must complete thirty-four credits in biology and microbiology including BIOL 108N-109N, 110N, 221, 223, 340-341, 444; MICB 300-301 and one course chosen from CHEM 301 or 435.

MATH 150 or 152 and 241 are required, however, the prerequisite courses MATH 117 and 121 may be needed. CHEM 151N-152N, 154N, 485; PHYS 121N; C&I 426; and one course chosen from GEOL 109N or 301 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).

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).

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; GEOL 100N-101N, 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).

Suggested Course of Study

Biological Education Option

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 108N-109N Diversity of Life and Laboratory</td>
<td>5</td>
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<tr>
<td>CHEM 110N Principles of Biology</td>
<td>3</td>
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<tr>
<td>CHEM 151N General and Inorganic Chemistry</td>
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</tr>
<tr>
<td>CHEM 152N Organic and Biological Chemistry</td>
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</tr>
<tr>
<td>CHEM 154N General Chemistry Laboratory</td>
<td>2</td>
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<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150 Applied Calculus</td>
<td>4</td>
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<tr>
<td>PSYC 100S Introduction to Psychology</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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<tr>
<td>BIOL 223 Genetics and Evolution</td>
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<tr>
<td>CHEM 485 Laboratory Safety</td>
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<tr>
<td>MATH 241 Statistics</td>
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<tr>
<td>MICB 300-301 General Microbiology &amp; Laboratory</td>
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<td>General Education/Native American Studies course</td>
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<tr>
<td>BIOL 340-341 Ecology and Laboratory</td>
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<tr>
<td>BIOL 345 Principles of Physiology (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 Media and Classroom Applications</td>
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<td>GEOL 109N Environmental Geoscience (or GEOL 301 Environmental Geology)</td>
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<tr>
<td>HHP 233 Health Issues of Children and Adolescents</td>
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<td>C&amp;I 301 or 302 Field Experience</td>
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<td>C&amp;I 407 Ethics and Policy Issues</td>
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<td>C&amp;I 426 Teaching Science in the Middle and 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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<td>C&amp;I 494 Professional Portfolio</td>
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<td>PHYS 121N General Physics I</td>
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### Botanical Sciences Option with One Year of Chemistry

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<tr>
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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>ENEX 101 Composition</td>
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<td>MATH 150 Applied Calculus</td>
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<td>MATH 241 Statistics</td>
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<td>BIOL 221 Cell and Molecular Biology</td>
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<td>BIOL 223 Genetics &amp; Evolution</td>
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<td>BIOL 350 Rocky Mountain Flora</td>
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<td>FOR 210 Soils</td>
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<td>PHYS 121N-122N General Physics I, II</td>
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<tr>
<td>BIOL 316 Plant Form and Function</td>
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<td>BIOL 340-341 Ecology and Laboratory</td>
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<td>Upper-division elective</td>
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<td>BIOL 430 Biogeography</td>
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<td>BIOL 444 Plant Physiology</td>
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<td>BIOL 448 Terrestrial Plant Ecology</td>
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### Botanical Sciences Option with Two Years of Chemistry

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<tbody>
<tr>
<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 161N College Chemistry</td>
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<td>MATH 150 Applied Calculus</td>
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<td>MATH 241 Statistics</td>
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<tbody>
<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
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<tr>
<td>BIOL 223 Genetics &amp; Evolution</td>
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<td>BIOL 350 Rocky Mountain Flora</td>
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<td>FOR 210 Soils</td>
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<tr>
<td>PHYS 121N-122N General Physics I, II</td>
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<tbody>
<tr>
<td>BIOL 316 Plant Form and Function</td>
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<td>BIOL 340-341 Ecology and Laboratory</td>
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<tr>
<td>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>BIOL 340 Ecology</td>
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<td>BIOL 301 Developmental Biology</td>
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<td>BIOL 495 (Cellular Biology)</td>
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<tr>
<td>CHEM 341 Quantitative Analysis and</td>
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<td>College of Arts and Sciences - Division of Biological Sciences - Biology - 55</td>
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### Instrumental Methods .......................... 4
MICB 410-411 Immunology and Laboratory .......... 5
Upper-division elective .......................... 3 3
General Education .......................... 3 3

#### Ecology Option

**First Year**
- BIOL 108N 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
- MATH 241 Statistics ............................ 4
- Electives .................................. 1 1

**Second Year**
- BIOL 221 Cell and Molecular Biology ........... 4
- BIOL 223 Genetics and Evolution ................ 4
- PHYS 121N General Physics I, II ............... 5 5
- Lower-division writing course ................... 3
- Upper-division elective ........................... 3 3
- Elective ......................................... 1 4

**Third Year**
- BIOL 340-341 Ecology and Laboratory .......... 5
- BIOL 345 Principles of Physiology or 444 or MICB 450 and 451 3
- CHEM 366 Freshwater Ecology or 446, 448, 453, 454, or MICB 422, 423 5
- General Education ................................ 3 3
- Upper-division elective .......................... 3 3
- Elective ........................................... 1 4

**Fourth Year**
- BIOL 306 Mammalogy or 304, 306, 308, 316, 356, 405, 406, 410, 449 or 480 4
- MATH 444 Statistical Methods .................... 3
- MATH 447 Computer Data Analysis .............. 1
- Upper-division elective .......................... 4 5
- Upper-division elective in BIOL or MICB ....... 3 3
- Electives ......................................... 3 4

#### Ecology Option for Teacher Preparation in General Science

**First Year**
- BIOL 108N Diversity of Life and Laboratory .... 5
- BIOL 110N Principles of Biology .................. 4
- CHEM 161N-162N College Chemistry .............. 5 5
- CHEM 163N-164N General Chemistry Laboratory 3
- ENEX 101 Composition .......................... 3
- MATH 150 Applied Calculus ...................... 4
- PSYC 100S Introduction to Psychology .......... 4

**Second Year**
- ASTR 131N, 134N Elementary Astronomy and Laboratory 4
- BIOL 221 Cell and Molecular Biology ........... 4
- BIOL 223 Genetics and Evolution ................ 4
- CHEM 152N Organic and Biological Chemistry ... 3
- GEOL 100N-101N General Geology and Laboratory 3
- MATH 241 Statistics ............................ 4
- General Education/Native American Studies course 3
- Lower-division writing course .................... 3
- Elective ........................................... 14 16

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

**First Year**
- BIOL 108N 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 1

**Second Year**
- BIOL 221 Cell and Molecular Biology ........... 4
- BIOL 223 Genetics and Evolution ................ 4
- PHYS 121N General Physics I, II ............... 5 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 4
- BIOL 301 Developmental Biology ................... 3
- MICB 302 Medical Microbiology ................... 3
- General Education ................................ 3 3
- Upper-division elective .......................... 4 3
- Elective ........................................... 14 15

**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
**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 College Chemistry 5
- ENEX 101 Composition 3
- MATH 150 Applied Calculus 4
- PSYC 100S Introduction to Psychology 4
- Upper-division elective 1
- General Education 3

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

**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
- PSYC 350S Abnormal Psychology or PSYC 240S (if 240S, must have 3 more upper-division credits) 3
- Upper-division elective 3
- General Education 3

**Fourth Year**
- BIOL 340-341 Ecology and Laboratory 5
- BIOL 460 Medical Physiology 3
- MICB 410 Immunology or other upper-division biology or microbiology elective that meets the biology writing requirement 3
- General Education 6
- Elective 4
- Upper-division 6

**Natural History Option**

**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 117 Probability and Linear Mathematics 4
- MATH 241 Statistics 4
- Elective 1

**Second Year**
- BIOL 221 Cell and Molecular Biology 4
- BIOL 223 Genetics & Evolution 4
- BIOL 350 Rocky Mountain Flora 3
- GEOL 100N-101N General Geology and Laboratory 3
- Lower-division writing course 3
- General Education 6
- Electives 2

**Zoological 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
- MATH 241 Statistics 4
- Elective 2

**Second Year**
- BIOL 221 Cell and Molecular Biology 4
- BIOL 223 Genetics & Evolution 4
- PHYS 121N-122N General Physics I, II 5
- Lower-division writing course 3
- General Education 3

**Third Year**
- BIOL 301 Developmental Biology 3
- BIOL 340-341 Ecology and Laboratory 5
- BIOL 343 Principles of Physiology 3
- General Education 6
- Upper-division elective 3
- Elective 1

**Fourth Year**
- BIOL 306 Mammalogy and 304, 356 4
- BIOL 403 Vertebrate Design and Evolution 5
- BIOL 410 Insect Biology 4
- Uppler-division elective 2
- Electives 4

**Zoological 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 College Chemistry 5
- ENEX 101 Composition 3
- MATH 150 Applied Calculus 4
- MATH 241 Statistics 4

**Second Year**
- BIOL 221 Cell and Molecular Biology 4
- BIOL 223 Genetics & Evolution 4
- CHEM 221N-222N-223N-224N Organic Chemistry and Laboratory 5
Lower-division writing course .......................... 3 -  
General Education ............................................. 3 6 
Third Year 
Biol 301 Developmental Biology .......................... 3 -  
Biol 340-341 Ecology and Laboratory ..................... 5 -  
Biol 345 Principles of Physiology ........................ 3 -  
Phys 121-122N General Physics I, II ................... 5 5  
General Education ............................................. 3 3  
Upper-division elective ........................................ 2 2  
Fourth Year 
Biol 306 Mammalogy and 304, or 308, 405,  
406, 449, 480 or both 400 and 401 ...................... 4 4  
Biol 403 Vertebrate Design and Evolution ............... 5 -  
Biol 410 Insect Biology ........................................ 4 -  
Upper-division elective ........................................ 3 5  
General Education ............................................. 3 -  
Elective ................................................................ 2 2  
Supplies .............................................................. 15 15  

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 Microbiology 3 cr. Offered spring.  
Infectious diseases, including etiology 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 MCB 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. Coreq., BIOL 108N. The diversity of life, 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 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 autumn. Prereq., BIOL 221. Application of statistical methods to help interpret research data. Topics covered include probability, probability 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, psychology, 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.

U 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 1 4 cr. Offered autumn. Prereq. or coreq., CHEM 151N or CHEM 161N; BIOL 110N strongly recommended. Introduction to basic cellular structure
and function. The fundamental facts and concepts of the anatomy and physiology of the integumentary, musculoskeletal, nervous and endocrine systems.

UG 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.


UG 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, movement (energy flow (community organization)).


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

UG 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.

UG 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.


UG 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.

UG 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.

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


UG 410 Insect Biology 4 cr. Offered spring. Prereq., BIOL 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 autumn. Prereq., BIOL 308; consent of instr. Same as WBio 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 MICB 300 or consent of instr. Same as MICB 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, Hypochytriomycota, 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 4 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 447 Terrestrial Ecosystem Ecology 3 cr. Offered autumn odd-numbered years. Prereq., BIOL 110N and any...
UG 448 Terrestrial Plant Ecology 4 cr. Offered autumn. Prereq., an introductory college course in ecology. The interrelationships between plants and animals 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. The interdependencies between plants and animals and their natural environment.

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

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

UG 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 471 Teaching Anatomy and Physiology 1-3 cr. Offered autumn. Prereq., BIOL 312 and 313 or equiv. and consent of instr. Advanced instruction in prospection of cadavers, the preparation of laboratory demonstrations and materials, and in the teaching of anatomy and physiology laboratories.

UG 472 Teaching Anatomy and Physiology II 3 cr. Offered spring. Prereq., BIOL 312 and 313 or equiv. and consent of instr. Continuation of BIOL 471. Advanced instruction in prospection of cadavers, the preparation of laboratory demonstrations and materials, and in the teaching of anatomy and physiology laboratories.

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

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

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

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

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

UG 497 Advanced Undergraduate Research 1-10 cr. (R-10) Offered every term. Prereq., junior or senior standing and consent of instr. Independent research directed under the direction of a faculty member. Graded credit/no credit.

UG 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.

UG 499 Undergraduate Thesis 3-6 cr. (R-6) Offered every term. Prereq., senior standing and consent of instr. Preparation of a thesis or manuscript based on undergraduate research for presentation and/or publication. Student must give oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded 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 research and bibliography searching, 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 Avian Ecology 3 cr. (R-6) Offered intermittently. Prereq., graduate standing in EVST, BIOL, WBO; 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 characterization of community structure.

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

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

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

G 524 Physiological Plant Ecology 3 cr. 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 541 Electron Microscopy Laboratory Variable cr. (R-6) Prereq., or coreq., BIOL 440 or equiv. Practical laboratory experience in the preparation of various biological materials, hands-on operation of the transmission electron microscope.

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

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

G 575 Frontiers in Conservation Research 2 cr. (R-6) Same as WBO 575. Exploration of current topics in conservation biology.

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 and sites 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.
Medical Technology

Michael Minnick (Professor of Biological Sciences), Advisor

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

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

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

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

**Option A** is a 4+1 curriculum in which the student completes the bachelor’s degree and applies for a clinical internship only if desired. Student who choose the 4+1 curriculum have the option to do a clinical internship at our affiliate by applying the fall of their senior year at UM. Details and application forms can be obtained online at the following website address: [http://www.umt.edu/Medtech/default.htm](http://www.umt.edu/Medtech/default.htm). Internship applications are due by October 22 for enrollment in 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 leaving to a Bachelor of Science in Medical Technology: Thirty or more credits (300-level or above) in biology, biochemistry and microbiology including MICB 300-301, 410-411, 412-413, 420, BIOC 380; BIOL 221, 223, 312, 400; CHEM 161N-162N, 221-223 and MATH 150. The 4+1 option also requires CHEM 222-224, 341; MCB 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)**

<table>
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<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>First Year</td>
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<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
<td>5</td>
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<tr>
<td>+MATH 150 Applied Calculus</td>
<td>4</td>
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<tr>
<td>+ENEX 101 Composition</td>
<td>3</td>
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<td>General Education</td>
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<td>Electives</td>
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<td><strong>Total</strong></td>
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**Second Year**

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

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<th>Course</th>
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<tr>
<td>BIOL 312 Anatomy and Physiology I</td>
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<td>BIOC 380 Biochemistry</td>
<td>4</td>
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<tr>
<td>BIOL 400 Parasitology</td>
<td>2</td>
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<tr>
<td>MICB 410-411 Immunology and Laboratory</td>
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<tr>
<td>MICB 412-413 Medical Bacteriology and Laboratory</td>
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<tr>
<td>Upper-division elective</td>
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<td>General Education</td>
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<td>Fourth Year</td>
<td>Courses</td>
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<tr>
<td>CHEM 341</td>
<td>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.</td>
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<td>Instrumental Methods</td>
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<td>MICB 309 Hematology</td>
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<td>MICB 406 Clinical Diagnosis</td>
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<td>MICB 407 Clinical Diagnosis Laboratory</td>
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<td>MICB 420 Virology</td>
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<td>PHYS 121N-122N or 221N-222N General Physics</td>
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<td>Electives</td>
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**Option B (3+1)**

**First Year**

| CHEM 161N-162N College Chemistry and Laboratory | 5 | 5 |
| +ENEX 101 Composition | 3 |
| +MATH 150 Applied Calculus | 4 |
| General Education | 3 | 9 |
| Electives | 15 | 15 |

<table>
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<th>Depends on placement test.</th>
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**Second Year**

| BIOL 221 Cell and Molecular Biology | 4 |
| BIOL 223 Genetics and Evolution | 4 |
| BIOL 312 Anatomy and Physiology I | 4 |
| CHEM 221, 223 Organic Chemistry and Laboratory | 5 |
| MICB 300-301 General Microbiology and Laboratory | 5 |
| Lower-division writing course | 3 |
| General Education | 3 |
| Elective | 15 | 15 |

**Third Year**

| BIOC 380 Biochemistry | 4 |
| BIOL 400 Parasitology | 2 |
| MICB 410-411 Immunology and Laboratory | 5 |
| MICB 412-413 Medical Bacteriology and Laboratory | 5 |
| MICB 420 Virology | 3 |
| General Education | 3 |
| Elective | 14 | 14 |

**Summer**

| CLS 460 Clinical Immunohematology | 1 |
| CLS 461 Clinical Chemistry Theory | 2 |
| CLS 462 Clinical Laboratory I | 1 |
| CLS 463 Clinical Hemostasis | 2 |
| CLS 464 Clinical Microscopy & Urinalysis | 2 |
| CLS 465 Clinical Body Fluids | 1 |
| CLS 467 Clinical Immunohematology Theory | 1 |
| CLS 468 Clinical Microbiology & Laboratory | 2 |

**Fourth Year**

| CLS 470 Clinical Immunohematology II | 2 |
| CLS 471 Clinical Chemistry I | 3 |
| CLS 472 Clinical Hematology I | 2 |
| CLS 473 Clinical Laboratory II | 1 |
| CLS 474 Clinical Microbiology I | 2 |
| CLS 475 Clinical Laboratory III | 1 |
| CLS 476 Clinical Immunology | 1 |
| CLS 477 Medical Mycology | 1 |
| CLS 480 Clinical Laboratory Management | 3 |
| CLS 481 Clinical Chemistry II | 2 |
| CLS 482 Clinical Immunohematology III | 2 |
| CLS 483 Clinical Hematology II | 3 |
| CLS 485 Clinical Microbiology II | 2 |

| | 13 | 12 |

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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 general chemistry theory, principles, procedures, and correlations. Topics include instrumentation, carbohydrates, proteins, lipids, enzymes, liver function, blood gases, electrolytes, renal function, endocrinology, therapeutic drug monitoring and toxicity. |

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

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


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

| U 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 summer. Prereq., consent of medical technology advisor. Techniques and modern transfusion practices at the clinical affiliate. Review of the basic and advanced information in blood banking with correlation between laboratory testing and patient care. |

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

| U 472 Clinical Hematology I 2 cr. Offered autumn. Prereq., consent of medical technology advisor. Morphologic evaluation of blood smears, interpretive correlation of 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. |
Microbiology

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

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

Special Degree Requirements

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

In 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; MICB 300-301, 404-405, 422, 450-451; and at least 7-9 credits chosen from the following courses (with lab if available): MICB 309, 400-401, 406-407, 410-411, 412-413, 418, 420, 423, 497.

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.

**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; MICB 300-301, 404-405, 422, 450-451, and at least 7-9 credits chosen from the following courses (with lab if available): MICB 400-401, 410-411, 418, 420, 423, 497; BIOL 341, 366, 413, 440, 444, 453, 454, 455, 456, 459, 460, 481, 482, 483, 484, 485, 486, 487; CHEM 341; CS 131; FOR 210N; GEOL 301, 302, 400; MATH 153, 251, 444, 445, 447, 448; PHYS 122N.

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

Suggested Course of Study

**Microbiology**

**First Year**
- BIOL 108N-109N Diversity of Life and Laboratory ............... 5
- BIOL 110N Principles of Biology .................................... 4
- CHEM 161N-162N, College Chemistry and Laboratory .......... 5
- +MATH 150 Applied Calculus ........................................ 4
- +ENEX 101 Composition ............................................... 3
- MATH 241 Statistics ................................................... 4
- +Depends on placement exam.

**Second Year**
- BIOL 221 Cell and Molecular Biology ............................ 4
- BIOL 223 Genetics & Evolution ..................................... 4
- CHEM 221-222, 222-224 Organic Chemistry and Laboratory .. 5
- MICB 300-301 General Microbiology and Laboratory .......... 5
- Lower-Division Writing Course .................................... 3
- General Education ..................................................... 3
- Elective ................................................................. 1

**Third Year**
- BIOL 481-482 or 380 and two upper-division
- BIOL or MICB* ......................................................... 3

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

**First Year**
- BIOL 108N-109N Diversity of Life and Laboratory 5 - 5
- BIOL 110N Principles of Biology 5 - 4
- CHEM 161N-162N, College Chemistry and Laboratory 5 - 5
- MATH 150 Applied Calculus + 4
- MATH 241 Statistics + 3
- General Education 6 - 6
- Electives 2 - 2

**Second Year**
- BIOL 221 Cell and Molecular Biology 4 - 4
- BIOL 222 Genetics & Evolution 4 - 4
- CHEM 221-222, 223-224 Organic Chemistry and Laboratory 5 - 5
- MICB 300-301 General Microbiology and Laboratory 5 - 5
- Lower-Division Writing Course 3 - 3
- General Education 3 - 3
- Electives 1 - 1

**Third Year**
- BIOL 481-482 or 380 and two upper-division 3 - 3
- BIOL or MICB+ 3 - 3
- BIOL 340 Ecology 3 - 3
- FOR 210N Introductory Soils + 3 - 3
- MICB 400-401 General Parasitology and Laboratory 4 - 4
- MICB 422 Microbial Diversity and Ecology 4 - 4
- Upper-division elective 3 - 3
- Electives 2 - 2

**Fourth Year**
- GEOL 301 Environmental Geology 3 - 3
- MICB 404-405 Molecular Genetics and Laboratory 2 - 2
- MICB 423 Applied and Environmental Microbiology* 3 - 3
- MICB 450-451 Microbial Physiology and Laboratory 4 - 4
- General Education 3 - 3
- Electives 2 - 2


**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)**

- **UG 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.
- **UG 300 General Microbiology 3 cr.** Offered autumn and spring. Prereq., CHEM 161N, 162N; or coreq., CHEM 221, BIOL 221. Microbial structure and function, growth and reproduction, physiology, ecology, genetics, environmental factors, control of microorganisms and sterilization, antimicrobial agents, microbial diversity.
- **UG 301 General Microbiology Laboratory 2 cr.** Offered autumn and spring. Prereq. or coreq., MICB 300. Basic microbiology procedures and techniques.
- **UG 302 Medical Microbiology 3 cr.** Offered autumn. Microbial structure and functions, pathogenic microorganisms, virology, immunology. Credit not allowed toward a major in microbiology.
- **UG 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.
- **UG 400 General Parasitology 2 cr.** Offered autumn. Prereq., BIOL 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.
- **UG 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.
- **UG 404 Microbial Genetics 3 cr.** Offered spring. Prereq., MICB 300 and 301. The molecular genetics of prokaryotic organisms including: structure and replication of the prokaryotic chromosome; gene expression; mutagenesis and DNA repair; plasmids and other tools of genetic engineering; transmission of genetic material and recombination in prokaryotes; regulation of gene expression in prokaryotes; recombinant DNA and biotechnology.
- **UG 405 Molecular Genetics Laboratory 1 cr.** Offered spring. Prereq., MICB 404. Experiments in molecular genetics: mutagenesis, recombination, recombinant DNA.
- **UG 406 Clinical Diagnosis Laboratory 2 cr.** Offered spring. Prereq., MICB 412-413. Principles of blood chemistry, urinalysis, hematology and other clinical parameters of disease and health.
- **UG 407 Clinical Diagnosis Laboratory 1 cr.** Offered spring. Prereq., MICB 406, 412-413. Clinical diagnostic methods.
- **UG 408 Seminar 1 cr.** (R-3) Offered autumn and spring. Prereq., senior standing in natural sciences. Recent topics in microbiology and related subjects.
- **UG 410 Immunology 3 cr.** Offered autumn. Prereq., MICB 300-301. Modern concepts and methods in immunology.
- **UG 411 Immunology Laboratory 2 cr.** Offered autumn. Coreq., MICB 410. Modern techniques for analysis of immune response.
- **UG 412 Medical Bacteriology and Mycology 3 cr.** Offered spring. Prereq., MICB 300, 301. A study of the pathogenic bacteria and fungi and the diseases they produce.
UG 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, Hypochytriomycota, Labyrinthulomycota, Oomycota), and highlights the importance of fungi to human affairs (food production, fungal pathogens).

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

UG 422 Microbial Diversity and Ecology 3 cr. Offered spring. Prereq., BIOL 221-223, MICB 300-301 or consent of instr. A broad overview of the 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.

UG 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 300-301 or consent of instr. Same as BIOL 300. Reviews and ecology of fungi (including organisms in the Chromista), provides overview of all fungal phyla (Chytridiomycota, Zygomycota, Ascomycota, Basidiomycota, Hypochytriomycota, Labyrinthulomycota, Oomycota), and highlights the importance of fungi to human affairs (food production, fungal pathogens).

G 540 Microbial Pathogenesis 3 cr. Offered spring. Prereq., MICB 410. The general nature of viruses, with emphasis on the molecular biology of animal and human viruses.

G 542 Microbial Diversity and Ecology 3 cr. Offered spring. Prereq., BIOL 221-223, MICB 300-301 or consent of instr. A broad overview of the 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.

G 543 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.

G 544 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.

G 545 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.

G 546 Microbial Physiology Laboratory 1 cr. Offered autumn. Coreq., MICB 450. Experimental approaches to analysis of microbial structure, composition and metabolism.

G 590 Medical Technology Internship 1-16 cr. Offered every term. Prereq., consent of instr.

G 595 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.

G 597 Research Variable 1 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.


Pre-Medical Sciences

Ralph C. Judd (Professor of Biological Sciences), Director

Health care continues to be one of the most rapidly expanding areas of our society. Careers in the health professions have expanded, both in numbers and in the variety of opportunities. The rewards of a career in health care include excellent salaries, stability of employment, geographic mobility, and the opportunity to help other people. The pre-medical sciences program is an advising program that helps students become well-informed, well-prepared applicants to programs in allopathic medicine, chiropractic medicine, dentistry, naturopathic medicine, optometry, osteopathic medicine, physician assistant, podiatry and veterinary medicine.

Students may select any major as a field of study which must include specific preprofessional courses. When selecting a major consider that your undergraduate years may be your last opportunity to pursue in depth a nonscience subject of interest. Professional schools are most concerned with the overall quality, scope and difficulty of undergraduate work and not the major.

Preprofessional courses are designed to provide a strong foundation in the sciences, highly developed communicative skills and a solid background in the social sciences and humanities. Curriculum guides outlining minimal course requirements established by professional schools are available from the Pre-medical Sciences Director.

The minimal requirements should be completed by the end of the third year of study or prior to taking the admission test required by professional schools. Since specific subject requirements vary among institutions, students should discuss their academic plans with the Pre-medical Sciences Director. Individuals with weak math and science preparation should consider a five year undergraduate program beginning with remedial courses in math, English, and reading skills.

Admission to a professional school is very competitive. Students must maintain a B-plus grade-point average in college if they expect to be admitted. All required courses must be taken for letter grades. In addition, the applicant must place high on an admissions test which has been designed to measure basic academic ability in the natural sciences, reading ability and problem solving skills. These examinations are ordinarily taken during the junior year.

Besides academic accomplishments and admission exam scores, acceptance by a professional school is also dependent upon letters of recommendation and personal interviews conducted by the professional school. It is important that students consult with the Pre-medical Sciences Director and with an academic advisor in their major each year to make sure that they can satisfy the necessary requirements for graduation within the time available. The Director can also discuss procedures, counsel and support the student during the process of applying to a professional school.

High School Preparation: High school students contemplating a career in the health professions should have three to four years of mathematics, courses in chemistry and physics and considerable background in literature and social science.

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

c) 9 cr. in approved 300 or 400-level Central and Southwest Asian Studies courses

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, Chairman

Chemistry is the central science which involves the study of atoms and molecules their structures, their combinations, their interactions, and the energy changes accompanying chemical processes.

The Department offers the following degrees: B.S., B.A., M.S., and Ph.D.

A departmental honors program has been established for chemistry majors who attain a strong scholastic record. This program is based upon independent study and research with the direction of individual faculty members. In many cases financial support is available on a part-time research fellowship basis from research grants obtained by individual faculty members or from departmental endowment funds.

Prospective students desiring further information on any
program of the Department of Chemistry should contact the Chair (website: www.umt.edu/chemistry/).

High School Preparation: In addition to the general University admission requirements, it is strongly recommended that a student take four years of mathematics, four years of science, and a foreign language.

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

### Special Degree Requirements

All chemistry majors must use the traditional letter grade option in registration for their required science and mathematics courses. The beginning mathematics course for a particular option in registering for their degree provide a solid education in chemistry for the professional chemist and in most areas of chemistry. These requirements meet the latest certification standards of the American Chemical Society.

<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 for Majors</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 264 Organic Chemistry Laboratory for Chemistry Majors (preferred) 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 371-372 Physical Chemistry I, II</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 452-453 Inorganic Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>BIOL 481 Biochemistry or equivalent</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 455 Inorganic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 494 Undergraduate Chemistry Seminar</td>
<td>1</td>
</tr>
<tr>
<td>Advanced Electives from CHEM 395, 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</td>
<td>3</td>
</tr>
<tr>
<td>Cognate courses:</td>
<td></td>
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<tr>
<td>CS 172--Computer Modeling (or similar computing experience with consent of chemistry advisor)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 152-153 and 251 Calculus I, II, III</td>
<td>12</td>
</tr>
<tr>
<td>MATH 311 Ordinary Differential Equations and Systems or MATH 221 Linear Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 221N-222N General Physics I and II</td>
<td>10</td>
</tr>
<tr>
<td>Modern foreign language</td>
<td>10</td>
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<tr>
<td>ENEX 101</td>
<td>3</td>
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</tbody>
</table>

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 (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.

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<td>CHEM 342 Instrumental Analysis &amp; Physical Measurements</td>
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<td>CHEM 371-372 Physical Chemistry I, II</td>
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<tr>
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<tr>
<td>CHEM 455 Inorganic Chemistry Laboratory</td>
<td>3</td>
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<tr>
<td>CHEM 494 Undergraduate Chemistry Seminar</td>
<td>2</td>
</tr>
<tr>
<td>Advanced Electives from CHEM 395, 465, 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>
</tr>
<tr>
<td>Cognate courses:</td>
<td></td>
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<tr>
<td>CS 172--Computer Modeling (or similar computing experience with approval of chemistry advisor)</td>
<td>3</td>
</tr>
<tr>
<td>MATH 152-153 and 251 Calculus I, II, III</td>
<td>12</td>
</tr>
<tr>
<td>PHYS 221N-222N (preferred) or 121N-122N General Physics I and II</td>
<td>10</td>
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</table>

### Bachelor of Science with a major in Chemistry, Option in Biological Chemistry

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
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<td>CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)</td>
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<tr>
<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
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<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>
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<tr>
<td>CHEM 494 Undergraduate Chemistry Seminar</td>
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<tr>
<td>BIOC 481-482 Biochemistry</td>
<td>6</td>
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<tr>
<td>BIOC 110N Principles of Biology or equivalent</td>
<td>4</td>
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<tr>
<td>BIOC 221 Cell and Molecular Biology</td>
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<tr>
<td>BIOC 223 Genetics and Evolution</td>
<td>4</td>
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<tr>
<td>MICB 300 General Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>MICB 302 Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>Electives from CHEM 371, 372, 395, 453, 455, 465, 466, 3 credits maximum of 497; BIOC 486; BIOC 301, 312, 313, 440, 460, 3 credits maximum of 497; MICB 301, 404, 410, 420, 3 credits maximum of 497</td>
<td>12</td>
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<tr>
<td>Cognate courses:</td>
<td></td>
</tr>
<tr>
<td>MATH 150 Applied Calculus or MATH 152 Calculus I</td>
<td>4</td>
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<tr>
<td>MATH 158 Applied Differential Equations or MATH 153 Calculus II</td>
<td>3-4</td>
</tr>
<tr>
<td>PHYS 121N-122N or 221N-222N General Physics I, II</td>
<td>10</td>
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</tbody>
</table>

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.
### Bachelor of Science with a major in Chemistry, Option in Environmental Chemistry

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
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<tr>
<td>CHEM 221-222 Organic Chemistry and Laboratory</td>
<td>6</td>
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<td>CHEM 223 Organic Chemistry Laboratory</td>
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<tr>
<td>CHEM 264 Organic Chemistry Laboratory for Chemistry Majors 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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</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>
<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>CHEM 494 Undergraduate Chemistry Seminar</td>
<td>1</td>
</tr>
<tr>
<td>BIOG 481 Biochemistry</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 110N Principles of Biology or equivalent</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
<td>4</td>
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<tr>
<td>BIOL 223 Genetics and Evolution</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 100N-101N General Geology and Laboratory</td>
<td>3</td>
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<tr>
<td>GEOL 327 Geochemistry</td>
<td>3</td>
</tr>
<tr>
<td>Electives from CHEM 371, 372, 453, 455, 465, 466; 3 credits maximum of 497; BIOL 340, 453, 454, 455, 497; GEOL 320, 382, 431, 480, 3 credits maximum of 497; MATH 445; Modern Foreign Language (5 credits maximum)</td>
<td>8</td>
</tr>
<tr>
<td>MATH 150-152 Calculus or 152 Calculus I</td>
<td>4</td>
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<tr>
<td>MATH 158 Applied Differential Equations or 153, 154 Calculus II</td>
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<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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### Bachelor of Science with a major in Chemistry, Option in Forensic Chemistry

Provides students with the background necessary to be employable and productive forensic scientists. Prepares graduate for positions in state and federal crime laboratories as well as most entry-level position in general analytical chemistry. Graduate also have the coursework and research experience required for acceptance into graduate programs in either chemistry or forensic science.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
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<td>CHEM 221-224 Organic Chemistry</td>
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<td>CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)</td>
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<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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<td>CHEM 370 Applied Physical Chemistry</td>
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<tr>
<td>CHEM 452-453 Inorganic Chemistry</td>
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<tr>
<td>BIOG 481-482 Biochemistry</td>
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<tr>
<td>CHEM 452 Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 488 Forensic Research/Internship</td>
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<td>CHEM 489 Forensic Science Seminar</td>
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<td>ANTH 286N Survey of Forensic Science</td>
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<td>BIOL 110N General Biology</td>
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<tr>
<td>BIOL 221 Cell and Molecular Biology</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>SOC 235 Criminal Justice</td>
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### Bachelor of Science with a major in Chemistry, Option in Pharmacology

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<tr>
<td>CHEM 264 Organic Chemistry Laboratory for Chemistry Majors 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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<tr>
<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
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<tr>
<td>CHEM 342 Instrumental Analysis and Physical Measurements</td>
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<tr>
<td>CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry I</td>
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<td>CHEM 452 Inorganic Chemistry</td>
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<td>CHEM 494 Undergraduate Chemistry Seminar</td>
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<tr>
<td>BIOG 481-482 Biochemistry</td>
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<tr>
<td>BIOL 110N Principles of Biology or equivalent</td>
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<tr>
<td>BIOL 221 Cell and Molecular Biology</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>
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<tr>
<td>PHAR 443-444 Pharmacology and Toxicology</td>
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<tr>
<td>Electives from CHEM 371, 372, 453, 455, 465, 466; 3 credits maximum of 497; BIOL 3 credits maximum of 497; PHAR 421, 422, 3 credits maximum of 497</td>
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<td>Cognate courses:</td>
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<td>MATH 150-152 Calculus or 152 Calculus I</td>
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<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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### 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.

<table>
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<td>CHEM 161N-162N College Chemistry and Laboratory</td>
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<td>CHEM 264 Organic Chemistry Laboratory for Chemistry Majors or 224 Organic Chemistry Laboratory</td>
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<tr>
<td>CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)</td>
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<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
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<td>CHEM 342 Instrumental Analysis &amp; Physical Measurements</td>
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<tr>
<td>CHEM 371-372 Physical Chemistry</td>
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<td>Elective courses:</td>
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<td>Cognate courses:</td>
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<tr>
<td>CS 172 Introduction to Computer Modeling (or similar computing experience with approval of Chemistry advisor)</td>
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<tr>
<td>MATH 152, 153, 251 Calculus I, II and III</td>
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<tr>
<td>PHYS 221N-222N (preferred) or 121N-122N General Physics I and II</td>
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Modern Foreign Language ........................................ 10
ENEX 101 Composition ........................................... 3

*As preparation for teaching at the secondary level, students should elect CHEM 452, 453, and 485, BIOC 380, MATH 241, SCI 350 and teaching certification requirements including C&I 426 and SCI 350. A student should consult his or her chemistry advisor for other options.

At the time of graduation a recipient of this degree must have completed two semesters of one foreign language. The Department of Chemistry waives the foreign language requirement for a student who completes the B.A. degree in preparation for secondary teaching and who meets the requirements for teaching certification, including the student teaching requirement. These students still must meet the foreign language symbolic systems competency requirement (likely via MATH 152 and 153) for General Education as described in the Academic Policies and Procedures section of this catalog.

Teacher Preparation in Chemistry

Major Teaching Field of Chemistry: For an endorsement in the major teaching field of Chemistry, a student must complete the requirements for the above B.A. degree with a major in Chemistry with appropriate electives but without the foreign language requirement, and with the addition of CHEM 452, 453, and 485. Students also must complete BIOC 380, MATH 241, SCI 350, and C&I 426, gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

Minor Teaching Field of Chemistry: For an endorsement in the minor teaching field of Chemistry, a student must complete CHEM 101N, 161N-162N, 211-222-223, 341, 370 or 371, and 485; BIOC 380, CS 101 or 172, MATH 150 and 241, PHYS 121N-122N or PHYS 221N-222N, and SCI 350. Students also must complete C&I 426, gain admission to Teacher Education and Student Teaching and meet other requirements for certification as a secondary teacher (see the School of Education section of this catalog).

Suggested Course of Study

For B.S. Degree (American Chemical Society Certified)

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<th>Year</th>
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<td></td>
<td>MATH 150 Applied Calculus or 152 Calculus I</td>
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<td>ENEX 101 Composition</td>
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<td>CHEM 264 (or 224) Organic Chemistry Lab</td>
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<tr>
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<td>MATH 251 Calculus III</td>
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<td>MATH 311 Ordinary Differential Equations and Systems or MATH 221 Linear Algebra</td>
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<td>PHYS 221N-222N General Physics</td>
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<td>CHEM 334 Chem Literature &amp; Scientific Writing</td>
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<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
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<td>CHEM 342 Instrumental Analysis and Physical Measurements</td>
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<td>CHEM 371-372 Physical Chemistry I, II</td>
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Fourth Year

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<td>CHEM 494 Undergraduate Chemistry Seminar</td>
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For B.S. Degree, Option in Biological Chemistry

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<td>First</td>
<td>CHEM 161N-162N College Chemistry</td>
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<td>MATH 150 Applied Calculus or 152 Calculus I</td>
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<td>MATH 158 Applied Differential Equations</td>
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<td>BIOL 110N Principles of Biology or equivalent</td>
<td>4</td>
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<td>ENEX 101 Composition</td>
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<td></td>
<td>Electives and General Education</td>
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<td>Second</td>
<td>CHEM 221-222 Organic Chemistry</td>
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<td>CHEM 223 Organic Chemistry Laboratory</td>
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<td></td>
<td>CHEM 264 (or 224) Organic Chemistry Lab</td>
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<td></td>
<td>PHYS 121N-122N or 221N-222N General Physics</td>
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<td>BIOL 221 Cell and Molecular Biology</td>
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<td>MICB 300 General Microbiology</td>
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For B.S. Degree, Option in Environmental Chemistry

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<td>MATH 150 Applied Calculus or 152 Calculus I</td>
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<td>MATH 158 Applied Differential Equations</td>
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<tr>
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<td>BIOL 110N Principles of Biology or equivalent</td>
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<td>ENEX 101 Composition</td>
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<td>Electives and General Education</td>
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<td>Second</td>
<td>CHEM 221-222 Organic Chemistry</td>
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<td></td>
<td>CHEM 223 Organic Chemistry Laboratory</td>
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<td></td>
<td>CHEM 264 (or 224) Organic Chemistry Lab</td>
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<td>PHYS 121N-122N or 221N-222N General Physics</td>
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<td>BIOL 221 Cell and Molecular Biology</td>
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<td>Course</td>
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<td>BIOL 223 Genetics and Evolution</td>
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<tr>
<td>GEOL 100N-101N General Geology and Laboratory</td>
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**Third Year**

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<td>CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry I</td>
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**Fourth Year**

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<td>CHEM 494 Undergraduate Chemistry Seminar</td>
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<td>MATH 444/447 Statistical Methods</td>
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**For B.S. Degree, Option in Forensic Chemistry**

**First Year**

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<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry</td>
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<td>MATH 152-153 Calculus I, II</td>
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<td>BIOL 110N Principles of Biology or equivalent</td>
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<tr>
<td>COMM 111A Public Speaking</td>
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<td>ENEX 101 Composition</td>
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**Second Year**

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<td>CHEM 221-224 Organic Chemistry and Laboratory</td>
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<tr>
<td>PHYS 121N-122N General Physics I and II</td>
<td>5 5</td>
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<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
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<td>BIOL 223 Genetics and Evolution</td>
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<tr>
<td>SOC 230S Criminology</td>
<td>3</td>
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<tr>
<td>ANTH 286N Survey of Forensic Science</td>
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**Third Year**

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<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
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<td>CHEM 342 Instrumental Analysis and Physical Measurements</td>
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<td>CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry I</td>
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<td>SOCE 235 Criminal Justice</td>
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<td>Electives and General Education</td>
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**Fourth Year**

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<td>Electives and General Education</td>
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**For B.S. Degree, Option in Pharmacology**

**First Year**

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<tr>
<td>MATH 158 Applied Differential Equations or MATH 153 Calculus II</td>
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<td>BIOL 110N Principles of Biology or equivalent</td>
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<td>ENEX 101 Composition</td>
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<td>Electives and General Education</td>
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**Second Year**

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<td>CHEM 264 (or 224) Organic Chemistry Laboratory</td>
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<tr>
<td>PHYS 121N-122N or 221N-222N General Physics I and II</td>
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<td>BIOL 221 Cell and Molecular Biology</td>
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**Third Year**

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<tr>
<td>CHEM 334 Chem Literature &amp; Scientific Writing</td>
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<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
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<td>CHEM 342 Instrumental Analysis and Physical Measurements</td>
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<td>CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry I</td>
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**Fourth Year**

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<td>CHEM 452 Inorganic Chemistry</td>
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<td>CHEM 494 Undergraduate Chemistry Seminar</td>
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<td>PHAR 443-444 Pharmacology and Toxicology</td>
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**For B.A. Degree**

**First Year**

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<td>CHEM 161N-162N College Chemistry</td>
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<td>CS 172 Introduction to Computer Modeling</td>
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<td>ENEX 101 Composition</td>
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<td>MATH 152-153 Calculus I and II</td>
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**Second Year**

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<td>MATH 251 Calculus III</td>
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<td>PHYS 221N-222N General Physics</td>
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**Third Year**

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<td>CHEM 334 Chem Literature &amp; Scientific Writing</td>
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<td>CHEM 341 Quantitative Analysis &amp; Instrumental Methods</td>
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<td>CHEM 371-372 Physical Chemistry</td>
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**Fourth Year**

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**Requirements for a Minor**

To earn a minor in chemistry the student must complete

CHEM 161N-162N, CHEM 221-222,223, 341, 370 or 371,
and at least 4 credits from one of the following groups:

(a) CHEM 342, 372, 452, 453, 455, 465, 466
(b) if the student’s major does not require biochemistry, BIOC 380 or 481-482

For teaching minor requirements, see the Teacher Preparation in Chemistry section above.
Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R. 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., CHEM 151N or equiv. in CHEM 151N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.

U 154N Organic and Biological Chemistry Laboratory 2 cr. Offered autumn and spring. Prereq. 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 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 221 Organic Chemistry 3 cr. Offered autumn. Prereq., CHEM 152N or 162N. The chemical and physical properties of organic compounds.

U 222 Organic Chemistry 3 cr. Offered spring. Prereq., CHEM 221. Continuation of 221.

U 223 Organic Chemistry Laboratory 2 cr. Offered autumn. Coreq., CHEM 221; prereq., one semester of 100-level laboratory. Microscale techniques are emphasized.

U 224 Organic Chemistry Laboratory 2 cr. Offered spring. Prereq., CHEM 223; prereq. or coreq., CHEM 222.

U 264 Organic Chemistry Laboratory for Chemistry Majors 2 cr. Offered spring. Prereq., CHEM 223; coreq., CHEM 222. Second semester of organic chemistry laboratory for chemistry majors only. Incorporates 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 on-line data bases and the interface of these with PC-based word processing and scientific graphics programs.

U 341 Quantitative Analysis and Instrumental Methods 4 cr. Offered autumn. Prereq., one year of college chemistry, including laboratory. Classroom and laboratory work in gravimetric, volumetric, colorimetric and electrochemical methods of analysis; theory of errors; ionic equilibria in aqueous solutions.


U 370 Applied Physical Chemistry 3 cr. Offered spring. Prereq., CHEM 152 or 162 and MATH 150. Basic thermodynamics and chemical kinetics with applications in the biological and environmental sciences. Credit not allowed for both 370 and 371.

U 371 Physical Chemistry I 4 cr. Offered autumn. Prereq., CHEM 162, MATH 251, PHYS 122 or 222. Systematic treatment of the laws and theories relating to chemical phenomena. Credit not allowed for both CHEM 370 and 371.


U 380 Teaching Chemistry Using Peer-Led Team Learning 1 cr. Offered every term. Prereq., CHEM 161N-162N with B or better and consent of instr. Methods of peer-led team learning as applied to general chemistry instruction. Review of concepts from general chemistry. Student leaders mentor a team of general chemistry students in working toward constructing chemistry knowledge and developing problem-solving skills.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 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.

U 442 Physical Chemistry of Natural Waters 3 cr. Offered autumn odd-numbered years. Prereq., CHEM 341 or consent of instr. Application of physical chemistry principles for understanding and modeling chemical processes in natural waters. Focus on calculations to describe the equilibrium composition of freshwater and marine environments.

U 452 Inorganic Chemistry 3 cr. Offered autumn. Prereq., CHEM 222 and 370 or 371 or consent of instr. Theory and principles of inorganic chemistry and a systematic coverage of descriptive inorganic chemistry in the context of the Periodic Table.

U 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.

U 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.

U 465 Organic Spectroscopy 3 cr. Offered intermittently. Prereq., CHEM 370 or 371 and one year of organic chemistry
or consent of instr. Theory and interpretation of the NMR, IR, UV, and mass spectra of organic compounds with the goal of structure identification.

**U 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 autumn. 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.

**U 488 Forensic Research/Internship Experience 3 cr.** Offered every term. Prereq., consent of instr. Laboratory investigations and research on forensic chemistry topics under the direction of a faculty member. Alternatively, students serve an internship at the Montana State Crime Laboratory or equivalent forensic laboratory. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

**U 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.

**U 494 Undergraduate Chemistry Seminar 1 cr. (R-2)** Offered spring. Prereq., junior or senior standing in chemistry. Required for all chemistry majors. Outside speakers and senior chemistry majors will present seminars on their research or a suitable literature topic.

**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 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.

**U 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.

**U 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 and spring. Preparation for teaching chemistry at the college level. A survey of teaching fundamentals and educational psychology as applied to chemistry instruction.

**G 504 Research Methods in Chemical Education 3 cr.** Offered intermittently. Prereq., CHEM 303 with C or better. Preparation for conducting research in chemical education. Survey of research methodologies and experimental designs, Analysis of current award-winning publications.

**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/alkaloid compounds. Natural product diversity, drug screening and dereplication, combinatorial biochemistry, and pathway manipulation to produce "non-natural" products.

**G 562 Organic Structure and Mechanism 3 cr.** Offered intermittently. Prereq., one year of organic chemistry. Topics may include: stereochemistry, conformational analysis, vibrational (IR, Raman, NMR), 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 alkylolation of nucleophilic carbons, reactions of carbon nucleophiles with carbonyl groups, functional group interconversions by nucleophilic substitution reactions, electrophilic additions to aromatic multiple bonds, and selected 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 371, 221; BIOC 301; approval of the 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

Mark S. Cracolice, Ph.D., University of Oklahoma, 1994 (Chair)
Michael D. DeGrandpre, Ph.D., University of Washington, 1990

Alan L. Sillars, Chair

Communication studies is a growing discipline that is engaged in both social-scientific and humanistic approaches to the analysis, understanding and improvement of human communication. The discipline traces its roots to ancient Greek and Roman studies of the functions of public discourse in society, but in the twentieth century communication came to embrace the studies of interpersonal and small group interaction, human relations in organizations, media and society, and intercultural interaction. Although interdisciplinary in spirit, the discipline has a core of knowledge, theory and concepts concentrating on such things as symbols, messages, interactions, networks, and persuasive campaigns. Uniting the field is the belief that the role of communication in human experience is basic to comprehending complex situations and problems in the modern world. The discipline has roles in both the broad traditions of liberal arts education and in the development and refinement of practical skills.

The Department of Communication Studies at The University of Montana-Missoula focuses on three broad areas of study: interpersonal interaction and human relationships, organizational communication, and rhetoric and public discourse. The knowledge and skills the student may acquire in each of these areas are important to functioning effectively in one’s personal life, at work, and as a citizen of the larger society in a rapidly changing world.

The program in Communication Studies helps to prepare students for such diverse professions as: public relations officer, marketing analyst, human resources or personnel manager, community mediator, political speech writer, health communication trainer, social services director, or student services coordinator. Also, undergraduate and graduate study can assist the student in pursuing advanced studies for law, the ministry, and higher education.
Admission Requirements

To be admitted to the communication studies major, a student must satisfy the following requirements:
1. Overall G.P.A. of 2.5.
2. Completion of COMM 111A and two other lower-division COMM courses.

Students who intend to major in communication studies but who have not yet met the above requirements are admitted to the program as pre-communication majors.

Pre-communication majors may enroll in 100- and 200-level courses only. Students must be fully admitted as communication studies majors to enroll in 300- and 400-level courses. Before a student can graduate, he or she must meet the requirements to become a communication studies major.

Special Degree Requirements

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

Core Requirements

To graduate with a degree in communication studies, the student must complete 35 total communication credits with 18 of those credits in courses numbered 300 or above. A maximum of 6 credits in COMM 360 and a maximum of 6 credits in COMM 398 may count toward a major in communication studies. In addition, the following courses are required:

1. a course in statistics
2. COMM 110S Introduction to Interpersonal Communication
3. COMM 111A Introduction to Public Speaking
4. COMM 230S Introduction to Organizational Communication
5. COMM 250L Introduction to Rhetorical Theory
6. COMM 460 Research Methods

To meet the Upper-division Writing Expectation for a major in Communication Studies, students must successfully complete one of the following courses: COMM 377, COMM 410, COMM 420, COMM 441, COMM 452, COMM 455, COMM 460, COMM 481 or another course approved for this purpose by the University curriculum committee.

Allied Fields

The major is advised to take courses in other academic units throughout the University that will provide an increased understanding of communication, such as anthropology, English, linguistics, management, political science, psychology, social work, and sociology. Of particular interest to students interested in helping professions and associated content areas (e.g., children, families, aging) is the human and family development minor.

Students interested in new communication technology and its use within organizations should consider the media arts minor. Students are encouraged to consider double majors and minors in a variety of fields that might complement their communication degree.

Organizational Communication Option

Students who elect to concentrate in organizational communication must complete:

1. All the core requirements listed previously.
2. At least 4 courses from the following: COMM 240S (Communication in Small Groups), COMM 321 (Introduction to Public Relations), COMM 322 (Public Relations Writing), 420 (Advanced Organizational Communication), 412S (Communication and Conflict), 451S (Intercultural Communication) and 452 (Cultural Codes in Communication).
3. 4 courses from the following list: ANTH 220S, BADM 100S, MGMT 340S; MGMT 344, 368, 440; MKTG 360, 363; SOC 110S, 306S, 320; PSC 361 or 460.

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 452 (Cultural Codes).
3. At least 4 courses from the following list: ANTH 201N, 327, 328S; C&I 35S; HFD 412; NAS 342H; PSYC 240S, 245, 350S, 351S, 385; SOC 210S, 275S, 300, 350S, 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), 375 (Rhetoric, Nature and Environmentalism), 380 (Gender and Communication), and 455 (Rhetorical Criticism and Theory), 480 (The Rhetorical Construction of “Woman”), and 481 (The Rhetoric of U.S. Women’s Activism).
3. At least 4 courses from the following list: 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

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### Fourth Year

Upper-division COMM electives .......................... 3 3
Upper-division electives ................................ 9 -
Electives .................................................... 3 11
Total ...................................................... 15 14

### Requirements for a Minor

To be admitted to the communication studies minor, a student must satisfy the following requirements:
1. overall G.P.A. of 2.5.
2. completion of COMM 111A and two other lower-division COMM courses.

Students who intend to minor in communication studies but who have not yet met the above requirements are admitted as pre-communication minors. Pre-communication minors may enroll in 100- and 200-level courses only. Students must be fully admitted as communication studies minors to enroll in 300- and 400-level courses.

Once admitted to earn a minor, the student must complete a minimum of 20 credits in communication studies courses, with at least 9 credits in communication studies courses numbered 300 and above. A maximum of 6 credits in COMM 360 may count toward a minor in communication studies.

### Courses

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<td>U 110S</td>
<td>Introduction to Interpersonal Communication 3 cr.</td>
<td>Offered autumn</td>
<td>An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills.</td>
</tr>
<tr>
<td>U 111A</td>
<td>Introduction to Public Speaking 3 cr.</td>
<td>Offered every term</td>
<td>Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism.</td>
</tr>
<tr>
<td>U 131</td>
<td>American Sign Language I 3 cr.</td>
<td>Offered autumn</td>
<td>Focus on receptive and expressive discourse and the cultural features that shape the language.</td>
</tr>
<tr>
<td>U 132</td>
<td>American Sign Language II 3 cr.</td>
<td>Offered spring</td>
<td>Further study of American Sign Language, its grammar, syntax and cultural features.</td>
</tr>
<tr>
<td>U 173</td>
<td>Language Culture and Society 3 cr.</td>
<td>Offered intermittently</td>
<td>Same as LING 173. A survey of the elements of language (structure, meaning, and sound) including language use in its social and cultural contexts.</td>
</tr>
<tr>
<td>U 195</td>
<td>Special Topics Variable cr.</td>
<td>(R-9) Offered intermittently</td>
<td>Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>U 202S</td>
<td>Nonverbal Communication 3 cr.</td>
<td>Offered intermittently</td>
<td>Nonverbal code systems and how they function in human communication including gestures, facial expressions, personal space, and others.</td>
</tr>
<tr>
<td>U 220</td>
<td>Professional Communication 3 cr.</td>
<td>Offered intermittently</td>
<td>Persuasion, principles and practices of effective interviewing in a variety of professional situations including screening of clients and job candidates, performance appraisal, and data-gathering. Advanced public speaking in professional contexts.</td>
</tr>
<tr>
<td>U 230S</td>
<td>Organizational Communication 3 cr.</td>
<td>Offered intermittently</td>
<td>Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.</td>
</tr>
<tr>
<td>U 240S</td>
<td>Communication in Small Groups 3 cr.</td>
<td>Offered autumn and spring</td>
<td>Theory and research related to communication patterns, cohesion, leadership, and decision making. Experiences provided in task oriented groups and field analyses of group processes provided.</td>
</tr>
<tr>
<td>U 241S</td>
<td>Persuasive Communication 3 cr.</td>
<td>Offered intermittently</td>
<td>The use of communication in attitude and behavior change as experienced in personal, organizational, and public contexts.</td>
</tr>
<tr>
<td>U 242</td>
<td>Argumentation 3 cr.</td>
<td>Offered autumn and spring</td>
<td>Prereq., sophomore standing. Development of argumentation skills and critical judgment in decision making and debate. Includes criticism, construction, presentation, and refutation of spoken and written arguments.</td>
</tr>
<tr>
<td>U 250L</td>
<td>Introduction to Rhetorical Theory 3 cr.</td>
<td>Offered intermittently</td>
<td>Theory and research on communication in attitude and behavior change as experienced in personal, organizational, and public contexts.</td>
</tr>
<tr>
<td>U 260</td>
<td>Communication in the Workplace 3 cr.</td>
<td>Offered autumn</td>
<td>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 public presentations. Concepts include language, nonverbal communication, culture, listening, interviewing, conflict management and researching, writing, and delivering presentations. Course objectives are met via Blackboard, the University's online course management system.</td>
</tr>
<tr>
<td>U 295</td>
<td>Special Topics Variable cr.</td>
<td>(R-9) Offered intermittently</td>
<td>Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
</tr>
<tr>
<td>U 311</td>
<td>Family Communication 3 cr.</td>
<td>Offered intermittently</td>
<td>Prereq., COMM 110S. An examination of communication in媳and-children, and extended family relationships. Topics include intimacy, power, decision making, problem solving, identity formation, and interpersonal perception.</td>
</tr>
<tr>
<td>U 321</td>
<td>Introduction to Public Relations 3 cr.</td>
<td>Offered intermittently</td>
<td>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.</td>
</tr>
<tr>
<td>U 322</td>
<td>Public Relations Writing 3 cr.</td>
<td>Offered intermittently</td>
<td>Prereq., COMM 321 recommended. Writing documents to create relationships between organizations and their public such as press releases, fact sheets, brochures, and speeches.</td>
</tr>
<tr>
<td>U 350</td>
<td>Persuasive Speaking and Criticism 3 cr.</td>
<td>Offered intermittently</td>
<td>Prereq., COMM 111A. The persuasive process through the criticism and creation of speeches and other rhetorical artifacts emphasizing the role persuasion plays in creating and shaping our culture.</td>
</tr>
<tr>
<td>U 360</td>
<td>Forensics/Honors 1-3 cr.</td>
<td>(R-12) Offered every term</td>
<td>Preparation and participation in competitive speech and debate, including British Parliamentary debate and National Individual Events Tournament (NIET) speeches. The team travels to regional competitions and hosts on-campus and intramural debates and speaking events. Up to 6 credits may apply toward a major or minor in communication studies.</td>
</tr>
</tbody>
</table>
U 377 Rhetoric, Nature and Environmentalism 3 cr.
Offered intermittently. Same as EVST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.

U 380 Gender and Communication 3 cr.
Offered intermittently. Same as WS 380. The meaning of gender in our culture and how gender is displayed and perpetuated through our private and public verbal and nonverbal interactions.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 398 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 intermittently. Prereq., COMM 110S. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relations.

UG 412S Communication and Conflict 3 cr.
Offered autumn and spring. Conceptual and practical discussions of communication and conflict in interpersonal relationships, organizational settings and overall cultural milieu. Topics include culture, power, styles, negotiation and bargaining, mediation, dissent, dispute systems, and crisis communication.

UG 420 Advanced Organizational Communication 3 cr.
(R-9) Offered autumn and spring. Prereq., COMM 230S. Focus on one of a set of specific topics. Topics include communication and quality of worklife, communication and power in organizations, communication and organizational socialization, and communication and new technologies in organizations. Specific topics vary by semester. Credit not allowed for repeat of the same topic.

UG 441 Persuasive Communication Campaigns 3 cr.
Offered intermittently. Persuasive communication theories and practices applied to the development, implementation, and evaluation of communication campaigns. Focus on health, social action, and political campaigns.

UG 451S Intercultural Communication 3 cr.
Offered autumn and spring. Communication principles and processes in cross-cultural environments. Non-Western cultures are contrasted to Western communication norms.

UG 452 Cultural Codes in Communication 3 cr.
Offered intermittently. Examination of the diverse, intricate, and fundamental ties between communication and culture and how these links are revealed in the codes speakers use in their daily interactions.

UG 455 Rhetorical Criticism and Theory 3 cr.
Offered intermittently. Introduction to study of rhetorical criticism and theory. Current theoretical and methodological issues and approaches including traditional criticism, experiential criticism, dramatism, narrative criticism, feminist criticism, postmodern criticism.

UG 460 Communication Research Methods 3 cr.
Offered autumn and spring. Prereq., a course in statistics. Introduction to the major types of communication research and the foundations of quantitative research methods.

UG 461 Research Seminar 1-3 cr. (R-9) Offered autumn and spring. Prereq., COMM 460 and consent of instr. Application of quantitative and qualitative research methods to specialized contexts. Emphasis on direct student involvement in research activities.

G 480 The Rhetorical Construction of "Woman" 3 cr.
Offered intermittently. Topics include the early women's rights conventions, debates over marriage and divorce, social feminism, woman suffrage in Montana, and intersections between gender and race.

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

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 intermittently. Prereq., consent of instr.

G 511 Survey of Interpersonal Communication 3 cr.
Offered autumn even-numbered years. Prereq., graduate standing in communication studies or consent of instr. Survey of theories and research in interpersonal communication including definitions of interpersonal communication, its place in the field of communication, and methodological issues. Overall emphasis on foundational readings and current research developments.

G 512 Seminar in Interpersonal Conflict 3 cr. (R-6)
Offered intermittently. Prereq., consent of instr.

G 514 Alternative Dispute Resolution 3 cr.
Offered autumn. Same as LAW 614. A study of the varieties of dispute resolution vehicles outside the court process. Focus on a 40-hour component of practical skills training for the mediation practitioner. Topics include the mediation model, interest-based negotiation and effective communication.

G 520 Seminar in Organizational Communication 3 cr.
Offered intermittently. (R-6) Prereq., consent of instr.

G 541 Teaching the Basic Course 2 cr. (R-8)
Offered autumn and spring. Prereq., consent of instr.

G 541 Seminar in Rhetorical Criticism and Theory 3 cr.
Offered intermittently. Introduction to contemporary issues in rhetorical criticism and theory. Topics include classical criticism, dramatism, close textual analysis, ideographic criticism, narrative criticism, feminist criticism, and postmodern criticism.

G 561 Qualitative Research Methods 3 cr.
Offered intermittently. An emphasis on the philosophy and practice of qualitative inquiry, the development and use of descriptive frameworks, and gathering and testing qualitative data to develop human communication theory.

G 572 Family Law Mediation 3 cr.
Offered autumn. Same as LAW 672. Interdisciplinary course on advanced mediation skills with a focus on family mediation including divorce and other types of family problems. Psychological issues for both children and parents, power balancing, gender issues and interest-based negotiation model.

G 575 Seminar in Rhetoric and Environmental Controversy 3 cr.
Offered intermittently. Same as EVST 575. The study of how advocates use symbols to influence meaning and action in environmental controversies. Rhetorical concepts used to examine recurring strategies and tactics in specific controversies.

G 593 Professional Paper Variable cr. (R-3) Offered every term. Prereq., consent of instr.

G 594 Topical Seminar Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors,
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 152-153, 211or 325, 225, 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 GEOL 100N/101N, GEOL 202, GEOL 226 PHYS 221N, PHYS 222N, PHYS 341, PHYS 441 PSYC 100S, PSYC260S, PSYC 265S, PSYC 270N

Note: 100-level CS courses other than CS 121, CS 131-132 and 200-level CS courses other than CS 241-242 and CS 281 do not count toward the degree or option requirements. However, they do count in the 60 credit limit in the major.

**Upper-division Writing Expectation.** The upper-division Writing Expectation for computer science majors is CS415E.

Bachelor of Science degree with a combined major in Computer Science-Mathematical Sciences

The purpose for the combined program is to provide a thorough background in both allied disciplines and to inculcate a deeper understanding of their goals and methods. A student must complete 60 credits in the two disciplines: 30 of these credits in computer science courses and 30 of these credits in mathematical sciences courses. A minimum grade of "C-" 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, 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 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 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 121 Careers in Computer Science</td>
<td>3</td>
</tr>
<tr>
<td>CS 131-132 Fundamentals of Computer Science I, II</td>
<td>6</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</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>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electives and General Education</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
</tr>
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</table>

### Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 241 Data Structures</td>
<td>3</td>
</tr>
<tr>
<td>CS 242 Programming Languages</td>
<td>3</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>3</td>
</tr>
<tr>
<td>Science sequence</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electives and General Education</th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
</tr>
</tbody>
</table>

### Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<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>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electives and General Education</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
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</tbody>
</table>

### Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 415E Computers, Ethics, and Society***</td>
<td>3</td>
</tr>
<tr>
<td>CS 441 Theory and Practice I</td>
<td>3</td>
</tr>
<tr>
<td>CS 442 Theory and Practice II</td>
<td>3</td>
</tr>
<tr>
<td>CS option courses and electives</td>
<td>6</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>3</td>
</tr>
</tbody>
</table>

| **Total** | **15** |

**Students must pass the upper-division writing proficiency assessment before taking CS 415E.
Requirements for a Minor
There are two minors offered by the Department of Computer Science: the traditional minor in computer science emphasizes computer programming and related skills, while the minor in computer applications emphasizes use of applications such as programming languages, word processors, spreadsheets, and databases in the management and manipulation of electronic information.

Computer Science: To earn a minor in computer science the student must complete (with at least a "C-"
grade in each course and a 2.00 grade average) 25 CS credits including: CS 131-132, CS 241, and CS 242. The remaining credits must be selected from CS 201, CS 207, CS 281 and courses at the 300 level or above. The student must also complete MATH 152-153, and MATH 225.

Computer Applications: To earn a minor in computer applications, a student must complete (with at least a "C-"
grade in each course and a 2.00 grade average) 21 CS credits including: at least one and no more than three of CS 101, CS 131, CS 201, CS 207; at least one and no more than three of CS 111, CS 171, CS 172, CS 173, and CS 181; with remaining courses selected from CS 131-132, CS 241-242, CS 486, other CS major courses, pre-approved CS 195, CS 295, CS 395, or CS 495 special topics courses, or up to six credits of pre-approved classes outside the department.

Courses
U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R. 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 non-mathematical 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 instr. CS 102 highly recommended as prereq.

U 132 Fundamentals of Computer Science II 3 cr. Offered autumn, spring, and summer. Prereq., CS 131; coreq., MATH 121 or consent of instr. Continuation of CS 131. Survey of computer science topics including recursion, algorithms, basic data structures, operating systems, artificial intelligence, graphics, user interfaces, and social and ethical implications of computing.

U 171 Communicating Via Computers 3 cr. Offered every term. Prereq., previous computer experience or consent of instr. The use of the computer for information presentation and communication; emphasis placed on the use of electronic resources for the access, management, and presentation of information.

U 172 Introduction to Computer Modeling 3 cr. Offered every term. Prereq., previous computer experience and MATH 100 or equiv. score on math placement test, or consent of instr. Problem solving with spreadsheets and databases using the computer to analyze a set of data; presentation of results of analysis. Credit not allowed for CRT 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 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 during placements on and off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A minimum 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 in late 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,
Course offerings are subject to prior approval and may be intermittent. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 3 credits of Internship (198, 296, 398) may count toward graduation.

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 direct 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 estimation techniques learning.

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 spring. Prereq., computer science major with senior standing, FOR 220, successful completion of the Upper-Division Writing Proficiency Assessment, or consent of instr. Ethical problems that face computer scientists. The codes of ethics of computing professional societies. The social implications of computers, computing, and other digital technologies.

U 435 Web Programming 3 cr. Offered spring. Prereq., CS 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.

U 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/relationship systems, with applications in requirements analysis, system design, and language processing.

U 442 Theory and Practice II 3 cr. Offered spring. Prereq., CS 441. Systems design and implementation, with emphasis and major project in language translation, operating systems, or scientific applications.


U 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.

U 457 Introduction to Machine Learning 3 cr. Offered intermittently. Prereq., MATH 152 and programming experience or consent of instr. Introduction to the framework of learning from examples, various learning algorithms such as neural networks, and generic learning principles such as inductive bias, Occam's Razor, and data mining. Credit not allowed for both CS 457 and CS 557.

U 458 Introduction to Bioinformatics 3 cr. Offered spring even-numbered years. 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.

U 462 Computerized Business Systems 3 cr. Offered spring. Prereq., CS 441. Software development in support of electronic commerce. Credit not allowed toward M.S. in computer science.


U 476 User Interface Design 3 cr. Offered autumn. Prereq., CS 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.

U 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.

U 498 Internship Variable cr. (R-3) Offered Intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Only three credits of CS 398 and/or CS 498 applicable to computer science major or minor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 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 132 or 211 or significant programming experience; MATH 117 or 121; CS 346 or software engineering experience; CS365 or database experience. Software requirements analysis, modeling, and specification. Computer user interface issues as they relate to usability, productivity, support, 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 lifecycle.

G 521 Information Technology Infrastructure 3 cr. 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 bioinformatics projects that are being 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 autumn. 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.
Department of Economics

Thomas M. Power, Chairman

The department considers its teaching goals to be three-fold: (1) To present to students the basic theoretical tools of economic analysis, relevant facts and institutional material, which will assist them as civic leaders. (2) To introduce students majoring in economics to the various special fields of study within economics. This training along with extensive work in the other liberal arts and sciences, is intended to instill breadth of intellectual interest, critical habits of thought, a problem-solving attitude and facility of expression. (3) To help meet, through graduate work, the increasing demands for competent professional economists in industry, commerce, government and education.

Courses cover general economic theory, environmental economics, monetary theory, international economics, public finance, labor economics, regional economics, economic development, comparative economic systems, econometrics, and economic philosophy.

Students may major in economics leading to a Bachelor of Arts degree. Graduate work leads to a Master of Arts degree in economics (see Graduate School catalog).

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. 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

Major Teaching Field of Economics: For an endorsement in the major teaching field of economics, a student must complete the requirements for a B.A. with a major in economics. Students must also complete C&I 428, gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

Students are advised that the demand in Montana high schools for teaching of courses in this field is limited. Students should complete another endorsement (major or minor) in a field other than drama, geography, journalism, psychology or sociology.

Minor Teaching Field of Economics: For an endorsement in the minor teaching field of Economics, a student must complete ECON 111S, 112S, 304, 311, 313, 317 and 323. Students must also complete C&I 428, gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

Suggested Course of Study

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<th>First Year</th>
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<td>ECON 111S, 112S Introduction to Economics</td>
<td>ECON 311 Intermediate Microeconomics I</td>
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<td>ENEX 101, Composition</td>
<td>ECON 313 Intermediate Macroeconomics</td>
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<td>MATH 117 Probability and Linear Math</td>
<td>ECON 111S, 112S Introduction to Economics</td>
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<td>MATH 150 Applied Calculus</td>
<td>ECON 111S, 112S Introduction to Economics</td>
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<tr>
<td>Electives and General Education</td>
<td>ENEX 101, Composition</td>
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MATH 241 Statistics I .................. 4
Upper-division economics elective .......... 3
Electives and General Education .......... 8 9

Third Year
ECON 460 Econometrics .................. 4
Upper-division economics electives ....... 3 3
Electives & General Education .......... 8 12

Fourth Year
ECON 487 Senior Seminar ................. 2
ECON 488 Research Methods & Thesis Design 2
Upper-division economics elective ....... 3 3
Electives & General Education .......... 10 8

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 = for undergraduate credit only, WG = 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.

Economics (ECON)

U 100S Introduction to Political Economy 3 cr. Offered
autumn and spring. A critical examination of the market
mechanisms 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, price 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
stabili,ty, 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.

U 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;
analyzed by region and major industrial sector.

U 304 Public Finance: Expenditures 3 cr. Offered
autumn. Prereq., ECON 111S and 112S. Rationale for
governmental expenditure; public goods; public choice.
Analysis of expenditure policy. Intergovernmental relations.

U 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.

U 310S Contemporary Issues in Political Economy 3 cr.
Offered spring. Prereq., ECON 100S, 111S or 112S. Analysis
of alternative approaches to contemporary economic problems
to develop more informed and logically consistent personal
perspectives on current economics issues and to form a more
tolerant view of other such perspectives.

UG 311 Intermediate Microeconomics 3 cr. Offered spring
and autumn. Prereq., ECON 111S and MATH 150 or equiv.
Analysis of consumer behavior, production, factor pricing,
externalities and public goods.

UG 313 Intermediate Macroeconomics 3 cr. Offered
autumn and spring. Prereq., ECON 112S and MATH 150.
Analysis of national income determination, unemployment, and
inflation 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 autumn. Prereq.,
economics course. Survey of market forces that govern the
production and consumption of medical care in the U.S.
market; uncertainty, asymmetric information, and
concentrations of market power resulting in inefficient
outcomes. Topics include cost escalations, role of medical
insurance, and problems of an aging population.

UG 323 Labor Economics 3 cr. Offered autumn. Prereq.,
economics course. Theory of wage determination, discrimination and poverty
with implications for manpower policy.

UG 324 Industrial Relations 3 cr. Offered spring. Prereq.,
ECON 111S, 112S. Theory and practice of collective
bargaining in contemporary American labor markets. Emphasis
on case studies.

UG 336 U.S. Asian Economics 3 cr. Offered autumn. The
study of Asian economies and their impact on the U.S. and
world economies through a study of international trade and
economic development in Asia.

UG 345S The Economics of Wildland Preservation 3 cr.
Offered autumn. An economic analysis of the costs and
benefits associated with preserving natural areas. The extension
of economic tools to analyze the value of non-commercial
resources, goods, and services is one focus. A critique of the
limits and dangers associated with that extension is also
developed.

UG 350 Economic Development 3 cr. Offered
intermittently. Prereq., ECON 111S, 112S. Study of the
processes of economic growth and development in the less
developed world.

UG 374 Comparative Economic Systems 3 cr. Offered
intermittently. Prereq., ECON 111S, 112S. Comparative
analysis of alternative ideal types of economic organization
stressi.ng the assumptions and values used in their critique and
defense. Capitalism, Socialism, Communism, Fascism.

UG 376 Monopoly and Public Policy 3 cr. Offered
intermittently. Prereq., ECON 111S. The theoretical basis for
public policy solutions to market power. Emphasis on case
studies in matters of antitrust, regulation of public utilities, and
public ownership of business enterprises.

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 spring. Prereq., ECON 311 or consent of instr. International trade; theory, policy, institutions, and issues. Analysis of comparative advantage and trade restrictions, negotiations, and agreements.

UG 440 Environmental Economics 3 cr. Offered autumn. Prereq., ECON 111S, 112S. Same as EVST440. Outlines a theoretical framework for the analysis of environmental problems, including concepts of market failure and externalities, materials balance and property rights. The policy implications of this analytical model are explored for a range of topics including pollution and the preservation of natural environments and species.

UG 460 Econometrics 4 cr. Offered autumn. Prereq., an introductory statistics course. Quantitative methods in economics with emphasis on regression analysis.


UG 487 Senior Seminar in Economics 2 cr. Offered spring. Prereq., ECON 311, 313; six additional credits at the upper-division level; 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 in 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 Variable 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 598 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

Richard N. Barrett, Ph.D., University of Wisconsin, Madison, 1972
Douglas Dalenberg, Ph.D., University of Oregon, 1987
John W. Duffield, Ph.D., Yale, 1973
Richard D. Erb, Ph.D., Stanford University, 1967
Thomas M. Power, Ph.D., Princeton, 1971 (Chairman)
Dennis J. O’Donnell, Ph.D., Pennsylvania State University, 1974
Kay Unger, Ph.D., Johns Hopkins University, 1974

Associate Professor

Michael H. Kupilik, Ph.D., University of Colorado, 1976

Assistant Professors

Jennifer Alix-Garcia, Ph.D., University of California, Berkeley, 2005
Jeffrey T. Bookwalter, Ph.D., University of Utah, 1999

Emeritus Professors

Ronald A. Dunay, Ph.D., Columbia University, 1973
George B. Heliker, Ph.D., University of Michigan, 1954
John G. Photiades, Ph.D., University of Illinois, 1972
John H. Wicks, Ph.D., University of Illinois, 1962

Department of English

Casey Charles, Chair

The department has several components: 1) Literature; 2) Creative Writing; 3) English Teaching; 4) Expository Writing; 5) Linguistics; and 6) English as a Second Language. In the first, Literature, students ground their study in the reading and examination of the canonical literatures of Great Britain, Ireland and North America. This study is given an historical focus through the program’s core survey courses: 1) British and Irish literatures from their beginnings to 1800; 2) British and Irish literatures from 1800 to the present; 3) North American literatures from their beginning to 1865; and 4) North American literatures from 1865 to the present. These courses, plus courses in Shakespeare and practical criticism, are required of all literature majors. In addition to which, there are other courses designed to make the student familiar with other literatures, written in English, from regions outside those named. Such would include the literatures of Australia, India, Kenya, New Zealand, Nigeria, South Africa and so forth. Beyond this, there are electives that focus upon genres (e.g., poetry, fiction, drama, science fiction, children’s literature, film), periods (e.g., Medieval, Renaissance, Victorian, Modern, Postmodern), authors (e.g., Chaucer, Milton, Blake, Austen, James and Woolf), topics (e.g., gender, the environment, postcolonialism), and theory. The program’s aim is to impart to the student an understanding not only of the aesthetic richness
of the literatures that have been written in English but also of the historical and cultural forces that have contributed to their making. The classes are of a size that makes discussion very much a part of the classroom experience, and the faculty is actively committed both to teaching and scholarship.

The Creative Writing program, one of the country’s oldest and more 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.

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.
3. Students who intend to major in English, but who have not yet met the above requirements are admitted to the program as pre-English majors. Pre-English majors will be assigned an English department advisor. Before a student can graduate with a major in English, she/he must meet the requirements to become an English major.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index. For the Bachelor of Arts degree every major in English will complete the following requirements:

1. At least 42 credits in English. Only courses under English, cross-listed with English, or labeled only Linguistics will count toward the 42-60 credit major requirement. ENEX 100 and 101 do not count toward the major or minor.
2. Majors in English may not take any course required for the English major on a credit/no credit basis.
3. Transfer students must complete a minimum of 9 credits of a major or approved upper-division English courses at The University of Montana to receive a B.A. with a major in English.
4. English majors must take all of the courses required in one of the following options within the English major:

   **A. Literature:** ENLT 222L; 223L; 224L; 225L; 301; 320; three additional 300-level ENLT courses; either ENLT 420 or 421; three additional credits chosen from ENLT 420, 421, 430, 431 and ENLI 470; and two years of a foreign language.

   **B. Creative Writing:** Four courses from ENLT 121L, 222L, 223L, 224L, 225L; ENLT 301; ENLT 320; three additional 300-level ENLT courses; three upper-division creative writing courses; two years of a foreign language.

   Entry into 300-400 level Creative Writing classes is by consent of instructor only. Creative Writing majors must submit samples of their work to the instructors of individual courses 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; ENLT 320; either 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 478; 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; one course in poetry chosen from ENLT 121L, 222L; ENCR 211A; two additional 300-level ENLT courses, one of which concentrates in American literature; ENLI 465; ENLT 440, 441, 442; 6 credits of English electives; secondary school teaching certification courses. This program requires a minimum of 128 credits.

   **Minor Teaching Field of English:** For an endorsement in the minor teaching field of English, a student must complete ENLT 223L, 224L, 225L; 301, 320; two 300-level ENLT courses, one which concentrates in American literature and one in poetry; ENLI 465; ENLT 440, 441, 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.)

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

Sample Course of Study

**Literature Option**

<table>
<thead>
<tr>
<th>ENEX 101 Composition</th>
<th>ENLT 222L-223L British Literature</th>
<th>ENLT 224L American Literature</th>
<th>Foreign language</th>
<th>Electives or General Education</th>
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<td>A</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>15</td>
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(3)
### Second Year
- ENLT 225L American Literature: 3 credits
- ENLT 301 Applied Literary Criticism: 3 credits
- English elective: 3 credits
- Foreign language: 4 credits
- Electives or General Education: 5 credits

### Third Year
- ENLT 320 Shakespeare: 3 credits
- Three 300-level ENLT courses: 3 credits
- Electives and General Education: 9 credits

### Fourth Year
- One of ENLT 420 or 421: 3 credits
- One of ENLT 420, 421, 430, 431, or 470: 3 credits
- English electives: 3 credits
- Electives or General Education: 9 credits

### Creative Writing Option
**First Year**
- ENCR 210A or 211A Introduction to Creative Writing: 3 credits
- ENLT 121L Poetry or ENLT 222L British Literature: 3 credits
- ENLT 223L British Literature: 3 credits
- Foreign language: 5 credits
- Electives or General Education: 4 credits

**Second Year**
- ENLT 224L and 225L American Literature: 3 credits
- ENLT 301 Applied Literary Criticism: 3 credits
- ENCR or ENLT elective: 3 credits
- Foreign language: 5 credits
- Electives or General Education: 4 credits

**Third Year**
- ENCR 310A or 311A Creative Writing: 3 credits
- ENLT 320 Shakespeare: 3 credits
- Two 300-level ENLT courses: 3 credits
- Electives and General Education: 9 credits

**Fourth Year**
- ENCR 310A, 311A, 410, 411 or 412: 3 credits
- One 300-level ENLT course: 3 credits
- Electives and General Education: 9 credits

### English Teaching Option
**First Year**
- ENEX 101 Composition: 3 credits
- One of ENLT 121L, 222L or ENCR 211A: 3 credits
- General Education: 9 credits

**Second Year**
- ENLT 225L American Literature: 3 credits
- ENLT 301 Applied Literary Criticism: 3 credits
- ENLT 320 Shakespeare: 3 credits
- English elective: 3 credits
- General Education and certification requirements: 9 credits

**Third Year**
- One 300-level ENLT course concentrating in American literature: 3 credits
- One 300-level ENLT course: 3 credits
- ENT 439 Studies in Young Adult Literature: 3 credits
- ENLI 465 Structure and History of English for Teachers: 3 credits

- ENT 440 Teaching Writing: 3 credits
- English elective: 3 credits
- General Education and certification requirements: 9 credits

### Linguistics Option (General Linguistics)
**First Year**
- ENEX 101 Composition: 3 (3)
- ENLT 222L British Literature: 3 credits
- Foreign language: 5 credits
- General Education: 4 credits

**Second Year**
- ENLT 223L, 224L or 225L American Literature: 3 credits
- ENLT 320 Shakespeare: 3 credits
- LING 270 Introduction to Linguistics: 3 credits
- LING 471 Phonology-Morphology: 3 credits
- Foreign language: 4 credits
- General Education: 8 credits

**Third Year**
- ENLI 465 Structure and History of English for Teachers: 3 credits
- ENLT 349L or ENLI 465 Structure and History of English: 3 credits
- LING 471 Phonology and Morphology: 3 credits
- LING 477 Bilingualism or 478 Second Language Acquisition: 3 credits
- Electives and General Education: 6 credits

**Fourth Year**
- LING 473S Language and Culture or 475 Linguistic Field Methods: 3 credits
- LING 475 Linguistic Fieldmethods or LING 476 Child Language Acquisition: 3 credits
- LING 477 Bilingualism or 478 Second Language Acquisition: 3 credits
- Electives: 3 credits

### Linguistics Option (Teaching ESL)
**First Year**
- ENEX 101 Composition: 3 (3)
- ENLT 223L, 224L or 225L American Literature: 3 credits
- Foreign language: 5 credits
- General Education: 7 credits

**Second Year**
- ENLT 222L British Literature: 3 credits
- ENLT 223L, 224L or 225L American Literature: 3 credits
- LING 470 Introduction to Linguistics: 3 credits
- Foreign language: 4 credits
- General Education: 8 credits

**Third Year**
- ENLI 465 Structure and History of English for Teachers: 3 credits
- LING 471 Phonology and Morphology: 3 credits
LING 472 Generative Syntax and Semantics ........ 3 -
LING 477 Bilingualism or 478 Second Language
Acquisition ........................................... 3 -
LING 480 Teaching ESL ................................ 3 -
Linguistics elective ................................... 3 -
Electives and General Education ....................... 6 6
15 15

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 or 475 Linguistic
Fieldmethods or 476 Child Language Acquisition 3 -
LING 481 ESL Professional ................................ 3 -
LING 491 ESL Practicum ................................ 1 -
Electives .................................................. 6 8
15 15

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.
4. 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 2 cr. Offered every term. Prereq.,
minus score on writing diagnostic examination or referral by
ENEX 101 instr. For students with major difficulties in
expository prose. Emphasis on forming, structuring, and
development of ideas; tutorial emphasis on mechanics in
special class hour to be arranged with instructor. Credit not
allowed for ENEX 100 and WTS 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 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 300 Practicum: Tutoring Composition 1-3 cr. (R-6)
Offered autumn and spring. Prereq., ENT 440 and consent of
instr. Limited to those who are tutoring students enrolled in
ENEX 100.

U 395 Special Topics Variable cr. (R-9) Offered
intermittently. Experimental offerings of visiting professors,
experimental offerings of new courses, or one-time offerings of
current topics.

U 398 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

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 1 cr. (R-4)
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 211A Introduction to Creative Writing: Poetry 3 cr.
Offered every term. An introductory writing workshop focused
on the reading, discussion, and revision of students' poems.
Students 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 for the course. Although some outside material will be considered, the primary emphasis will be on 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 readings and discussion of poems in an anthology. Numerous directed writing assignments and 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. 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 critiqued. Rewriting of work already begun (in ENCR 310 classes) will be encouraged.

UG 411 Advanced Creative Writing: Poetry Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. An advanced writing workshop involving critical analysis of students' work-in-progress, as well as readings and discussion of poems by "established" poets. Discussions will focus on structure and stylistic refinement, with emphasis on revision. Different techniques, schools and poetic voices will be encouraged. Frequent individual conferences.

UG 412 Creative Non-Fiction 3 cr. (R-6) Offered autumn and spring. Prereq., ENCR 310A and consent of instr. A creative writing workshop focused primarily on personal essay. Attention given to writing and publishing professional magazine essays. Students complete two substantial essays.

UG 495 Special Topics 1-6 cr. (R-6) Offered spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-3 cr. (R-9) Offered every term. Prereq., consent of instr. and chair, and junior or senior standing. Special projects in creative writing. Only one 496 may be taken per semester.

G 510 Fiction Workshop Variable cr. (R-15) Offered autumn and spring. Prereq., consent of instr.

G 511 Poetry Workshop Variable cr. (R-15) Offered autumn and spring. Prereq., consent of instr.

G 512 Non-Fiction Workshop Variable cr. (R-15) Offered autumn and spring. Prereq., consent of instr. A creative writing workshop focused primarily on personal essay. Attention given to writing and publishing professional magazine essays. Students complete two substantial essays.

G 514 Techniques of Modern Fiction Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Intensive reading of contemporary prose writers. Primarily for graduate students in creative writing.


G 516 Topics in Creative Writing 3 cr. (R-9) Offered autumn and spring. Prereq., graduate standing. Visiting writers explore readings in their genres of specialty. Each writer chooses the focus, reading list, and assignments for the course.

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

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

G 599 Thesis Creative Writing Variable cr. (R-12) Offered every term.

Linguistics (ENLI)

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

U 270 Introduction to Linguistics 3 cr. Offered every term. Same as ANTH and LING 270. Introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.

U 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.

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.

UG 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.

UG 470 Introduction to Linguistic Analysis 3 cr. Offered every term. Same as ANTH and LING 470. An introduction to the field of modern linguistics and to the nature of language. Emphasis on linguistic analysis.

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.

U 496 Independent Study 1-3 cr. (R-9) Offered every term. Prereq., consent of instr. and chair, and junior or senior standing. Special projects in English teaching. Only one 496 may be taken per semester.

G 542 Theories and Pedagogies of Rhetoric and Composition 3 cr. Offered intermittently. Exploration of contemporary theories and practical strategies for teaching rhetoric and composition in 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. Prereq., teaching experience, or senior standing (3.0 GPA and petition) with consent of instr. Designing, teaching and evaluating creative drama in the English language arts classroom. Emphasis on using creative drama as a learning skill to teach literature and language.

G 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., ENG 440. 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 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 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.
Modernism, Literature and Science, Bible as Literature, and Social Themes of illness and healing. Authors include Anton Chekhov, William Carlos Williams, Richard Selzer, Dannie Abse and others.

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. Survey of modern poetry in English beginning with Emily Dickinson and Walt Whitman and moving toward the present, centering on modernist poets.

U 334 Postwar Poetry 3 cr. Offered 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. Same as WS 336. Consideration of political and aesthetic purposes in women's fiction through a progression of 19th century literary forms: a cautionary seduction novel, sentimental and domestic novels, realism, naturalism, and utopianism.

U 337 African-American Literature 3 cr. Offered alternate years. Prereq., ENLT 301 or consent of instr. Selected works by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc.

U 338L Montana Writers 3 cr. Offered alternate years. Prereq., ENLT 224L or 225L. Examination of poems, stories, and novels by or about Montanans and the representation of race, place, class, gender, sexuality, and identity in Montana. Exploration of the myths and realities of Montana and the American West.

U 349L Studies in Medieval Literature 3 cr. Offered alternate years. 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 writing in England from 1790-1815, with primary focus on William Blake and William Wordsworth.
U 356 Blake 3 cr. Offered alternate years. Prereq. or coreq., ENLT 301. Study of the writings and visual arts of William Blake.

U 357 Victorian Literature and Culture 3 cr. Offered alternate years. Survey of British Victorian literature from a modernist view, 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 370 Science Fiction 3 cr. Offered alternate years. Prereq., ENLT 301 or completion of POE 105 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.

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

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 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, romantic, narrative, psychoanalytic, formalist, neo-marxist, feminist, gender, cultural studies, and reader-response theory).

UG 429L Studies in Native American Autobiography 3 cr. Offered intermittently. Same as NAS 410L. Prereq., ENLT 301 or ENLT/NAS 329, or consent of instr. Study of texts that present a first-person story of an American Indian individual's life within historical and cultural contexts, with discussion of theories of autobiography.

UG 430 Studies in Comparative Literature 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Same as LS 455 and MCLG 440. The study of important literary ideas, genres, trends and movements. Credit not allowed for the same topic in more than one course numbered 430, LS 455, MCLG 440, or MCLG 494.
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 schools' college preparatory curriculum. Courses in biology, chemistry, math through pre-calculus, and writing are recommended.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog (see index). For the Bachelor of Arts degree, every major in environmental studies will complete the following requirements:

Environmental Studies: EVST 101N, 167H, 201, 225, 360, 398, 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: BIOI 100N or 110N or 108N; CHEM 151N; MATH 241.

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

Special 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, BADM 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 addition 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 Camar 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 sustainable food and farming should take their schools' college preparatory curriculum. Courses in biology, chemistry, math through pre-calculus, and writing are recommended.

Water Resources: In addition to satisfying the general requirements for a degree in environmental studies, students desiring to focus in water resources must complete 20 credits of advisor-approved courses or internships. (Could include such courses as BIOI 366, 453, 454; GEOL 320, 431, 480; FOR 210N, 398, 415, 485, 486.) Note: some of these courses require prerequisites not in the environmental studies core requirements.
## Suggested Course of Study

### First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
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<tr>
<td>BIOL 100N The Science of Life</td>
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<td>ENEX 101 Composition</td>
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<td>EVST 101N Environmental Science</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>MATH 241 Statistics</td>
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### Third Year

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<tr>
<td>EVST 302 Introduction to Environmental Regulation</td>
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<tr>
<td>EVST 360 Applied Ecology</td>
<td>3</td>
</tr>
<tr>
<td>EVST 367 Environmental Politics and Policies</td>
<td>3</td>
</tr>
<tr>
<td>EVST 420 U.S. Environmental Movement</td>
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<tr>
<td>EVST upper-division courses</td>
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### Fourth Year

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<td>EVST 398 Cooperative Education</td>
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<td>Electives and General Education</td>
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<td>Total</td>
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</tbody>
</table>

### Requirements for a Minor

To earn a minor the student must complete 25 credits. The following courses must be completed: EVST 101N, EVST 201, EVST 367, EVST 420, EVST/PHIL 371, EVST/PHIL 372, and EVST/PHIL 373. In addition, the student must complete one of the following courses: BIOL 121N, EVST 360, EVST 371, or EVST 375. The remaining credits can be from any other upper-division EVST courses.

### Courses

- **U 204 Sustainable Economic Development** 3 cr. Offered intermittently autumn or spring. Prereq., EVST 167H. Review of the concept of sustainability in the context of the current American economic system and the extant applications of sustainability principles to private enterprise.
- **U 225 Community and Environment** 3 cr. Offered 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 those 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 360 Applied Ecology** 3 cr. Offered autumn. Prereq., BIOL 100N, CHEM 151N, EVST 201, MATH 241. Understanding the principles and concepts of ecology and how they inform real life decisions about human interactions with the environment. Emphasis on case studies, field study design and conservation of watersheds and biodiversity.
- **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 enhance public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.
UG 390 Supervised Internship PEAS Variable cr. (R-8) Offered every term. Prereq., consent of instr. Program in Ecological Agriculture and Society (PEAS).

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

UG 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.

UG 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.

UG 427E Environmental Ethics II 3 cr. Offered autumn and spring. Prereq., lower-division course in Perspective 5 or consent of instr. Same as PHIL 427E. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment. Issues parallel to those in EVST 327E, but considered from a more philosophically sophisticated perspective. Credit not allowed for both EVST 327E and EVST 427E.

UG 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 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 ecosystems 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 spring. 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. Students, with consent of instr., can complete a project with an outside group.

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 twenty-first 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.

G 542 Transboundary Environmental Issues 3 cr. Offered intermittently in autumn. Prereq., graduate standing in environmental studies program. Review of the political systems and administrative systems of each country relevant to natural resource policy decision-making and ecological systems. Review pertinent literature, interact with stakeholders, and produce group reports.


G 550 Pollution Ecology 3 cr. Offered spring even-numbered years. Prereq., college ecology course or consent of instr. Same as BIOL 550. Environmental fate and biological effects of pollutants, especially in aquatic ecosystems. Pollution reduction and prevention strategies; related law and policies.

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

G 555 Research Methods for Social Change 3 cr. Offered autumn. Same as SUC 555. Introduction to qualitative methods of research design, data collection, and analysis. Emphasis on research that facilitates and documents social change processes. Hands-on research experience through fieldwork projects. Includes instruction on writing social science and on research ethics.

G 560 Environmental Impact Analysis 3 cr. Offered spring odd-numbered years. Prereq., graduate standing in EVST or consent of instr. Basis for analyzing environmental impacts of various activities; preparing and critiquing federal and state environmental impact documents, such as environmental reviews, impact statements, etc.

G 561 Land Use Planning Law 3 cr. Offered autumn. Same as GEOG 561 and LAW 687. Basic overview of the law of land use planning including background in the traditional governmental regulatory, proprietary, and fiscal land use tools. Examination of modern techniques for land use planning; consideration of constitutional limits of authority of state and local governments. Focus on skills in interpreting, drafting and applying state legislation and local ordinances.

G 562 Land Use Planning Clinic 2 cr. Offered every term. Prereq. or coreq., EVST 561. Same as GEOG 562. Students assist local communities in long-range planning efforts and development of growth management plans as required by Montana law; ordinance drafting, development proposals, and land use issues.

G 563 Environmental Law I 3 cr. Offered autumn. Prereq., graduate standing in EVST. Same as LAW 650. Philosophy and values underlying environmental regulation, basic introduction to administrative law, in-depth study of air and water pollution and the environmental policy acts.


G 565 Public Land and Resources Law 3 cr. Offered autumn. 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-8) Offered every term. Prereq., consent of instr. Program in Ecological Agriculture and Society (PEAS).

G 593 Professional Paper Variable cr. (R-6) Offered autumn spring. Prereq., graduate standing in EVST. Offered winter. Special study for students who wish to engage in a project of theoretical or practical interest. Includes independent research over an extended period of time. Students work with faculty members to determine the most appropriate course of study.

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
Film

Phil Fandozzi (Professor of English), Chair and Sean O’Brien (Visiting Professor of Philosophy) Co-Chair, Film Committee

The interdisciplinary offerings in film afford students the opportunity to acquire a basic knowledge of the history and development of the film. Specific courses in screenwriting, screen criticism, and film phenomena view films primarily from historico-critical, and creative perspectives. A course in cinematography is recommended that all students take the Introduction to the Film course before enrolling in other courses. Students should examine the class schedule each semester to learn the titles of special topics courses.

Courses

- LS180L Introduction to Film
- LS/ENLT 227L Film as Literature, Literature as Film
- MCLG 222L/LS 282L The German Cinema
- MCLG/LS 338 The French Cinema
- LS 336/ENLT 325 Studies in Literature and Film
- MCLG/LS 359 Spanish-American Civilization through Film and Literature
- LS 381 Studies in Film

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 and its human impact, and the results of human activities. Regions and places, whether described as nations, cities, ecological units, 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 mapping 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) geophysical techniques (remote sensing, cartography and GIS, field methods, quantitative and qualitative method).

The Department of Geography offers the Bachelor of Arts and Master of Arts degrees in geography. 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.

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 and 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. 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: GEOG 103S, GEOG 201S, plus two additional credits of upper-division coursework in physical geography, geology, hydrology, and/or ecology, and three credits of undergraduate thesis devoted to a theme in physical geography. Coursework and thesis topic should be determined in consultation with the student’s advisor. In addition, a student must complete a course in applied calculus (MATH 150 or equivalent) or an upper-division course in statistics (MATH 444 or equivalent), and two two-course sequences in science (such as CHEM 151N-152N, PHYS 121N-122N, BIOL 120N, 121N, or their equivalents).

**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 two 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.

**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, GEOG 485 and 489.

**Teacher Preparation in Geography**

**Major Teaching Field of Geography:** Students seeking licensure to teach geography in a middle or secondary school must complete the requirements for the B.A. degree with a major in geography (36 credits minimum, no specific option is required) as follows: GEOG 101S; GEOG 102N; GEOG 103S or GEOG 201S or another regional course; GEOG 105; GEOG 383 or GEOG 471H; and three upper-division systematic geography courses (one each from the fields of physical geography, human-environment interaction, and geography and society); C&I 428; plus electives. Students must complete a teaching minor in another curriculum area taught in grades 5-12. Students must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of this catalog. Students are encouraged to seek licensure advising from the Department of Curriculum & Instruction.

**Minor Teaching Field of Geography:** Students seeking a teaching minor in geography complete a minimum of 21 credits by meeting the following requirements: GEOG 101S, 102N, 103S or 201S or another regional course, GEOG 105, GEOG 385 or GEOG 387 and 389 or GEOG 471, two upper-division systematic geography courses from the fields of physical geography, human-environment interaction, or geography and society; and C&I 428. Students must complete a teaching major in another curriculum area taught in grades 5-12. Students must gain admission to the Teacher Education Program and meet the professional studies requirement for all secondary teachers as indicated in the School of Education section of this catalog. Student are encouraged to seek licensure advising from the Department of Curriculum & Instruction.

**Additional Information**

**Advisor**

Every geography major will be assigned a geography faculty member to act as advisor. The advisor offers 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 encouraged strongly 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 study abroad and field experiences may count toward geography electives.

**Suggested Course of Study**

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

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<td>GEOG 101S Introduction to Human Geography</td>
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<tr>
<td>GEOG 102N Introduction to Physical Geography</td>
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<td>3</td>
</tr>
<tr>
<td>GEOG 105 Geography Laboratory</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 100 Intermediate Algebra</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 117 Probability and Statistics</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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<td>GEOG 103S Geography of World Regions or other regional geography course</td>
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<tr>
<td>MATH 241 or 100-level foreign language</td>
<td>0-5</td>
<td>3-5</td>
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<td>Electives and General Education</td>
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<td><strong>Total</strong></td>
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Third Year
GEOG 385 Field Techniques 3
GEOG 387 and 389 Principles of Digital Cartography and Laboratory 4
Upper-division courses in Geography & Society, Physical Geography and Human-Environment Interaction 3-6
*Upper-division writing course 3
Electives including study abroad/internship 2-5
Total 15

Fourth Year
Electives including study abroad/internship/senior thesis 15
Total 15

Geography with option in Physical Geography
First Year
ENEX 101 Composition 3
GEOG 101S Introduction to Human Geography 3
GEOG 102N Introduction to Physical Geography 3
GEOG 105 Geography Laboratory 1
MATH 117 Probability and Linear Math 3
MATH 121 Precalculus 3
General Education and electives 5
Total 13

Second Year
GEOG 103S Geography of World Regions or other regional geography course 3
MATH 150 Applied Calculus 4
MATH 241 Statistics 3
Two 100-level science sequences 6
General Education and electives 5
Total 15

Third Year
GEOG 385 Field Techniques 3
GEOG 387 and 389 Principles of Digital Cartography and Laboratory 4
Upper-division courses in Geography & Society and Human-Environment Interaction 3
Upper-division courses in Physical Geography 3
Electives including study abroad/internship 2
Total 15

Fourth Year
GEOG 487 and 489 Raster GIS and Laboratory 4
Upper-division course in Physical Geography 3
Electives including study abroad/internship 2
Total 13

Geography with option in Community and Environmental Planning:
First Year: Same as General Geography
Second Year
GEOG 103S Geography of World Regions, or other regional geography course 3
MATH 241 Statistics 3
General Education and electives 9
Total 15

Third Year: Same as General Geography
Fourth Year
GEOG 465 Planning Principles and Processes 3
GEOG 468 and 469 Community & Regional Analysis and Laboratory or GEOG 483 and 489 Transport, Planning, and GIS and Laboratory 4
Upper-division courses in Geography & Society, and Human-Environment Interaction 3
Electives including study abroad, internship/senior thesis 5
Total 15

Geography with option in Central and Southwest Asian Studies:
First Year: Same as General Geography, with the following exceptions:
GEOG 106 The Silk Road 3
Second Year
GEOG 213S The Middle East or 214S Central Asia: Peoples and Environments or 283H Islamic Civilization: The Classical Age or 284H Islamic Civilization The Modern Era 3
General Education and electives 12
Total 15

Third Year: Same as General Geography, with the following exceptions:
GEOG 345 Central Asia and Its Neighbors or GEOG 457 Artistic Traditions of Central and Southwest Asia 3
GEOG 402 Cities and Landscapes of Central Asia 3
General Education and electives 12
Total 15

Fourth Year
GEOG 460 Central Asia Seminar 3
Electives, including study abroad/internship/senior thesis 15
Total 15

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 468 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 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 dis-
tribution 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 Meteorology 3 cr. Offered autumn odd-numbered
years. Prereq., GEOG 102N or consent of instr. Origin,
composition, structure, and dynamics of the atmosphere, gas
and radiation laws, energy budget and balance, weather
elements and North American weather systems.

UG 324 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 spring even-numbered
years. 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,
geoglauistics, 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 transc-hceanic 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 people who inhabit the worlds' 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 manner 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 and carried on an upper-division level. Designed to increase awareness of student’s own culture and increase cross-cultural sensitivity. Understanding the perspectives of other cultures and resolving 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 South Asia along the ancient four thousand mile-long Silk Road.

U 201S Montana 3 cr. Offered autumn. The physical, 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 and Its Neighbors 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, Arabic, 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.

U 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, experiential 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 Rockies 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 centers 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 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.

U 387 Principles of Digital Cartography 3 cr. Offered autumn. Prereq., GEOG 105 or consent of instr.; coreq., GEOG 389. Concepts, principles, and methods of cartography as applied to computerized mapping and geographical information systems. Topics include history of cartography, basic geodesy, map projections, coordinate systems, map compilation, generalization, and design.

U 389 Digital Cartography Laboratory 1 cr. Offered autumn. Prereq., GEOG 105; coreq., GEOG 387. Laboratory to accompany GEOG 387.

UG 465 Planning Principles and Processes 3 cr. Offered autumn. Prereq., upper-division or graduate standing. Surveys planning principles, practices and problems in small towns and rural environments in Montana and the West. Emphasizes skills and techniques in the collection, analysis, and interpretation of data commonly used in the planning field.

UG 468 Community and Regional Analysis 3 cr. Offered autumn even-numbered years. 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 designed for future planners. GIS analysts, and others interested in socio-demographic change.

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

U 471 Workshop in Teaching Geography 2-3 cr. Offered summer. Prereq., upper-division or graduate standing. Modern concepts and techniques in geography with emphasis on their
use in teaching geography in Montana schools. Students are required to prepare and present a teaching unit project.

**UG 483 Transport, Planning, and GIS 3 cr.** Offered autumn odd-numbered years. 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 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 389 and MATH 241 (or higher) or consent of instr. Coreq., GEOG 489. Basic principles of remote sensing and analyzing images within a raster 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 topical information with maps. Choropleth maps, dot maps, proportional figure maps, isarithmic maps, and others. Includes computer mapping and GIS exercises.

**UG 489 Cartography/GIS Laboratory 1 cr.** (R-4) Offered autumn. Coreq., GEOG 483, 485, 487 or 488. Lab to accompany cartography and GIS courses.

**G 500 Geography Graduate Colloquium 1 cr.** (R-3) Offered autumn. Presentation of faculty and student research interests. Guest lecturers. Graded pass/not pass only. Enrollment required every autumn graduate students are in residence.

**G 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 geography and society, human-environmental interaction, physical geography, regional geography, or geographical techniques.

**G 560 Seminar in Planning 3 cr.** Offered spring odd-numbered years. A critical analysis of land planning theories, concepts and current practices with a focus on local, regional, and state planning problems.

**G 561 Land Use Planning Law 3 cr.** Offered autumn. Same as EVST 561 and LAW 687. Basic overview of the law of land use planning including background in the traditional governmental regulatory, proprietary, and fiscal land use tools. Examination of modern techniques for land use planning; consideration of constitutional limits of authority of state and local governments. Focus on skills in interpreting, drafting, and applying state legislation and local ordinances.

**G 562 Land Use Planning Clinic 1-6 cr.** (R-6) Offered every term. Prereq., or coreq., GEOG 561. Same as EVST 562. Students assist local communities in long-range planning efforts and development of growth management plans as required by Montana law; ordinance drafting, development proposals, and land use issues.

**G 564 Planning Design 3 cr.** Offered spring even-numbered years. Prereq., graduate standing or qualified seniors. Analysis of land-use problems and design.

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

**G 596 Independent Study Variable cr.** (R-9) Offered every term. Prereq., consent of instr. Independent research in geography or planning.

**G 598 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. Gritzner, 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)

Christiane von Reichert, Ph.D., University of Idaho, 1992

**Assistant Professors**

Ulrich Kamp, Doktor der Naturwissenschaften, Technical University of Berlin, 1999

Ardeshir Kia, Ph.D., University of Wisconsin-Madison, 1988

Richard Graetz, D.H.L. (Hon), The University of Montana, 2004

Anna Klene, Ph.D., University of Nebraska, 1999

**Adjunct**

Udo Fluck, Ph.D., The University of Montana, 2003

Richard Graetz, D.H.L. (Hon), The University of Montana, 2004

Nicholas Kaufman, M.S., The University of Montana, 1984

**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 geology involves a knowledge of the processes and events that shape the earth. By studying minerals, rocks, and fossils, as well as aspects of rivers, oceans and atmosphere, the geologist interprets earth history, the evolution of life, the movement and development of continents, and the changing aspects of the ocean basins. The study of earth materials takes place in the field and in the laboratory, and depends upon a rock hammer as well as sophisticated analytical equipment. Within the broad field of geology, professionals specialize in a variety of subjects including mineral resources, groundwater, sedimentary igneous and metamorphic rocks, volcanoes, geophysics, geochemistry, fossils and many others. This specialization leads to employment by private industry, federal, state, and local governmental agencies, consulting firms, and by secondary schools needing earth science teachers. Many of our graduates work in the fields of exploration and development for minerals and fuels. Others work in a variety of fields related to construction, site selection, water supply, environmental remediation and planning. Jobs in geology are available at the B.S., M.S., and Ph.D. level. However, the more creative the position, the higher level of education needed, and a master’s degree is advisable for flexibility in professional employment.

The Department of 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 GEOL 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: GEOL 100N, GEOL 101N, GEOL 130, and GEOL 226. At least 20 additional credits in geology must be completed with at least 16 of the 20 at the 300-level or above.

In addition to thirty credits in geology, thirty additional credits must be completed from among the following disciplines at the listed level or higher or equivalent: MATH 117, CHEM 151N, PHYS 121N, ASTR 131N, CS 172, BIOL 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, GEOL 382, 432, and 480 are recommended. For a broad interest in evolution of Earth, GEOL 310, 330, 430, 432 and 429 are recommended. Students are encouraged to consult with departmental advisors regarding available choices.

Professional Options

The 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: Geology 100N, 101N, 130, 226, 330, 429. One course also must be selected from each of the following four categories: (1) Geology 480; (2) Geology 437, 438, 430; (3) Geology 310, 327, 437, 438; (4) Geology 306, 432.

Also required are at least 30 credits in cognate science courses including MATH 152-153 or MATH 150 and 158; PHYS 121N-122N or PHYS 221N-222N; and CHEM 161N-162N. Completion of CS 172 early in the program is strongly recommended.

Option in Environmental Geology

The following courses in Geology are required: 100N, 101N, 105N, 130, 301, 226, 320N or 327, 480, 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 GEOL 100N, 101N, 105N, 130, 226, 301, 310, 330, 3 additional credits from any geology courses numbered 100 or above and 12 credits from any geology courses numbered 300 or above. Also required are GEOG 330N, ASTR 131N-132N, MATH 121, 341, CS 101, CHEM 485, and C&I 426. One of BIOL 121N-122N or CHEM 151N-152N or PHYS 121N-122N must be completed.

For endorsement to teach earth science, a student also must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog). The demand in most Montana high schools 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

First Year
CHEM 151N General and Inorganic Chemistry or 162N College Chemistry 3-5
ENEX 101 Composition 3
GEOL 100N-101N General Geology and Lab 3
GEOL 130 Introductory Field Geology and Maps 3
*MATH 121 Precalculus 4
General Education 5 9

Second Year
*BIOL 121N Introductory Ecology 3
*CHEM 152N Organic and Biological Chemistry or 162N College Chemistry 3-5
GEOL 202 Stratigraphy-Sedimentology 4
GEOL 226 Earth Materials 4
Additional science course 3
Electives and General Education 3 9

Third Year
GEOL any 300 and above 4 4
Science* 6 3
Electives and General Education 4 8
14 15

Fourth Year
GEOL any 300 and above 4 4
Science* 6 3
Electives and General Education 6 6
16 13

*Suggested, a total of 30 additional science credits are required. See special degree requirements.

Geology Option

First Year
GEOL 100N-101N General Geology and Lab 3
GEOL 130 Introductory Field Geology and Maps 3
CHEM 161N-162N College Chemistry and Lab 5 5
MATH 152 and 153 Calculus I, II or 150 and 158 4
ENEX 101 Composition 3
Electives and General Education 3 9

Second Year
GEOL 202 Stratigraphy-Sedimentology 4
GEOL 226 Earth Materials 4
CS 172 Introduction to Computer Modeling or equivalent 3
PHYS 221N-222N General Physics or PHYS 121N-122N 5 5
Electives and General Education 6 3
15 15

Third Year
GEOL 330 Structural Geology 3
Two courses from Category 1, 2, 3, or 4 3 3
Electives and General Education 9 12
15 15

Summer Session
GEOL 429 Field Geology 6

Fourth Year
Two courses from Category 1, 2 or 3, 4 as needed 3 3
Geology and non-geology electives and General Education 12 12
15 15

Option in Environmental Geology

First Year
GEOL 100N-101N General Geology and Lab 3
GEOL 130 Introduction to Field Methods 3
CHEM 161N, 162N College Chemistry and Lab 5 5
MATH 152, 153 Calculus I, II or 150 and 158 4
ENEX 101 Composition 3

Second Year
GEOL 301 Environmental Geology 3
GEOL 226 Earth Materials 4
PHYS 221N-222N College Physics 5 5
Other science electives 3
General Education and electives 3 5
14 17

Third Year
Credits from 300-level or above geology courses 3 3
Other science electives 6
General Education and electives 7 12
16 15

Fourth Year
GEOL 320N Global Water or 327 Geochemistry 3
GEOL 480 Hydrogeology 4
GEOL 499 Undergraduate Thesis 2 3
General Education and electives 6 12
15 15

Earth Science Education Option

First Year
CS 172 Introduction to Computer Modeling or equivalent 3
ENEX 101 Composition 3
GEOL 105 Oceanography 2
GEOL 130 Introductory Field Geology and Maps 3
MATH 121 Precalculus 4
ENEX 101 Composition 3
*Electives and General Education 3 6
17 14

Second Year
ASTR 131N-132N Elementary Astronomy I, II 3 3
CHEM 151N General and Inorganic Chemistry 3
GEOL 226 Earth Materials 4
GEOL 301 Environmental Geology 3
GEOL any 100 3
*Electives and General Education 6 6
15 16

Need to formally gain admission to the Teacher Education Program. See requirement in the School of Education, Department of Curriculum and Instruction. Deadlines: March 1 and October 1.

Third Year
CHEM 485 Laboratory Safety 1
CS &I 200 Exploring Teaching Through Field Experience 2
CS &I 303 Educational Psychology & Measurements 4
CS &I Other 3 6
GEOG 330 Meteorology 3
GEOG 310 Invertebrate Paleontology 3
GEOG 330 Structural Geology 3
GEOG any 300 or above 3 6
17 17
Requirements for a Minor

To earn a minor in Geology the student must complete GEOL 100N, 101N, 130, 226, plus at least 12 credits in other geology courses numbered 300 or above. All courses must be taken for a traditional letter grade.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R. Credits beyond this maximum do not count toward a degree.

Geology (GEOL)

U 100N General Geology 2 cr. Offered autumn and spring. General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth. Credit not allowed for both GEOL 100N and 109.

U 101N General Geology Laboratory 1 cr. Offered autumn and spring. Prereq., or coreq., any geology courses below GEOL 130. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience with any geology course below GEOL 130.

U 103N Volcanoes, Earthquakes and other Natural Hazards 3 cr. Offered spring. Examination of volcanism, earthquakes, landslides, floods, coastal erosion, hurricanes, and asteroid impacts. Emphasis on processes, recognition and consequences, and historical events, and how to minimize their societal impacts.

U 105N Oceanography 3 cr. Offered spring. Origin of sea-water and ocean basins; currents, tides, and coastal processes; use and misuse of the oceans by humans.

U 106N History of Life 3 cr. Offered autumn. The evolution of plants, invertebrates and vertebrate animals, highlighting major events in the evolution of life on Earth. Includes laboratory experience with fossils.

U 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 GEOL 100N and 109.

U 130 Introductory Field Geology and Maps 3 cr. Offered autumn and spring. Prereq., GEOL 100N-101N. Basic geologic field observations and methods, geological map interpretation. All day Saturday field trips to key areas of western Montana.

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


U 207 Geological Hazards and Disasters 2 cr. Offered spring. Prereq., minimum grade of C in any 100-level geology course except 106. Study of major geological catastrophes, their causes and effects. Probability, frequency and recurrence intervals, magnitudes, the role of overlapping/unrelated events. Examples of floods, hurricanes, landslides, submarine landslides, tsunamis, earthquakes, volcanic eruptions, asteroid impacts.

U 226 Earth Materials 4 cr. Offered autumn and spring. Prereq., GEOL 100N, GEOL 101N or SCI 227, and college-level chemistry. The mineralogy of rock-forming minerals and other important mineral groups; an introduction to igneous, metamorphic, and sedimentary rocks and processes.

U 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., GEOL 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., GEOL 100N; coreq., GEOL 130. Examination of modern and ancient sedimentary depositional systems in the field through a 9-day spring break field trip. Possible areas of focus include the Permian Reef Complex of West Texas, the California convergent margin, Oregon and Washington coastal complexes, geology of the Basin and Range, Death Valley Region, Colorado Plateau, and Ohlone Aulacogen.

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., GEOL 226, CHEM 162N. Igneous rock associations, igneous processes and origins; metamorphic minerals and phase relationships, metamorphic zones, facies, and conditions; metamorphic environments, metaluminous and ultrametamorphic deposits.

UG 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., GEOL 100N, 202 or equiv. Principles of paleontology including morphology, classification and evolution of major groups of fossils and their application to paleoecology and biostratigraphy.

UG 311 Paleobiology 3 cr. Offered spring. Prereq., GEOL 310 or equiv. Application of geologic and biologic principles to problems in paleontology.

UG 313 Curation Techniques 2 cr. Offered spring. Prereq., basic course in natural sciences. Instruction in basic techniques of managing natural history collections. Focus on practical applications.

U 320N Global Water 4 cr. Offered spring. Prereq., one semester of college chemistry, ENEX 101 or equiv. Study of the chemistry of water in the hydrological cycle; how water picks its chemical attributes as it moves through the hydrological cycle. Atmospheric water, precipitation, ground water, and surface water are discussed.

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., GEOL 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 GEOL 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., GEOL 100N. Narrative discussion of the evolution of the Pacific Northwest from Archean time to present.


UG 430 Global Tectonics 3 cr. Offered spring. Prereq., GEOL 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 seismicity, volcanism, and crustal deformation.

UG 432 Architecture of Sedimentary Deposits 4 cr. Offered spring. Prereq., GEOL 202. Study of the architectural elements and composition of sedimentary deposits in the context of their tectonic environments and their influence on petroleum and hydrogeologic systems.

UG 433 Sedimentary Petrology 4 cr. Offered spring. Prereq., graduate standing or GEOL 432. Field, hand specimen and thin section petrology of siliciclastic and carbonate rocks, emphasis on tectonic and diagenetic interpretation of siliciclastic rock and environments of deposition and diagenesis of carbonate rocks.

UG 437 Seismology and Magnetics 4 cr. Offered autumn. Prereq. or coreq., MATH 153, GEOL 100N-101N, PHYS 121N. Theory and global aspects of seismology and magnetics as well as their practical application to environmental problems.

UG 438 Gravity and Electromagnetics 4 cr. Offered Spring. Prereq. or coreq., MATH 153, GEOL 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 hillside 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., GEOL 100N-101N; PHYS 121N or 221N; MATH 150 or 152 strongly recommended. Occurrence, movement, quality, and methods of quantification of groundwater. Geophysical framework and physics of groundwater flow. Supply, contamination, and management problems.

U 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.

U 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.

G 528 Sedimentary Basin Analysis 4 cr. Offered autumn. Prereq., GEOL 202. Influence of allochthonous processes (tectonism, climate, eustacy, etc.) in shaping the evolution of sedimentary basins. Emphasis on integration and synthesis of tools of sedimentary basin analysis, including the study of depositional systems, provenance, palaeocurrents, subsidence, sequence stratigraphy, and well logs.

G 531 Environmental Geochemistry of Metal Contamination 4 cr. Offered autumn. Prereq., GEOL 470, 479; CHEM 442; FOR 511 or consent of instr. Integration of major processes and cycles transporting, fixing, and transforming inorganic contaminants in aquatic systems, soils, sediments and subsurface environments. Concentration on multidisciplinary research to solve complex environmental problems.

G 560 Fluvial Geomorphology 4 cr. Offered intermittently. Prereq., one year college calculus and physics. Application of fluid mechanics to sediment transport and development of river morphology. Form and process in river meanders, the pool-riffle sequence, aggradation, grade, and baselevel.

G 570 Advanced Geochemistry 4 cr. Offered autumn even-numbered years. Prereq., one year college chemistry. Chemistry of aqueous systems including aqueous kinetics, aqueous thermodynamics, acid/base chemistry, carbonate systematics, oxidation/reduction reactions, mineral solubility, and complexation. Includes an introduction to the use of geochemical models. Concepts applied to natural systems.

G 572 Advanced Hydrogeology 3 cr. Offered spring. Prereq., GEOL 480 or consent of instr. Advanced concepts used in groundwater investigations, including flow systems analysis, hydrogeologic monitoring and sampling, resource evaluation, exploration, development, and contaminant transport. Special problem areas in groundwater exploration and management.


G 579 Geochemistry of Hydrothermal Systems 3 cr. Offered autumn, even-numbered years. Prereq., one year of college of chemistry of consent of instr. Chemistry and geology of hydrothermal systems including solute/gas geochemistry, acid/base reactions, oxidation/reduction reactions, mineral equilibrium, and microbial ecology as applied to terrestrial and submarine hydrothermal systems. Includes an introduction to the use of geochemical models.

G 580 Topics in Mineralogy and Petrology Variable cr. (R-6 for M.S., R-12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: tectonics and petrology; alkaline igneous rocks.

G 582 Topics in Structure and Geophysics Variable cr. (R-6 for M.S., R-12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with faculty. Recent topics: structural analysis, Precambrian crustal evolution, field trips on Rocky Mountain structure.

G 583 Topics in Stratigraphy, Paleontology and Sedimentation Variable cr. (R-6 for M.S., R-12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: evolution of life; Proterozoic stratigraphy; reefs through time.

G 585 Topics in Hydrogeology and Low-Temperature Geochemistry Variable cr. (R-6 for M.S., R-12 for Ph.D.) Prereq., consent of instr. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: field methods, well design, contaminant transport, geochemical modeling.

G 587 Topics in Geomorphology Variable cr. (R-6 for M.S., R-12 for Ph.D.) Offered spring. Prereq., consent of instr. Reading and discussion of relevant papers. Offerings on request of graduate students by arrangement with appropriate faculty. Recent topics: landscape evolution; weathering processes; tectonic geomorphology.

G 590 Supervised Internship 1-12 cr. Offered intermittently.

G 595 Special Topics Variable cr. (R-8) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.


Faculty

Professors
Marc S. Hendrix, Ph.D., Stanford University, 1992
Johnnie N. Moore, Ph.D., University of California (Los Angeles), 1976
James W. Sears, Ph.D, Queen’s University, 1979
Steven D. Sheriff, Ph.D., University of Wyoming, 1981 (Chair)
George D. Stanley, Ph.D., University of Kansas, 1977
Graham R. Thompson, Ph.D., Case Western Reserve, 1971
William W. Woessner, Ph.D., University of Wisconsin (Madison), 1978

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

Assistant Professors
Julia A. Baldwin, Ph.D., Massachusetts Institute of Technology, 2003
Rebecca O. Bendick, Ph.D., University of Colorado, Boulder, 2000
Manny J. Gabet, Ph.D., University of California, Santa Barbara, 2002
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
Ian M. Lange, Ph.D., University of Washington, 1968
Raymond C. Murray, Ph.D., University of Wisconsin, 1955

Department of History

Harry W. Fritz, Chair

For the student in search of a broad education rather than in training for a particular occupation, the History Department offers an exciting program of instruction. It is designed to provide a knowledge and understanding of the background and ramifications of present local, national, and world affairs. The program emphasizes understanding rather than the memorization of names and dates. Students are taught how to read critically, analyze thoughtfully, conduct research carefully, and write intelligently.

Toward this end, the department offers a wide variety of courses ranging in time, location, and subject. For those students interested in local history there are courses on California, 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 scientists 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 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

Major Teaching Field of History Option in History Education: Students seeking licensure to teach history in a middle or secondary school must complete the requirements for the B.A. degree with a major in history, to include the following: HIST 104H or 105H; HIST 151H or 152H; HIST 269; 6 credits in Asian, Islamic, African, or Latin American history; HIST 300; 9 upper-division elective credits in American history; 9 upper-division elective credits in European history; 3 additional upper-division elective credits in history courses; and C&I 428. Students must complete a teaching minor in another curriculum area taught in grades 5-12. Students must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of this catalog. Students are encouraged to seek licensure advising from the Department of Curriculum & Instruction.

Minor Teaching Field of History: Students seeking a teaching minor if history complete the following requirements: HIST 104H or 105H; HIST 151H-152H; HIST 269; one course in Asian, Islamic, African, or Latin American history; HIST 300; 3 upper-division elective credits in American history; 3 upper-division elective credits in European history; and C&I 428. Students must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of this catalog. Students are encouraged to seek licensure advising from the Department of Curriculum & Instruction.
Combined History-Political Science Major and Comprehensive Social Science Teaching Major

The B.A. degree with a major in History-Political Science is designed for students seeking licensure to teach history and the social sciences in middle and secondary schools, grades 5-12. The history-political science major qualifies as a single-field endorsement and does not require a teaching minor. Students satisfy the history-political science major requirements by completing the course requirements for the Comprehensive Social Science Teaching major. See the Department of Curriculum & Instruction in this catalog for information about this major, admission to the Teacher Education Program and requirements for licensure in Montana.

Suggested Course of Study

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>History 104H-105H European</td>
<td>A S</td>
</tr>
<tr>
<td>Civilization or 151H-152H The Americans</td>
<td>4 4</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3 -</td>
</tr>
<tr>
<td>Foreign language</td>
<td>5 5</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>3 6</td>
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Second Year

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>HIST 201H, East Asia, 208H, Africa,</td>
<td>6 6</td>
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<tr>
<td>HIST 269 Montana, or HIST 283H, 284H Islamic or HIST 286H, 287H Latin America</td>
<td>6 6</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>9 9</td>
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<td>15 15</td>
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Third Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>HIST 300 The Historian’s Craft</td>
<td>(3) (3)</td>
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<tr>
<td>HIST 300-level history courses</td>
<td>3-6</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>9 9</td>
</tr>
<tr>
<td>Total</td>
<td>15 15</td>
</tr>
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</table>

Fourth Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 300- and 400-level history</td>
<td>6 3</td>
</tr>
<tr>
<td>Electives, General Education, Broadfield Social Sciences and C&amp;I courses (if applicable)</td>
<td>9 12</td>
</tr>
<tr>
<td>Total</td>
<td>15 15</td>
</tr>
</tbody>
</table>

Requirements for a Minor

To earn a minor in history the student must complete the following: (1) a minimum of 20 credits in history of which 6 credits must be in American history and 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 spring. 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-discussion. Credit not allowed for both 107H and 104H.

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

U 151H The Americans: Conquest to Capitalism 4 cr. Offered autumn. A comprehensive introductory history of Colonial, Revolutionary and 19th century America, to 1896. Lecture-discussion. Credit not allowed for both 151H and 154H.

U 152H The Americans: The Twentieth Century 4 cr. Offered spring. A comprehensive introductory history of the U.S. since 1896. Lecture-discussion. Credit not allowed for both 152H and 155H.

U 154H Honors Course in the Americans: Conquest to Capitalism 4 cr. Offered autumn. Limited enrollment by consent of instr. only. A comprehensive introductory history of Colonial, Revolutionary, and 19th century America, to 1896. Lecture-discussion. Credit not allowed for both 154H and 151H.

U 155H Honors Course in the Americans: The Twentieth Century 4 cr. Offered spring. Limited enrollment by consent of instr. only. A comprehensive introductory history of the U.S. since 1896. Lecture-discussion. Credit not allowed for both 155H and 152H.

U 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.
World terrorism in the modern world, from the French Revolution to the autumn odd-numbered years. Ireland, the experimental offerings of new courses, or leaders in Bourbons reforms, social movements troubles.

Abbasid Empire in the 13th century, focusing primarily on the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952. Dissent within the revolutionary movement; the different revolutionary traditions.

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.

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 languages between 1453 and 1952.

Latin America, 1750-1880 3 cr. Offered autumn. Bourbon reforms, social movements in the late colonial period, independence, neo-colonialism, slavery and Emancipation.


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.

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.

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.

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.

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.

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.

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.

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.

Europe in Renaissance and Reform, 1348-1648 3 cr. Offered intermittently. The political, economic, intellectual and social development of Europe from 1348 to 1648.

The Age of Absolutism, 1648-1789 3 cr. Offered intermittently. The political, economic, intellectual, and social development of Europe 1648-1789.

France in Revolution, 1789-1848 3 cr. Offered autumn. Political, economic, and social upheaval and development.

Modern France, 1848-Present 3 cr. Offered intermittently. The political, economic and social development.

Contemporary Europe 3 cr. Offered autumn odd-numbered years. European politics, culture, and society since 1945.

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.

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.

Italy: 1800-Present 3 cr. Offered spring even-numbered years. The emergence of a united Italy, the triumph of fascism and contemporary Italian society.

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.

Foreign Relations of the Great Powers, 1870-Present 3 cr. Offered autumn. The Bismarckian alliances, causes and results of the First World War and the rise of Hitler, the Japanese and Nazi new order, the Second World War, American's emergence as a Great Power, the division of Europe and the world by the Cold War, and the continual search for stability in a revolutionary world.

The Global Diplomacy of the Cold War 3 cr. Offered spring. Confrontations of international relations from the Second World War to the present including the Cuban Missile Crisis and Vietnam War, regional perspectives on Soviet-American rivalries, changes since Gorbachev, and current developments.

War, Peace, and Society 3 cr. Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr. A thematic and interdisciplinary approach to warfare and peace, sociopolitical structures and military organization, power among states, technological change, the role of the individual in organized violence, and moral views of war and peace.

Human Rights 3 cr. Offered intermittently. A treatment of the powerful global influence of visions of human rights upon the historical and contemporary world in which movements such as abolitionism, women's rights, humanitarian law, racial equality, decolonization and democratization, and the impact of the Universal Declaration of Human Rights.


UG 341 Britain from Reformation to Revolution, 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 1801 3 cr. Offered autumn. Emphasis on the autocratic political tradition, Westernization, and territorial expansion.

UG 345 Russia Since 1801 3 cr. Offered spring. Emphasis on modernization and the revolutionary movement; the Bolshevik Revolution and Stalinist era; the decline of Soviet system.

UG 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 Eastern Europe 3 cr. Offered spring. Main currents in the history of Eastern Europe from earliest times to the present. Focus on the lands of Poland, Bohemia, Hungary, and the Balkan region.

UG 350 Historical Backgrounds to Current Crises 3 cr. (R-6) Offered intermittently. Social, intellectual, political, and constitutional backgrounds of unresolved crises in Europe, Asia, Middle East, and America.

UG 351 Colonial America 3 cr. Offered even-numbered years. Emphasis changes from year to year. Can touch upon the political economy of Puritanism, through gender and family to the preconditions for the American revolution.

UG 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 Industrial America 3 cr. Offered spring odd-numbered years. From Reconstruction to the New Deal. The final triumph of industrial capitalism.

UG 357 The Age of Reform: The United States, 1919-1952 3 cr. Offered autumn. Roaring twenties, the Great Depression, the New Deal, World War II, the Cold War, and social and intellectual developments.

UG 358 America in Our Time: The United States, 1952 to the Present 3 cr. Offered spring. The Cold War and its consequences, the civil rights revolution, affluence and anxiety, counter-culture, political radicalism, feminism, the Nixon years, Watergate and after.

UG 359 Topics in 20th Century U.S. History 3 cr. (R-9) Offered intermittently. Selected topics in 20th century American history.

UG 360 Origins of Rural Radicalism in America, 1750-1900 3 cr. Offered autumn even-numbered years. Addresses the origins of rural radicalism in America from the colonial era to the early twentieth century.

UG 361H The American South: From Slavery to Civil Rights 3 cr. Offered autumn odd-numbered years. Social history of the American South with particular attention to race, class, and gender.

UG 362 Afro-American Struggle for Equality 3 cr. Offered intermittently. A survey of the various efforts by African Americans to achieve racial equality in the United States from the late 19th century through the 1960s.

UG 363H History of American Law 3 cr. Offered intermittently. Issues in the social history of law from the colonial period to the present.

UG 364 Environmental History 3 cr. Offered spring odd-numbered years. Prereq., lower-division course in Perspective 5 or consent of instr. A history of the human-nature interaction in the United States.


UG 366 20th Century American West 3 cr. Offered spring. The contemporary trans-Mississippi West.

UG 367H Families and Children in America 3 cr. Offered intermittently. Historical overview of families and children in the United States from the colonial era to the present. Topics include changing patterns of family life; the evolution of attitudes toward children and youth, the relationship between the American family and the nation-state, and debates over “family values” from the nation’s founding to the present.

UG 368 American Military History 3 cr. (R-6) Offered spring. The French and Indian Wars to Vietnam and beyond; chronological and topical accounts.

UG 369 Images of the American West 3 cr. Offered even-numbered years. The roles that artists, artistic works and illustrations, and symbolic images have played in the history of the American West.

UG 370H Women in America: to the Civil War 3 cr. Offered autumn. Same as WS 370H. Interpretive overview of women’s experiences in America before the Civil War. Exploration of new definitions of womanhood and “women’s sphere” emerging from women’s varied experiences in the American colonies and the American Revolution; how immigrant, poor, slave, and western women transgressed the boundaries of their sphere; and how women—from both inside and outside their assigned sphere—reshaped their roles in American society.

UG 371H Women in America: from the Civil War to the Present 3 cr. Offered spring. Same as LS and WS 371H, Interpretive overview of women’s experiences in America after the Civil War. Exploration of such topics as women’s
associations, the battle for suffrage, organized feminism and its opponents, the industrialization of housework, women in the workforce, reproductive rights, and welfare. Particular attention to women’s experiences shaped by class and race as well as by gender.

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

U 379H African American History Since 1865 3 cr. Offered intermittently. Same as AAS 379H. Study of the African American experience since the Civil War. Change and continuity in the African American experience, the 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 180, emphasizing internal weaknesses of the Manchu dynasty, confrontation with the west, and the emergence of Nationalist and Communist regimes.

UG 381H Modern Japan 3 cr. Offered spring. Japanese culture, politics, and economics since 1800: the Tokugawa period, the Meiji Restoration, militarization and the Great Pacific War, the American occupation, Japan as a model of modernization.

UG 384 Work, Workers, and the Working Classes in America 3 cr. Offered intermittently. A history of unskilled, semi-skilled, and skilled labor and the men and women slaves and free who performed it.

UG 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. The development of the American Constitution from its English and colonial background through the Taney Court.

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

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

U 398 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.

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 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 460. Advanced analysis of the historical and contemporary issues involving the human
communities, cultures, and economies in Central and Southwest Asia.

UG 465H History of Indian Affairs to 1865 3 cr. Offered autumn. Same as NAS 465H. A study of tribal encounters and adjustments to European and American powers to 1865.

UG 466H History of Indian Affairs from 1865 3 cr. Offered spring. Same as NAS 466H. A study of tribal encounters and adjustments to the American nation from 1865.

UG 467 Indian, Bison and Horse 3 cr. Offered autumn odd-numbered years. Historical interaction between Native American societies, horses and bison in North America. A writing intensive course.

UG 470 Women and Slavery 3 cr. Offered autumn odd-numbered years. Prereq., upper-division standing. Study of the connection between women's status and slavery in antebellum America, looking at slave women, slaveholding women, and antislavery women.

UG 471 Southern Women in Black and White 3 cr. Offered spring, even-numbered years. Examination of the connections between race, class, and gender in the South. Conflict and cooperation among black and white women in politics, reform, and work.

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

UG 493 Omnibus Variable cr. (R-9) Offered intermittently. University Omnibus option for independent work. See index.

UG 494 Seminar Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

UG 495 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study Variable cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 500 Teaching Discussion Sections in History 1 cr. (R-4) Supervised teaching and reading keyed to survey courses in American history and western civilization.

G 511 Early Modern Europe 3 cr. Offered alternate years. Intensive reading in 16th, 17th, and 18th century European history.

G 512 Age of Absolutism and Revolution, 1648-1789 3 cr. Offered autumn even numbered years. Intensive reading in 17th and 18th century European history.

G 514 Modern France 3 cr. Offered alternate years. Intensive reading, from the French Revolution to the present.

G 516 Modern Europe 3 cr. Offered alternate years. Intensive reading in 19th and 20th century European history.

G 531 International Relations 3 cr. Offered alternate years. Intensive reading in the history of international relations and diplomacy during the late 19th and 20th centuries.

G 540 European Cultural and Intellectual History 3 cr. Intensive reading.

G 541 Early Modern Britain 3 cr. Offered intermittently. Intensive reading in British history from 1500 to 1800.

G 544 Modern Russia 3 cr. Offered alternate years.

Intensive reading in 19th and 20th century Russia.

G 550 Early America 3 cr. Intensive reading.

G 551 Early National America 3 cr. Intensive reading.

G 552 Industrial America, 1863-1932 3 cr. Intensive reading.

G 553 Modern America 3 cr. Intensive reading.

G 564 U.S. Environmental History 3 cr. Intensive reading.

G 566 The American West 3 cr. Intensive reading.

G 567 Native Americans 3 cr. Intensive reading.

G 585 Latin America 3 cr. Offered alternate years. Intensive reading.

G 586 Modern Islamic Politics 3 cr. Offered alternate years. Intensive reading.

G 594 Seminar Variable cr. (R-12) Prereq., 27 credits in history. Directed research.

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

G 596 Independent Study Variable cr. (R-12)

G 597 Research in History Variable cr. (R-9)

G 598 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

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

Harry W. Fritz, Ph.D., Washington University at St. Louis, 1971 (Chair)

Anya Jabour, 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

Associate Professor

John A. Eglin, Ph.D., Yale University, 1996

Assistant Professor

Robert H. Greene, Ph.D., Michigan State University, 2004

Jody Pavilack, Ph.D., Duke University, 2003

Jeff Wiltse, Ph.D., Brandeis University, 2002

Emeritus Professor

David M. Emmons, Ph.D., University of Colorado, 1969

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 service 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 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
Adolescence
C&I 305 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 330 Juvenile Delinquency
SW 300 Human Behavior and Social Environment
SW 420S Child Abuse and Neglect

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 Garfinkle, Ph.D., University of Washington, 1995 (Associate Professor, Education)
Shannon Guiffoyle, 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 Spores, Ph.D., University of Michigan, 1976 (Professor, Social Work)
Meg Traci, 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., The 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.

UG 411 Infant and Toddler Development and Variability 3 cr. Offered autumn even-numbered years. Foundation of knowledge and practical experiences in infant and toddler development and its variability. Development of the child within the family and social context.

UG 412 Family Development 3 cr. Offered autumn even-numbered years. Foundation of knowledge and practical experiences in family development from an ecological, family systems perspective. Focus on families who have children with disabilities.

UG 413 Assessment and Program Planning 4 cr. Offered spring odd-numbered years. Prereq., consent of instr. Foundation of knowledge and practical experiences in child assessments and family information gathering. Primary focus on birth through two years of age.

UG 414 Community Service Delivery 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 minorin 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 495 Sociology of Environment and Development
- FOR 381 International Social and Environmental Change
- FOR 382 Field Studies in International Social and Environmental Change
- FOR 424 Social Forestry
- PSC 463S Development Administration

Content Courses:
- 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

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.

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Faculty

Jennifer Alix-Garcia, Ph.D., University of California, Berkeley, 2005 (Assistant Professor, Economics)
Richard Barrett, Ph.D., University of Wisconsin, 1972 (Professor, Economics)
Jill Belsky, Ph.D., Cornell University, 1991 (Professor, Society 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)
Jeff Gritzner, Ph.D., University of Chicago, 1986 (Professor, Geography)
Paul Haber, Ph.D., Columbia University, 1992 (Professor, Political Science)
Sarah Halvorson, Ph.D., University of Colorado, Boulder, 2000 (Assistant Professor, Geography)
Peter Koehn, Ph.D., University of Colorado, Boulder, 1973 (Professor, Political Science)
Kimber Haddix McKay, Ph.D., University of California, Davis, 1998 (Assistant Professor, Anthropology)
Phyllis B. Bgai, Ed.D., The University of Montana, 2004 (Adjunct Assistant Professor, Communication Studies)
Rebecca Richards, Ph.D., Utah State University 1990 (Associate Professor, Sociology)
Steve Siebert, Ph.D., Cornell University, 1990 (Professor, Forest Management)
Teresa Sobieszczyn, Ph.D., Cornell University, 2000 (Assistant Professor, Sociology)
Rita Sommers-Flanagan, Ph.D., The University of Montana, 1989 (Professor, Education)
John Spores, Ph.D., University of Michigan, 1976 (Professor, Social Work)

Latin American Studies

Maria Jose Bustos Fernandez (Associate Professor of Modern and Classical Languages and Literatures) Director/Advisor

The Latin American Studies program at The University of Montana-Missoula provides students an opportunity to study and research the history, culture, lands, art, geography and institutions of Spanish and Portuguese speaking nations of American through an interdisciplinary perspective. The growing importance of the United States economic, political and cultural relations with the Latin American region makes knowledge of Latin America and its people an essential part of a liberal arts education.

The Latin American Studies program is administered by the Latin American Studies steering committee. The interdisciplinary faculty who teach and direct research in the program, drawn mainly from the College of Arts and Sciences, are internationally known for their research and experience abroad. The program encourages and promotes travel and exchange with institutions of higher education in Latin America. Several study abroad options in Latin America are available both for a short period of time or for longer stays (one semester or two semester programs). Inquire at the Departments of Modern and Classical Languages and Literatures, Political Sciences and Art for details on these programs as well as at the Office of International Programs.

The Latin American studies program offers a minor in Latin American Studies in conjunction with a major in another discipline. Students admitted to the program must register with the academic advisor of the Latin American Studies program who will review their course of study and advise on planning their course sequence. Students are encouraged to plan this option early in their studies to be able to participate in a study abroad program, if possible.

Students minorng in Latin American Studies will be prepared for graduate study or for employment in fields such as government, non-governmental organizations, business, industry, health and education.

Requirements for a Minor

To earn a minor in Latin American studies a student must:
1. Complete a minimum of 18 semester credits in approved Latin American studies courses (all courses listed below in addition to special offerings) in at least three different disciplines. One of these courses must be MCLG/ANTH 100H, Introduction to Latin American Studies.
2. Complete SPAN 101 through 201, or equivalent.
Note: Participation in a study abroad program is highly recommended.

Latin American Studies Core Curriculum:
MCLG/ANTH 100H Introduction to Latin American Studies 3 cr.
MCLG/LS 358 Latin American Civilization through Literature and Film 3 cr. or SPAN 359 Spanish American Civilization through Literature and Film 3 cr.
SPAN 312L Introduction to Latin American Literature 3 cr.
SPAN 450L Latin American Literature 3 cr. (R-6)
SPAN 494 Seminar Variable cr. (R-12) (when topic is related to Latin American literature such as Latin American drama, poetry, novel, short story, Argentinian literature, 19th Century Latin American Literature)
HIST 286H Latin America, 1750-1880 3 cr.
HIST 287H Latin America, 1880-1990s 3 cr.
GEOG 351 Geography of a Selected Region (when the selected region is Middle America, 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)
Marin 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

Liberal Studies

Ruth Vanita, Director

The Liberal Studies curriculum is designed for the student who wants a liberal education with emphasis on the humanities and social sciences. It is not intended for the student who is undecided about a major. It includes courses in literature, philosophy, art, foreign languages, history and the social sciences. This program permits students to work in a combination of the above areas rather than in a particular one of them and affords a varied selection of courses from which to choose. All majors must complete the lower-division core curriculum. During their last two years students may choose one of the area studies options (see Area Studies below). More information is available at the Liberal Studies Program office in LA 101, (406) 243-2171, or online at <www.cas.umt.edu/liberal>.

Majors in Liberal Studies may not take any of their major courses on a pass/not pass basis. Upper-level students transferring into this program should have at least a C average in all credits attempted.

Special Degree Requirements

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

Following are the special requirements for the Bachelor of Arts degree with a major in liberal studies.

Major Requirements

Core Curriculum (courses numbered under 300)

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>English 101 Composition (coreq. or prereq. to LS 151L-152L)</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language (2 years of one language)</td>
<td>18</td>
</tr>
<tr>
<td>Liberal Studies 151L, 152L Introduction to Humanities</td>
<td>8</td>
</tr>
<tr>
<td>American Literature</td>
<td>3</td>
</tr>
<tr>
<td>American History</td>
<td>3-4</td>
</tr>
<tr>
<td>European literature (including British)</td>
<td>3</td>
</tr>
<tr>
<td>European history (including British)</td>
<td>3-4</td>
</tr>
<tr>
<td>Native American studies or African-American studies</td>
<td>3</td>
</tr>
</tbody>
</table>

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 Sponberg, Professor of Liberal Studies, advisor): Students who choose the Asian Studies option must register with the Asian studies faculty advisor who will supervise their program. The following requirements must be met to complete the Asian studies option within the liberal studies major.

1. Completion of the Liberal Studies core curriculum. (See above.)
2. Six credits in introductory Asian Studies courses (100-level courses or study abroad in Asia) including AS 102H.
3. Twelve credits in foundational Asian Studies courses (200-level courses), including Asian Studies 201H and 202H.
4. At least 30 credits in upper-level courses (300-level courses and above), of which at least six credits must be in the humanities and six in the social sciences.
5. Language Requirement: Two years (or equivalent proficiency) in an Asian language appropriate to the student’s academic goals and approved by the academic advisor. Students who plan to pursue graduate work are strongly advised to complete three years, including at least one study abroad in Asia experience.

B. Women’s Studies (Anya Jabour, 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, and Sarah Hayden, Professor of Communication Studies, Co-Directors.

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:

### Suggested Course of Study

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENEX 101 Composition</td>
<td>- 3 A S</td>
</tr>
<tr>
<td>ENLT 221L British Literature through 18th Century</td>
<td>- 3 (3)</td>
</tr>
<tr>
<td>and 20th Centuries</td>
<td>- 3 (3)</td>
</tr>
<tr>
<td>Foreign language 101-102 Elementary</td>
<td>- 5 5</td>
</tr>
<tr>
<td>HIST 104H or 105H European Civilization</td>
<td>- 4 (4)</td>
</tr>
<tr>
<td>LS 151L-152L Introduction to Humanities</td>
<td>- 4 4</td>
</tr>
<tr>
<td>Lower-division Native American Studies course</td>
<td>- 3 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Second Year</td>
<td>A S</td>
</tr>
<tr>
<td>Foreign language 201, 202 Intermediate</td>
<td>- 4 4</td>
</tr>
<tr>
<td>ENLT 224L American Literature to 1865 or</td>
<td></td>
</tr>
<tr>
<td>225L American Literature since 1865</td>
<td></td>
</tr>
<tr>
<td>and 20th Centuries</td>
<td></td>
</tr>
<tr>
<td>HIST 151H The Americans or 152H</td>
<td></td>
</tr>
<tr>
<td>PHIL 200E Ethics or lower-division Political</td>
<td></td>
</tr>
<tr>
<td>Science course</td>
<td>- 3 3</td>
</tr>
<tr>
<td>Lower-division course in Asian Studies</td>
<td>- 3 3</td>
</tr>
<tr>
<td>Lower-division course in Religious Studies</td>
<td>- 3 3</td>
</tr>
<tr>
<td>General Education</td>
<td></td>
</tr>
<tr>
<td>16-17</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.

### Liberal Studies (LS)

- **U 119H Philosophical Perspectives on Women in the Western Hemisphere 3 cr.** Offered intermittently. Same as PHIL and WS 119H. Introduction to the discipline and scope of Western philosophy focusing on women as the subject rather than men. A chronological study following the ideological development in the West of social attitudes and scientific theses.
- **U 151L Introduction to the Humanities 4 cr.** Offered autumn. Prereq., eligibility for ENEX 101 based on writing placement examination. General survey of the field of Humanities in Western civilization with reference to non-Western analogs, contrasting the Graeco-Roman with the Jewish and Christian traditions.
- **U 152L Introduction to the Humanities 4 cr.** Offered spring. Prereq., eligibility for ENEX 101 based on writing placement examination. General survey of the field of Humanities in Western civilization, with reference to non-Western analogs, since antiquity.
- **U 160L Classical Mythology 3 cr.** Offered every spring; offered intermittently in summer. Same as MCLG 160L. Deities and myths of the Greeks and Romans, with emphasis on those of most importance to Western literature and art.
- **U 161H Introduction to Asian Humanities 3 cr.** Offered autumn. Coreq., LS 151L or consent of instr. Selective survey of classical South and East Asian perspectives on the humanities as introduced in LS 151L. Hinduism, Confucianism, Taoism and Buddhism are the primary traditions considered.
- **U 170 Myth Seminar: Honors 1 cr.** Offered every spring, offered intermittently in summer. Same as MCLG 170. Coreq., MCLG/LS 160L Research, writing, and discussion about the mythologies of the Greeks and Romans in a small group setting.
- **U 180L Introduction to Film 3 cr.** Offered every term. The history and development of the film medium. Emphasis on critical analysis of selected classic or significant films.
- **U 195 Special Topics Variable cr.** (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- **U 210H Japanese Culture and Civilization 3 cr.** Offered intermittently. Same as AS, MCLG and JPNS 210H. The historical, religious, artistic, literary and social developments in Japan from earliest times to the present.
- **U 211H Chinese Culture and Civilization 3 cr.** Offered intermittently. Same as AS and MCLG 211H. A comprehensive study of Chinese culture and civilization in the manifold aspects of anthropology, sociology, economics, 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, prehistory, patterns of cultural and historical change, issues of socio-economic, religious, and political diversity, and the broader political significance of the region.
- **U 214S Central 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 GER M 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.

UG 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.

UG 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.

UG 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 Transl ation 3 cr. Offered intermittently in spring. Same as AS, CHIN, and MCLG 314L. Highlights of Chinese literature to 1800; includes philosophy, poetry, prose, and fiction.

U 315L Major Hispanic Authors and Their Times 3 cr. Offered autumn. Same as MCLG 315L. The intensive study of the life, times, and works of a major Hispanic author.

U 320 Women in Antiquity 3 cr. Offered 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 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).

U 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, Realisme, Nouvelle Vogue, etc.) With an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.

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.

U 351L Exploring the Humanities in Depth 3 cr. (R-9) Offered autumn and spring. Intensive study of a specific historical period in Western humanities through its seminal literature, with an emphasis on the intellectual and ethical...
paradigms which form an essential component of the foundations of the Western tradition.

UG 356 Studies in Literature and Other Disciplines 3 cr. (R-9) Offered autumn and spring. Prereq., nine credits in ENLT or LS or consent of instr. Same as ENLT 325. Selected works of literature studied in conjunction with works of art, music, religion, philosophy, or another discipline (every two years, Psychology and Literature, Film and Literature, The Poetry of Meditation; less frequently, British Art and Literature, Modernism, Literature and Science, Bible as Literature, Song).

U 358 Latin American Civilization through Literature and Film 3 cr. Offered autumn odd-numbered years. The 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 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.

UG 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.

U 391 Agriculture in the Humanities and Fine Arts 1 cr. Offered autumn. Same as EVST and PHIL 391. Lecture series that accompanies cooperative education credit for students in P.E.A.S. (Program in Ecological Agriculture and Society).

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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

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

U 398 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 texts (e.g., aesthetic poststructural, new historicist, classical, renaissance, romantic, narrative, psychoanalytic, formalist, neo-marxist, feminist, gender, cultural studies and reader-response theory.)

U 493 Omnibus Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Independent work under University omnibus option. See index.

UG 494 Seminar in Humanities: Genres and Periods 3 cr. (R-9) Offered intermittently. Concentrated studies in specific genres and periods.

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

U 496 Independent Study Variable cr. (R-9) Offered intermittently.

U 497 Research Variable cr. (R-6) Offered intermittently.

U 498 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.

Faculty

Professors
Paul A. Dietrich, Ph.D., University of Chicago, 1984
Stewart Justman, Ph.D., Columbia University, 1976
Alain Sponberg, Ph.D., University of British Columbia, 1980
Ruth Vanita, Ph.D., Delhi University, 1992

Assistant Professor
Megan Williams, Ph.D., Princeton, 2002

Adjunct Associate Professor
Dan Spencer, Ph.D., Union Theological Seminary, 1994
Linguistics Program

Anthony Mattina, Director

Mission

Linguistics and Applied Linguistics. Linguistics studies all aspects of Language and languages and aims to discover the general principles that govern Language—principles presumed to be common to all languages. It also aims to study, understand, and describe the details of individual languages: the sounds used by individual languages; the make-up of words, phrases and sentences; the range of phenomena covered by such grammatical categories as verbs and nouns, gender, tense, aspect, transitivity and a host of others. Linguistics studies how languages are learned, and how they function in their social contexts. The understanding of linguistic principles is applied to a variety of fields, including language teaching, language therapy, communication, speech synthesis, and language preservation.

Objectives. The objectives of the Linguistics Program are to train students in the scientific analysis of languages. Students are prepared for further graduate study in the field; to study other languages; to apply their understanding of language to other fields; and to teach English and other languages to non-native students of those languages.

Endangered Languages. About six thousand languages are currently spoken in the world, but only 300 (five percent) are projected to survive into the 22nd century. The predicted imminent extinction of nearly six thousand languages is cause for great concern, much as the extinction of biological species, and we wish for biological, linguistic, and ethnic diversity. The preservation of languages and linguistic diversity, therefore, is the most pressing goal of Linguistics.

Montana and Regional Languages. Montana is the aboriginal home of speakers of languages that belong to four distinct language families: 1. Kutenai; 2. Flathead (Salish); 3. 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 masters 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, 473, 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, 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 (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 speaker of English; designed for students who have scored between 500 and 525 on the TOEFL. Grading A, B, C, D, or F.

U 450 Advanced English for Academic Purposes: I 3 cr. Offered autumn and spring. Prereq., TOEFL score of 526 or greater and consent of instr. 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 525 an 580 on the TOEFL. Grading A, B, C, D, or F.

Linguistics (LING)

U 173 Language, Culture and Society 3 cr. Offered autumn. Same as COMM 173. A survey of the elements of language (structure, meaning, and sound) including language use in its social and cultural context. Credit is not allowed for students who have already completed Ling 270.

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

U 198 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 ANTH and ENLI 270. An introduction to the field of modern linguistics and to the nature of language. Emphasis on the ways different cultures develop symbol systems for representing meaning.

U 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 GER 403. Contrastive analysis of German phonology, morphology, and syntax.

UG 405 Applied Spanish Linguistics 3 cr. Offered autumn. Prereq., SPAN 302 and LING 270 or consent of instr. Same as SPAN 405. Topics and issues from various linguistic approaches, selected for their applicability to the teaching of Spanish.

UG 465 Structure and History of English for Teachers 3 cr. Offered autumn and spring. Same as ENLI 465. The development of the English language from a historical perspective contrasted with the phonological and grammatical structure of English from a modern linguistic point of view; specifically designed for teachers.

UG 466 Pedagogical Grammar 3 cr. Offered autumn. Prereq., LING 470. Discussion of English grammar from a non-native speaker perspective focusing on items and structures that are difficult for non-native speakers.

UG 470 Introduction to Linguistic Analysis 3 cr. Offered autumn and spring. Same as ANTH, 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 472 Generative Syntax and Semantics 3 cr. Offered autumn. Prereq., LING 470. Same as ANTH 473S. Technical study of the relationships between grammatical categories and world view.

UG 474 Language History, Variety, and Change 3 cr. Offered autumn. Prereq., LING 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; 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: phonologic, 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 such as maintenance and interference; code switching and mixture; and bilingual education.

UG 478 Second Language Acquisition 3 cr. Offered autumn odd-numbered years. Prereq., LING 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 480. The application of principles of modern linguistics to the problems of teaching English as a foreign language.

UG 481 The ESL Professional 3 cr. Offered spring. Prereq. or coreq., LING 491; prereq., LING 480 or consent of instr. Professional development techniques for the independent language teacher: language test construction, self-critique of teaching strategies, materials development, curriculum evaluation and design, electronic and print media resources for the language teaching professional.

UG 482 Topics in the Philosophy of Language 3 cr. (R-6) Offered Intermittently. Prereq., upper-division standing. Same as PHIL 471. Discussion of one or more of the following topics: theories of meaning, theories of reference, pragmatics, the origin of language, psycholinguistics, and foundations of linguistic theory.

UG 484 North American Indian Linguistics 3 cr. Offered spring odd-numbered years. Prereq., LING 470. Same as ANTH 484. Analysis and characteristics of American Indian languages in historical perspective.
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
MATH 351, 421 and two courses from MATH 422, 451, 452.

Mathematics Education Option
MATH 301, 326, 341, 406, 421, 431; one mathematics course chosen from 251, 311, 325, 381, 382 or any additional 3-4 credit 400-level mathematics course; and the completion of certification requirements for teaching in secondary schools to include C&I 430.

Statistics Option
MATH 341, 441, 442. (Additional mathematics and statistics courses chosen with advisor.)

Combinatorics and Optimization Option
Three courses chosen from MATH 381, 382, 485; and one course chosen from 341, 414, 471, or CS 332.

Applied Analysis Option
MATH 311, 412, 414 and one of 452 or 471. (MATH 351, and 485 are recommended.)

Major Requirements in Courses Outside Mathematics

1. Except for the Mathematics Education option, students must complete the foreign language requirement as specified in 1. within the Foreign Language/Symbolic Systems section under the General Education requirements or two courses chosen from CS 101, 131, 132, 201, 204, 207.

2. All mathematics majors, except those selecting the mathematics education option, must complete 18 credits in at least 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 least two sciences selected from astronomy, biology, chemistry, computer science, geology, microbiology and physics. An alternative to the science requirement is for the student to present a minor or second major in one of the schools or departments within the University, or for the student with a mathematics education option to complete an additional teaching minor or major.

3. The upper-division writing requirement for Mathematical Sciences majors consists of:
   a. An approved General Education upper-division Writing course
   OR
   b. A senior thesis, research paper or final project approved in advance by the Undergraduate Committee in the Department of Mathematical Sciences.

Requirements for a B.S. Degree with a Combined Major in Mathematical Sciences-Computer Science

The purpose for the combined program is to provide a thorough background in both allied disciplines and to inculcate a deeper understanding of their goals and methods. A student must complete 60 credits in the two disciplines: 30 of these credits in mathematical sciences courses and 30 of these credits in computer science courses. A minimum grade of “C-” and a 2.0 grade point average is required in all courses which follow.

The mathematical sciences requirements are: MATH 152-153 Calculus I, II; MATH 221-Linear Algebra; MATH 311, 412, 414, 441, and two courses chosen from MATH 325, 382, 442, 485. Three courses chosen from MATH 341, 351, 451, 452; and one course from MATH 325, 382, 442, 485. Three courses chosen from MATH 365, 455, 457, 458, and 486.

The combined computer science requirements are: MATH 152-153 Calculus I, II; MATH 221-Linear Algebra; MATH 311, 412, 414, 441, and one course from MATH 325, 382, 442, 485. Three courses chosen from MATH 341, 351, 451, 452; 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, FOR 220, and either COMM 111A or COMM 242.

Each student plans a program in consultation with a mathematical sciences and a computer science advisor. Students planning to attend graduate school in the mathematical sciences or computer science should consult with their respective 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, 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.


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
MATH 152-153 Calculus I, II ......... 4
ENEX 101 Composition .......... 3
Electives and General Education ...... 9
Total Credits: 16

Second Year
MATH 221-Linear Algebra ........ 4
MATH 251 Calculus III .......... 4
MATH 305 Introduction to Abstract Math .......... 3
Electives and General Education ...... 9
Total Credits: 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, credit is not allowed for any mathematics course that is a prerequisite for a mathematics course for which credit has already been earned. Students receiving transfer or Advanced Placement credit for MATH 241 may take MATH 117 for credit.

See the College of Technology section for Introductory Algebra, MAT 005.

U 100 Intermediate Algebra 5 cr. Offered autumn and spring. Prereq., MAT 005 or appropriate placement score. Topics include linear equations and systems of linear equations, inequalities, applications and graphing; polynomials; rational expressions and equations; radicals, rational exponents and complex numbers; quadratic equations; introduction to exponential and logarithmic functions. Credit not allowed for both MAT 100 and MATH 100.

U 107 Contemporary Mathematics 3 cr. Offered every term. Prereq., MATH 100 or appropriate placement score. An introduction to mathematical ideas and their impact on society. Intended for students wishing to satisfy the general education mathematics requirement.

U 109 Numbers as News 3 cr. Offered spring. Prereq., MATH 100 or appropriate placement score. An exploration of mathematics and statistics as used in the popular media. For students in the School of Journalism only.

U 117 Probability and Linear Mathematics 3 cr. Offered every term. Prereq., MATH 100 or appropriate placement score. Systems of linear equations and matrix algebra. Introduction to probability with emphasis on models and probabilistic reasoning. Examples of applications of the material in many fields. Credit not allowed for both MAT 117 and MATH 117.

U 121 Precalculus 4 cr. Offered autumn and spring. Prereq., MATH 100 or appropriate placement score or three years of college preparatory mathematics. 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., MATH 100 or appropriate placement score. Open only to elementary education majors. Topics include problem-solving, sets and logic, functions, whole numbers, integers, rational numbers, real numbers, number theory, probability and statistics.

U 131 Mathematics for Elementary Teachers 4 cr. Offered autumn and spring. Prereq., 130. Topics include introductory geometry, geometric constructions, congruence, similarity, measurement, coordinate geometry and an introduction to computer geometry.

U 150 Applied Calculus 4 cr. Offered autumn and spring. Prereq., MATH 121 or appropriate placement score. Introductory course surveying the principal ideas of differential and integral calculus with emphasis on applications and computer software. Mathematical modeling in discrete and continuous settings. Intended primarily for students who do not plan to take higher calculus.

U 152 Calculus I 4 cr. Offered autumn and spring. Prereq., MATH 121 or equiv. or appropriate placement score. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.


U 158 Applied Differential Equations 3 cr. Offered autumn and 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 245 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.

U 305 Introduction to Abstract Mathematics 3 cr. Offered autumn and spring. Prereq., MATH 153. Designed to prepare students for upper-division proof-based mathematics courses. Topics include proof techniques, logic, sets, relations, functions and axiomatic methods.


UG 317 Ordinary Differential Equations Computer Lab 1 cr. Offered autumn. Coreq., MATH 311 or consent of instr. Intended primarily for student in MATH 311.

UG 325 Discrete Mathematics 3 cr. Offered spring. Prereq., MATH 152 and 225 or 305. Continuation of 225 and topics from graph theory, Boolean algebras, automata theory, coding theory, computability and formal languages.

UG 326 Elementary Number Theory 3 cr. Offered spring. Prereq., MATH 225or 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 (221or 225 recommended). Intended for non-mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.

UG 382 Linear Optimization 3 cr. Offered autumn. Prereq., MATH 153 (221 recommended). Coreq., MATH 388 recommended. Intended for non-mathematics majors as well as majors. Introduction to linear programming and modeling techniques with applications. Topics include the simplex method, duality, sensitivity analysis and network models.

UG 388 Linear Optimization Laboratory 1 cr. Offered autumn. Coreq., MATH 382. Introduction to linear optimization software.

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

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

U 395 Special Topics Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance of an individual student in doing independent study on material not offered in a regular course.

U 398 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 methods.

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 Geometry 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 540 Probability and Statistics for Teachers 3 cr. Offered intermittently in summer. Prereq., MATH 341 or equiv. A survey of modern topics in probability and statistics. Emphasis will be on applications of statistics in real situations.

G 541 Advanced Mathematical Statistics 3 cr. Offered intermittently. Prereq., MATH 442. Advanced theory of estimation and hypothesis testing including large sample theory.

G 542 Applied Linear Models 3 cr. Offered autumn even-numbered years. Prereq., MATH 442 or consent of instr. Numerical and graphical data summaries, simple linear and
multiple regression and analysis of variance, including estimation, hypothesis testing, residual analysis, diagnostics, and model-building strategies. Use of the computer and real data sets integrated throughout.

G 543 Applied Multivariate Statistical Analysis 4 cr. Offered spring even-numbered years. Prereq., MATH 445 or MATH 442, or consent of instr. Introduction to multivariate statistical methods and applications. Includes appropriate linear algebra, random vectors, multivariate normal distribution, multivariate ANOVA, principal components, clustering, discriminant analysis, and related topics. Use of the computer and real data sets integrated throughout. Intended for students in mathematics and in other fields.

G 544 Topics in Probability and Statistics 3 cr. (R-12) Offered intermitently. Prereq., MATH 442 and consent of instr. May include theory of nonparametric statistics, generalized linear models, stochastic processes or other topics chosen by the instructor.

G 545 Theory of Linear Models 3 cr. Offered autumn odd-numbered years. Prereq., MATH 442. Multivariate normal distribution, distribution of quadratic forms, estimation and hypothesis testing in the full rank and less than full rank general linear models.

G 547 Applied Nonparametric Statistics 3 cr. Offered autumn odd-numbered years. Prereq., MATH 441 or 445 or consent of instr. Statistical estimation and inference based on ranks and elementary counting methods. Applications to a variety of situations including one- and two-sample, correlation, regression, analysis of variance, and goodness-of-fit problems. Use of the computer and real data sets integrated throughout. Intended for students in mathematics and in other fields.

G 549 Applied Sampling 3 cr. Offered autumn even-numbered years. Theory and application of methods for selecting samples from populations in order to efficiently estimate parameters of interest. Includes simple random, systematic, cluster, stratified, multistage, line transect, distance and adaptive sampling. Use of the computer and real data sets integrated throughout. Intended for students in mathematics and in other fields.

G 550 Analysis for Teachers 3 cr. Offered intermittently in summer. Prereq., MATH 251 or equiv. Notions of limits, continuity, differentiability, and integration in R^n.

G 551 Real Analysis 3 cr. Offered spring even-numbered years. Prereq., MATH 451 or 452 or consent of instr. Measure theory, abstract integration theory, theory of Lp-spaces.

G 555 Functional Analysis 3 cr. Offered spring odd-numbered years. Prereq., MATH 451 or 452 or consent of instr. Normed linear spaces, linear functionals, separation theorems, topological linear spaces, weak topologies, dualities.

G 564 Topics in Analysis 3 cr. (R-12) Offered autumn odd-numbered years. Prereq., consent of instr. Research projects or topics in analysis. May include but not restricted to Banach algebras, Fourier analysis, Harmonic analysis, Hilbert space theory, integral equations, or operator theory.

G 581 Combinatorics 3 cr. Offered autumn odd-numbered years. Prereq., consent of instr. Theory and applications of discrete mathematics. Topics chosen from enumeration, combinatorial analysis, and graph theory.

G 582 Optimization 3 cr. Offered autumn even-numbered years. Prereq., consent of instr. Theory and applications of optimization. Topics chosen from linear, non-linear, and discrete optimization, including duality theory, convexity and networks.

G 584 Topics in Combinatorics and Optimization 3 cr. (R-12) Offered spring odd-numbered years. Prereq., consent of instr. Topics chosen from the areas of combinatorics and optimization. May include classical problems, current trends, research interests or other topics chosen by the instructor.

G 593 Professional Project Variable cr. (R-6) Offered autumn and spring. Prereq., consent of advisor.

G 595 Special Topics Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 597 Research Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 598 Internship Variable cr. (R-12) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Thesis Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr.

G 600 Mathematics Colloquium 1 cr. (R-3) Offered autumn and spring. Prereq., consent of advisor.

G 602 Teaching College Mathematics 3 cr. Prereq., second year standing in graduate school. Topics include publishing, grant writing, writing in mathematics classes, media use in mathematics, evaluation and assessment of curricular materials and programs, instructional methods in university mathematics courses, and other selected topics.


G 606 Current Topics in the History of Mathematics 3 cr. Examination of mathematical history topics from the latter part of the 20th century. Discussions may focus on the impact of Hilbert's Problems. Research on current mathematics.

G 610 Graduate Seminar in Applied Mathematics Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 620 Graduate Seminar in Algebra Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 630 Graduate Seminar in Geometry/Topology Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 640 Graduate Seminar in Probability and Statistics Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 650 Graduate Seminar in Analysis Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 670 Graduate Seminar in Numerical Analysis Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 680 Graduate Seminar in Combinatorics and Optimization Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 691 Research Methods in Mathematics Education 3 cr. Prereq., consent of instr. Resources for learning of reported research, critical reviews of research, quantitative and qualitative processes.

G 694 Seminar Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 699 Dissertation Variable cr. (R-9) Offered autumn and spring.
Faculty

Professors
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 Krussel, Ph.D., Oregon State University, 1994
Greg St. George, Ph.D., The University of Montana, 1989
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
Adam Nyman, Ph.D., University of Washington, 2001
Jakayla Robbins, Ph.D., University of Kentucky, 2005
Bharath Sriraman, Ph.D., Northern Illinois University, 2002

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 such subjects as management principles, national defense, military history, and leadership development. In addition, a variety of outside social and professional enrichment activities are available. All necessary ROTC textbooks, uniforms, and other essential materials for the basic course are furnished to students at no cost. After they have completed the basic course, students who have demonstrated the potential to become officers and who have met the physical and scholastic standards are eligible to enroll in the Advanced Course.

Elective credit is granted for military science courses and the freshman and sophomore years (Basic Course) may be taken without incurring any military obligation. Compression of the Basic Course into two semesters may be arranged for those students who did not take military science courses during the freshman year.

Basic course classes include adventure training such as rappelling and small arms marksmanship. Additional opportunities also are available to conduct small unit training exercises at Lubrecht Forest.

Army ROTC Scholarship. Students receiving Army ROTC scholarships and enrolling in Basic Course classes must sign an oath of loyalty to the U.S. Constitution, as directed by the Congress of the United States, and will be required to complete enrollment forms specified by the Department of the Army.

Advanced Course. The Advanced Course is usually taken during the final two years of college. Instruction includes organization and management, tactics, ethics, professionalism, and further leadership development. Uniforms and equipment in the Advanced Course are furnished to students at no cost. Advanced Course students are required to purchase all textbooks (ROTC scholarship cadets are provided a book stipend each semester). During the summer between their junior and senior years of college, Advanced Course cadets attend the 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 officer's, 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 BigSky Task Force. Students may include up to but not more than four academic class members in the HHP 100-179 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 units tactics, rappelling, rifle marksmanship and physical fitness. Study of the organization and operation of the U.S. Army as a profession. Students are required to attend one weekend field exercise during the semester.
U 302 Leadership 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, 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 of 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

Department of Modern and Classical Languages and Literatures

Robert W. Acker, Chair

Instruction is offered in the following languages and literatures: Arabic, Chinese, French, German, Greek, Japanese, Latin, Russian and Spanish, as well as in linguistics, foreign literatures in English translation, and the study of foreign cultures. Undergraduate courses have been planned to meet the needs of students who began studying a language in high school as well as those who undertake such study for the first time at the University.

The courses are intended to serve several purposes: (1) Contribute to the general education of students by giving them an opportunity to gain insight into patterns of living and thinking which are different from their own; (2) Enable students to gain proficiency in the language; (3) Prepare candidates for careers in research and college teaching by providing a solid basis for graduate studies in the various languages; (4) Prepare future teachers of foreign languages; (5) Give language training requisite to careers in government, foreign commerce and library work; (6) Enable students to read foreign publications and to meet graduate foreign language requirements in their field.

A 28 position multi-media computer laboratory and a joint 40 position language laboratory with facilities for video/audio individual and group interaction, computerized language programs, and satellite TV are used to supplement regular class work, and are available to give the individual student opportunity to develop active use of the language.

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 FCAPE, SCAPE and GCAPE). Students also can arrange individually to take the CLEP exam, administered by the Clinical Psychology Center in French, German or Spanish.
These exams are not required, but serve one or more of three purposes:

1. **Exemption from the General Education Competency Requirement in Foreign Language**: if the student achieves a score that indicates a competence equivalent to the completion of French, German, or Spanish 102 (second semester). (See the General Education Requirements section of this catalog.)

2. **Placement for further study in the language**: the score achieved on this test is an accurate indicator of the course level at which language study should be resumed at the University (e.g. 102, 201, 202).

3. **Credit by examination**: A student with extensive language study may score high enough on the placement exam to qualify for University credits if she or he places into 202 or 301. By taking the course into which she or he placed (202 or 301) and receiving a B (3.00) or better, the student may then receive four by-pass credits (Pass grade only) for the preceding course (201 or 202).

Students who elect not to take this exam may:

1. Satisfy the General Education Competency Requirement in Foreign Language by successfully completing a University foreign language 102 (second semester) course.

2. Estimate their placement level for further study by the approximate equating of one year of high school study to one semester of university study. Students should consult with the department in making this estimate.

The Department of Modern and Classical Languages and Literatures strongly recommends that foreign language majors take, as early as possible in their college career, Liberal Studies 151L-152L Introduction to the Humanities, and MCLG 160L Classical Mythology.

**Foreign Study Programs.** The Department of Modern and Classical Languages and Literatures offers programs of accredited study in Austria, France, Germany, Italy, Spain, Mexico, Japan, and Russia. Each program is supervised by a University of Montana department faculty member, and is open to any student who meets the respective foreign language prerequisites. Details concerning individual programs are available from the Department of Modern and Classical Languages and Literatures. The department also sponsors graduate student exchanges with the universities located in Austria and France, as well as work/study internships abroad for students in French, German, and Japanese.

**Special Degree Requirements**

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

Total credits required for a major in a modern or classical language vary with the student’s high school preparation or language credit transferred from another college or university. Requirements for academic majors are set forth below under the various languages. Requirements for teaching majors and minors also are listed under the School of Education. Three semesters or equivalent of a second language are required for all students majoring in French, German, or Russian except: double majors, teaching majors, and students completing the linguistics option. English 101 must be completed by both academic and teaching majors or minors.

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. MCLG 155L, MCLG 160L, and MCLG 251L or 252L.

3. Twelve credits from MCLG 301H, 302H, 303H, 320, 360H, 361H, 362H, or PHIL 251H. Students are encouraged to spread these credits among courses focusing on classical history, philosophy, art and literature.

4. 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, 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.

Linguistics Option:
For a complete listing of Linguistics offerings see Linguistics.
1. FREN 101 to 202 or equivalent.
2. FREN 401 or approved equivalent.
3. Eighteen credits of Linguistics, including: LING 270 or 470, 471, 473S.
4. Strongly recommended for the French major are: nine upper-division credits in literature and/or culture, and at least one course in the history of Europe.

German
1. German 101 to 202 or equivalent.
2. At least 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.)

Teacher Preparation in Foreign Languages
General Requirements for an Endorsement in the Extended Major, Major, and Minor Teaching Fields: For an endorsement in the extended major, major and minor teaching fields of French, German, Latin, Russian or Spanish, three semesters or equivalent of another foreign language are not required. Students must gain admission to Teacher Education and Student Teaching (see the School of Education section of this catalog). A departmental recommendation on the student's proficiency is required for student teaching. An over-all minimum grade point average of 3.0 is required for upper-division work. Students must meet the requirements for certification as a teacher (see the School of Education section of this catalog).

Extended Major Teaching Field of French: For an endorsement in the extended major teaching field of French, a student must complete the requirements for the B.A. with a major in French including FREN 401 and MCLG 410. Study in a French-language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required.

French qualifies for a single-field endorsement. However, there is a limited demand in the majority of Montana high schools for teachers with a single endorsement in French. Students should complete the requirements for a second
teaching endorsement (major or minor) in another field in more demand in high schools.

**Minor Teaching Field of French:** For an endorsement in the minor teaching field of French, a student must complete FREN 101-102, FREN 201-202, FREN 301, 302, 401 and MCLG 410. Study in a French-language country, provided either through the University’s Study Abroad Program or an experience considered to be equivalent, also is required.

**Extended Major Teaching Field of German:** For an endorsement in the extended major teaching field of German, a student must complete the requirements for the B.A. with a major in German plus 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.

**Students with minor training in French:** If an individual has experience considered to be equivalent, also is required.

**Minor Teaching Field of Latin:** For an endorsement in the minor 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 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.

**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 Spanish:** For an endorsement in the minor 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.

**Extended Major Teaching Field of Spanish:** For an endorsement in the extended major 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):**

<table>
<thead>
<tr>
<th>First Year</th>
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<tbody>
<tr>
<td><strong>Specific Recommendations:</strong></td>
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<tr>
<td>Major language 101-102 Elementary</td>
<td>5</td>
<td>5</td>
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<tr>
<td>LS 151L-152L Introduction to the Humanities</td>
<td>4</td>
<td>4</td>
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<tr>
<td>HIST 104H-105H European Civilization</td>
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<td>4</td>
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<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
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<tr>
<td><strong>Suggested electives:</strong></td>
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<tr>
<td>ENLT 120L-121L The Contemporary Imagination/Introduction to Poetry</td>
<td>(3)</td>
<td>(3)</td>
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<tr>
<td>MCLG 160L Classical Mythology</td>
<td>(3)</td>
<td>(3)</td>
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<tr>
<td>General Education courses in</td>
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<tr>
<td>Perspectives 1, 4, or 5</td>
<td>0-3</td>
<td>2-6</td>
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<tr>
<td>Total credits</td>
<td>16</td>
<td>16</td>
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</table>

**Requirements for a Minor**

Minors are offered in Chinese, French, Business French, German, Japanese, Russian, Spanish, Classical Civilization, Latin and Greek.

Total credits required for a minor in a foreign language vary with a student’s high school preparation or language transferred from another college or university. A student with foreign language experience equivalent to 101-102, 201-202 may obtain the minor in French, German, or Russian by earning 12 credits at the upper-division level (see additional requirements for Spanish following). A student with no previous language experience, in order to earn a minor in one of the following languages, French, German, or Russian must complete a minimum of 30 credits in that language, 12 of which must be at the upper-division level. In Spanish the required number of upper-division credits is 18. In 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: 305H, 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, 386, 390 (up to 3 credits only), 393 (up to 3 credits only), 412, 431L, and 495. Minoring students may substitute either Japanese 195 (3 credits) or Japanese 295 (3 credits) for one of the above. Also permitted in substitution would be one course from outside the department, if it has a substantial Japan-related element: Asian studies, Japanese history, etc.

In Spanish, upper-division courses must include 301, 311 or 312, and a 400-level literature course.
To earn a minor in Classical Civilization the student must complete either Latin 102 or Greek 102; LS 151L, 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.

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.

Modern and Classical Literatures/General

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/General (MCLG)

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 352E. Studies of the origins of Western ethical thinking in the original writings of Greek writers and their application to current situations.

Modern Literatures/General (MCLG)

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 from 1800; includes philosophy, poetry, prose, and fiction.

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.


French Literature/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 (Muet, classical, Realisme, Nouvelle Vogue, etc.) with an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.
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 330H German Culture to 1900 3 cr. Offered spring. Same as LS 321H. Overview of major events and currents in German culture to 1900 with emphasis on the arts, literature, and intellectual movements. Credit not allowed for both MCLG 330H and GERM 303.

U 331H German Culture from 1900 to Present 3 cr. Offered spring. Same as LS 322H. Overview of major events and currents in German culture from 1900 to the present with emphasis on the arts, literature, and intellectual movements. Credit not allowed for MCLG 331H and GERM 304.

Japanese

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, Man'yoshu, Kokinshu, Genji Monogatari, and other major classics of the period.

UG 312L Japanese Literature from Medieval to Modern Times in English Translation 3 cr. Offered spring. Same as JPNS 312L. Introduction to the literature of Japan from the 15th to the 20th century.

UG 431L Post-War Japanese Literature 3 cr. Offered spring odd-numbered years. Same as JPNS 431L. Introduction to issues, literature, and criticism of Japanese literature from the postwar (1945) through the contemporary period, using texts in English translation.

Russian

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

UG 307L Introduction to Russian Literature III 3 cr. Offered autumn alternate years. Same as RUSS 307L and LS 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. Multidisciplinary 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 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 offerings for students within 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, 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 offering of visiting professors, experimental offerings of new courses or one-time offerings of current topics.

U 396 Independent Study 1-9 cr. (R-9) Offered 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., Ling 270; one of FREN 401, GERM 403, LAT 300, RUSS 302, or SPAN 405. Fundamental concepts, objectives and techniques in the teaching of foreign languages.
UG 440 Studies in Comparative Literature 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Same as ENLT 430 and LS 455. The study of important literary ideas, genres, trends and movements. Credit not allowed for the same topic in more than one course numbered 440, 494, ENLT 430 or LS 455.

U 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

UG 494 Seminar in Foreign Literatures 1-3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Specialized topics in various foreign literatures. Topics announced in class schedules. Credit not allowed for the same topic in more than one course numbered 440, 494 or LS 455.

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

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 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.

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 295 Special Topics Variable cr. (R-8) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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 202 Intermediate Chinese II 6 cr. Offered spring. Prereq., CHIN 201 or equiv. Continuation of 201.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 296 Independent Study Variable cr. (R-6) Offered autumn and spring.

U 301 Advanced Chinese I 3 cr. Offered autumn. Prereq., CHIN 202 or consent of instr. Advanced Chinese, with emphasis on literary style, advanced grammar, and literary oral expression.

U 302 Advanced Chinese II 3 cr. Offered spring. Prereq., CHIN 301 or consent of instr. Advanced Chinese, with emphasis on literary style, advanced grammar, and literary oral expression.

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

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

U 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 395 Special Topics 1-12 cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-6) Offered autumn and spring.


U 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.
French (FREN)

U 101 Elementary French I 5 cr. Offered autumn. Active skills: listening, speaking, reading and writing plus basic cultural analysis.


U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

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

U 201 Intermediate French I 4 cr. Offered autumn. Prereq., FREN 102 or equiv. Expansion of active skills: listening, speaking, reading, writing plus further cultural analysis.

U 202 Intermediate French II 4 cr. Offered spring. Continuation of 201.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 295 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study Variable cr. (R-6) Offered autumn and spring.


U 302 French Civilization and Culture 3 cr. (R-6) Offered spring. Prereq., FREN 301 or consent of instr. Chronological/topical study of French culture.


U 307 French Study Abroad Preparation 2 cr. Offered autumn or spring. Prereq., FREN 202 or equiv. Cultural survey of regions and cities involved in the study abroad.


U 312L Survey of French Literature of the 18th and 19th Centuries 3 cr. Offered spring. Prereq., FREN 301 or consent of instr. French literature of the 18th and 19th centuries.


UG 338 The French Cinema 3 cr. (R-6) Offered intermittently. Same as MCLG and LS 338. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realisme, Nouvelle Vague, etc.) With an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.

UG 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.

UG 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

UG 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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.

UG 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-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 201 Intermediate German 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 300H 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-speaking world from 1900 to the present with emphasis on the arts, literature, and intellectual movements. Lectures in English. Credit not allowed for both MCLG 331H and GERM 304.

U 305 Practicum in German Language 4 cr. Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Heidelberg, Germany and/or Vienna, Austria. Concentration on grammar topics and advanced language usage.

U 311L Introduction to German Literature: Prose 3 cr. Offered autumn. Prereq., GERM 202 or equiv.

U 312L Introduction to German Literature: Drama and Poetry 3 cr. Offered spring. Prereq., GERM 202.

U 313L Introduction to German and Austrian Theater 3 cr. Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Heidelberg, Germany and/or Vienna, Austria. Introduction to the basics of German-speaking theater. Students read, discuss, and analyze plays before seeing them performed on stage.

U 355 Introduction to German and Austrian Culture 3 cr. Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Heidelberg, Germany and/or Vienna, Austria. Introduction to cultural topics, current events, and historical topics of Germany and Austria. Course content supplemented with on-site visits.

U 360 Advanced Conversation in German 3 cr. Offered intermittently. Offered in the study program in Heidelberg, Germany and/or Vienna, Austria. Development of conversational skills.

U361L The German Cinema 3 cr. Offered intermittently. The development of the German film from its beginnings in 1895 down through the contemporary New German Cinema. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, the post-war film in East and West Germany, and film in unified Germany. Credit not allowed for LS 282L or MCLG 222L and GERM 361L.

U 362H Germanic Mythology and Culture 3 cr. Offered intermittently. Germanic culture and mythology from 200 B.C. to 1200 A.D. Topics include the Germanic pantheon, Germanic religious practices, Germanic migrations and major literary masterpieces. Credit not allowed for LS 221H, MCLG 231H and GERM 362H.

U 393 Omnibus Variable cr. (R-10) Offered intermittently. Prereq., consent of instr. Independent work under the university omnibus option. See index.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., GERM 202 or equiv. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study 1-9 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 even-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 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.

U 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. Out-of-class independent work of a research nature which involves intensive use of the University or other libraries; also, research carried on in another country under the direction of a University professor.

G 599 Professional Paper 1-3 cr. (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.

UG 496 Independent Study 1-9 cr. (R-9) Offered intermittently. Prereq., consent of instr.

Japanese (JPNS)

U 101 Elementary Japanese I 5 cr. Offered autumn. Understanding of grammar and basic sentence structures are taught as a foundation for oral comprehension. The students will learn Hiragana and Katakana, two syllabic writing systems, and approximately 400 Kanji ideographs.


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

U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 201 Intermediate Japanese I 5 cr. Offered autumn. Prereq., JPNS 102 or equiv. Reading and writing kanji; building oral/aural fluency.

U 202 Intermediate Japanese II 5 cr. Offered spring. Prereq., JPNS 201 or equiv. Continuation of JPNS 201.

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

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

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

U 296 Independent Study Variable cr. (R-6) Offered autumn and spring.

U 301 Advanced Japanese 4 cr. Offered autumn. Prereq., JPNS 202 or equiv. Development of greater reading and speaking proficiency. Vocabulary enhancement and kanji (Chinese characters) are emphasized.

U 302 Advanced Japanese 4 cr. Offered spring. Prereq., JPNS 301 or equiv. Continuation of 301.

UG 306 Japanese for Business and Tourism 3 cr. Offered autumn. Vocabulary and idiom of oral and written communication in business and tourism. Professional, ethical practices and special etiquette.

UG 311L Classical Japanese Literature in English Translation. 3 cr. Offered autumn. Same as MCLG 311L. Introduction to the classical literature of the Japanese court, ca. 7th to 14th century. Kojiki, Man’yoshu, Kokinshu, Genji Monogatari, and other major classics of the period.

UG 312L Japanese Literature from Medieval to Modern Times in English Translation 3 cr. Offered spring. Same as MCLG 312L. Introduction to the literature of Japan from the 15th to the 20th century.

UG 386 History of the Japanese Language 3 cr. Offered intermittently. Prereq., JPNS 202. Overview of Japanese language history from earliest times to the modern day. Topics include the development of writing systems, changes in phonology, and issues concerning orthography and lexicon.

U 390 Supervised Internship 1-12 cr. Offered intermittently. Paid work experience in Japan, combined with language/culture course work by correspondence directed by UM department staff.

U 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

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

U 396 Independent Study Variable cr. (R-6) 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 411 Modern Japanese Writers and Thinkers 3 cr. (R-6) Offered autumn or spring. Prereq., JPNS 302. Introduction to the important writers, thinkers, and poets of the 20th century. Readings include a wide range of topics in the humanities; philosophy, history, sociology, and the arts.

UG 415 Advanced Japanese for Professionals 3 cr.
Offered spring even-numbered years. A high-level professional language course covering all coordinated reading, writing, and speaking skills. Intended for majors hoping to enter the Japanese job market and prepare for professional testing in Japan.

UG 431L Post-War Japanese Literature 3 cr. Offered spring odd-numbered years. Same as MCLG 431L. Introduction to issues, literature, and criticism of Japanese literature from the postwar (1945) through the contemporary period, using texts in English translation.

UG 495 Special Topics 1-9 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study Variable cr. (R-6) Offered autumn and spring.

G 500 Directed Readings in Japanese Text 1-3 cr. (R-3) Offered intermittently. Prereq., undergraduate major in Japanese or equiv. Guided readings in a selected research field.

Latin (LAT)

U 101 Elementary Latin I 5 cr. Offered autumn. The first course of a two semester sequence designed to impart to the student a solid foundation in the Latin language. Successful completion of the sequence will enable the student to read any Latin author.


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

U 211 Latin Reading and Grammar Review 4 cr. Offered autumn. Prereq., LAT 102 or equiv. Selections of Latin prose from the classical period, with complementary exercises in elementary composition.

U 212 Latin Readings: Vergil 3 cr. Offered spring. Prereq., LAT 211 or equiv. Latin epic poetry: Vergil's Aeneid.

U 296 Independent Study Variable cr. (R-6) Offered autumn and spring.

U 300 Major Latin Authors 3 cr. (R-18) Offered autumn and spring. Prereq., LAT 212 or equiv. Plautus, Terence, Lucretius, Livy, Cicero, Vergil, Horace, Ovid, Tacitus, Juvenal, Pliny, Martial, etc.; also, Early Church fathers, Medieval and Renaissance Latin. Selection to suit students' needs and interests.

U 393 Omnibus Variable cr. (R-9) Offered intermittently. Independent work under the University omnibus option. See index.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-6) Offered autumn and spring.

U 402 Advanced Prose Composition 3 cr. Offered intermittently. Prereq., LAT 212 or equiv. Latin prose composition, based on the best classical models.

U 496 Independent Study 1-12 cr. (R-12) Offered intermittently.

G 596 Independent Study 1-6 cr. (R-6) Offered intermittently.

Russian (RUSS)

U 101 Elementary Russian I 5 cr. Offered autumn.

U 102 Elementary Russian II 5 cr. Offered spring. Prereq., RUSS 101 or equiv. Continuation of 101.

U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

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

U 196 Independent Study 1-6 cr. (R-6) Offered intermittently.

U 201 Intermediate Russian I 4 cr. Offered autumn. Prereq., RUSS 102 or equiv.

U 202 Intermediate Russian II 4 cr. Offered spring. Prereq., RUSS 201. Continuation of 201.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 296 Independent Study Variable cr. (R-6) Offered autumn and spring.

U 301 Oral and Written Expression 3 cr. Offered autumn. Prereq., RUSS 202 or consent of instr. Emphasis on active use of Russian. Intensive practice in conversation and active use of Russian. Intensive practice in writing on different levels of usage and style.

U 302 Russian Culture and Civilization 3 cr. Offered spring. Prereq., RUSS 301 or consent of instr. An introduction to various aspects of Russian cultural life.

U 305L Introduction to Russian Literature I 3 cr. Offered autumn alternate years. Same as MCLG and LS 305L. A survey of Russian poetry and prose from their beginnings (medieval period) to the nineteenth century.

U 306L Introduction to Russian Literature II 3 cr. Offered spring. Same as MCLG and LS 306L. A survey of Russian poetry and prose from the mid-nineteenth century through the Symbolist period of the early 20th century. Included are the works of Gogol, Turgenev, Dostoevsky, Tolstoy, and the Symbolists.

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

U 393 Omnibus Variable cr. Offered intermittently. University omnibus option for independent work. See index.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-6) 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.

U 411 19th Century Major Russian Authors 3 cr. Offered intermittently in autumn. Prereq., RUSS 202. A study of various authors; may include Dostoevsky, Pushkin, Tolstoy, etc.

U 412 20th Century Major Russian Authors 3 cr. Offered intermittently in spring. Prereq., RUSS 202. A study of one author in depth; may be Solzhenitsyn, Sholokhov and others.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
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</thead>
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<tr>
<td>U 430</td>
<td>20th Century Russian Literature Between the Wars (1914-1941) 3 cr.</td>
<td>Offered intermittently in spring.</td>
<td>Prereq., RUSS 202 or consent of instr.</td>
<td>Important trends in fiction and theory later suppressed by the Social Realism.</td>
</tr>
<tr>
<td>U 431</td>
<td>20th Century Russian Literature: Contemporary Period 3 cr.</td>
<td>Offered intermittently in spring.</td>
<td>Prereq., RUSS 202 or consent of instr.</td>
<td>Focus on post-Stalinist Russian literature and culture including the contemporary post-modern fiction and theory.</td>
</tr>
<tr>
<td>U 440</td>
<td>Russian Poetry 3 cr.</td>
<td>Offered intermittently in autumn.</td>
<td>Prereq., RUSS 202 or consent of instr.</td>
<td>The evolution of Russian poetry from the end of the 18th century to the early 20th century.</td>
</tr>
<tr>
<td>U 493</td>
<td>Omnibus Variable cr. (R-10)</td>
<td>Offered intermittently.</td>
<td>University omnibus option for independent work. See index.</td>
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<td>U 495</td>
<td>Special Topics Variable cr. (R-6)</td>
<td>Offered intermittently.</td>
<td>Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.</td>
<td></td>
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<tr>
<td>U 496</td>
<td>Independent Study Variable cr. (R-6)</td>
<td>Offered autumn and spring.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Spanish (SPAN)**

U 101 | Elementary Spanish I 5 cr. | Offered autumn. | Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading and writing. |
| U 195 | Special Topics Variable cr. (R-6) | Offered intermittently. | Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. |
| U 201 | Intermediate Spanish I 4 cr. | Offered autumn. | Prereq., SPAN 102. Continued practice in the oral skills with added emphasis on grammar and reading proficiency. |
| U 202 | Intermediate Spanish II 4 cr. | Offered spring. | Prereq., SPAN 201. Continuation of 201. |
| U 293 | Omnibus Variable cr. (R-10) | Offered intermittently. | University omnibus option for independent work. See index. |
| U 296 | Independent Study Variable cr. (R-6) | Offered autumn and spring. |
| U 301 | Oral and Written Expression in Cultural Contexts 3 cr. | Offered autumn and spring. | Prereq., SPAN 202 or equiv. Development of oral and written skills with an emphasis on Hispanic cultural context. |
| U 302 | Spanish Phonetics 3 cr. | Offered autumn and spring. | Prereq., SPAN 202 or consent of instr. | Applied phonetic theory; practice in feature identification and transcription of Spanish from an articulatory point of view. |
| U 308 | Intensive Spanish Abroad 1-9 cr. (R-9) | Offered spring. | Prereq., SPAN 202 or equiv. | Intensive Spanish language course to coincide with intensive language course given at an institute or college during the Spanish Study Abroad Program. Credits vary according to the hours and intensity of the foreign language course and are determined by the director of the program. |
| U 311L | Introduction to Contemporary Spanish Literature 3 cr. | Offered autumn. | Prereq., SPAN 202 or equiv. | The study of contemporary works by peninsular authors, including an introduction to literary genres. |
| U 312L | Introduction to the Literature of Contemporary Latin America 3 cr. | Offered spring. | Prereq., SPAN 202 or equiv. | The study of representative works by Latin-American authors with emphasis on the 20th century. Includes an introduction to literary genres. |
| U 355 | Special Topics in Hispanic Literature and Culture Variable cr. (R-9) | Offered intermittently in spring. | Prereq., SPAN 311L or 312L or consent of instr. |
| U 359 | Spanish-American Civilization through Literature and Film 3 cr. | Offered spring. | Prereq., at least one upper-division class in Spanish and SPAN 301. Same as MCLG and LS 358. The development of the traditional society of Spanish American civilization through the interaction of European, Indian, and African elements. Credit not allowed for both LS/MCLG 358 and SPAN 359. |
| U 493 | Omnibus Variable cr. (R-10) | Offered intermittently. | University omnibus option for independent work. See index. |
| U 496 | 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 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. |
| U 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. |
| U 420 | Spanish Literature: Renaissance and Golden Age 3 cr. | Offered even-numbered years. | Prereq., SPAN 311L or 312L. | An introductory course to the literature of the early 20th century. |
| U 430 | Spanish Literature: Modern and Contemporary 3 cr. | Offered spring even-numbered years. | Prereq., SPAN 311L or 312L or consent of instr. | An introduction to the literature of the 20th century. |
| U 450L | Latin American Literature 3 cr. (R-6) | Offered spring odd-numbered years. | Prereq., SPAN 311L or 312L or consent of instr. | An introductory course to the literature of Latin America from the Baroque period to the 20th century. |
| U 493 | Omnibus Variable cr. (R-10) | Offered intermittently. | University omnibus option for independent work. See index. |
| U 494 | Seminar Variable cr. (R-12) | Offered intermittently. | Prereq., SPAN 311L or 312L. | Studies in major authors, periods, or genres. |
| 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 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, Iowa City, 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
Deenas R. McCormick, Ph.D., University of Texas at Austin, 1972
Ludmila Prednewa, Ph.D., University of Pennsylvania, 1982
Judith N. Rabinovitch, Ph.D., Harvard University, 1981
Stanley L. Rose, Ph.D., University of Wisconsin, 1969
James M. Scott, Ph.D., University of Washington, 1986 (Associate Dean, College of Arts and Sciences)

Associate Professors

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
Yuka Tachibana, Ph.D., Tohoku University, 1999
Michel Valentin, Ph.D., University of Minnesota, 1980

Assistant Professors

Charles Exley, Ph.D., Yale University, 2005

Jannine Montauban, Ph.D., Rutgers University, 2000
Ola Renner-Fahey, Ph.D., Ohio State University, 2003
Matthew S. Semanoff, Ph.D., University of Wisconsin, 2002

Senior Lecturer

Zhen Cao, Ed.D., The University of Montana, 1997

Adjunct Instructors

Hiroko Takada-Amick, M.A., The University of Montana, 1993
Samir Bitar, Advanced Level Arabic G.C.E., 1974
Alicia Gignoux, M.A., The University of Montana, 1994
Marlene Pichler, University of Salzburg
Barbara Weinlich, Ph.D., Johaann Wolfgang Goethe University, 1998
Ursula Windhab, University of Vienna

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 Lackschewitz, 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
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. Stanley, 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, 465H, 466H, and 494. The nine credits met optionally out-of-department may be chosen from the following: ANTH 180S, 323H, 330H; HIST 365, 366, and 467.

Beyond the requirement of 30 credits in NAS, students have the option to take an additional 17 credits from NAS as electives for a maximum of 47 credits in NAS courses. These electives include NAS 195, 210H, 231, 295, 300, 324H, 329, 342H, 388, 394, 395, 400, 410L, 496, and 499.

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

As part of the major’s liberal arts and interdisciplinary focus, all students completing the major must complete a minor in another field. The department recommends cognate areas of study for the minor including anthropology, history, sociology, and political science. Students also are encouraged to pursue a double major. The department recommends a compatible major in one of the following disciplines: anthropology, English, modern or classical languages and literatures, history, linguistics, political science, sociology, or social work. Students who pursue a second major are not required to complete a minor in addition to the second major.

Suggested Course of Study

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td>ENEX 101 Composition</td>
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<tr>
<td>MATH 107 Contemporary Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>NAS 100H Introduction to Native American Studies</td>
<td>3</td>
</tr>
<tr>
<td>NAS 201H Indian Culture as Expressed Through Language</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td>6</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>NAS 200 Native American Studies Research and Writing Methods</td>
<td>3</td>
</tr>
<tr>
<td>NAS 202L Oral and Written Traditions of the Native American</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
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<tr>
<td>Electives</td>
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**Third Year**

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>NAS 301E American Indian Religion and Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>NAS 303E Ecological Perspectives in Native American Traditions</td>
<td>3</td>
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**Fourth Year**

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<th>Course</th>
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<tr>
<td>NAS 465H History of Indian Affairs to 1865</td>
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</tr>
<tr>
<td>NAS 466H History of Indian Affairs Since 1865</td>
<td>3</td>
</tr>
<tr>
<td>NAS 494 Readings in Native American Studies</td>
<td>3</td>
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<tr>
<td>Electives</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>15</strong></td>
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Requirements for a Minor

To earn a minor in Native American studies the student must complete the following requirements:

1. Complete NAS 100H, 202L, 301E and 303E.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R. 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 credits of Internship (198, 298, 398, 498) may count toward graduation.

**U 200 Native American Studies Research and Writing Methods 3 cr.** Prereq., NAS major or minor. Introduction to the Research materials pertaining to the study of American Indian peoples and cultures. Emphasis on current research trends and writing.

**U 201H Indian Culture as Expressed through Language 3 cr.** Introduction to the language of American Indian peoples. Understanding, through the language, the history, traditions, and modern life of Indian peoples.

**U 202L Oral and Written Traditions of Native America 3 cr.** Analysis of the oral traditions of Native Americans including a study of the literary works of early leading American Indian writers.

**U 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.

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

U 300 American Indian Education 3 cr. A study of modern Indian education to the present; examination of Johnson O’Malley funding for Indian education; and a look at the unique needs of the Indian child.

U 301E American Indian Religion and Philosophy 3 cr. Prereq., lower-division course in Perspective 5 or consent of instr. Same as RELS 301E. A study of selected ethical systems; origins, world views; religious beliefs and the way they have been affected by western civilization.

U 303E Ecological Perspectives in Native American Traditions 3 cr. An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.

U 324H Indians of Montana Since the Reservation Era 3 cr. Offered autumn odd-numbered years. Same as ANTH 324H and HIST 354H. Examination of the history of Montana Indians since the establishment of the reservations, 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.

U 329 Native American Literature 3 cr. Prereq., three credits of lower-division ENLT courses and NAS 100H or 202L. Same as ENLT 329. Selected readings from Native American Literature with special emphasis on the literature of writers from the Rocky Mountain West.

U 341S Contemporary Issues of American Indians 3 cr. Same as ANTH 341S. An examination of the major issues that affect the contemporary experiences of American Indians.

U 342H Gender Studies in Native American Studies 3 cr. Offered intermittently. Same as WS 342H. Focus on American Indian gender relations and their cultural continuity and historical evolution. National in scope with concentration on certain tribes. Group analysis of contemporary gender issues relevant to Native American peoples.

U 367H Art of the Ancient Americas 3 cr. Prereq., consent of instr. Same as ART 367H. Development of major ceremonial and urban centers throughout the Americas before the coming of Europeans. Analysis of how the visual arts articulate ancient world views or cosmologies in relation to nature. Focus on various strategies of reading the structure and meaning encoded in the layout of cities, stone sculpture, wall murals, ceramics, precious metals, and textiles.

U 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 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.

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

U 394 Seminar Variable cr. (R-6) Offered alternate years. Topics on Indian law, policy and culture by visiting scholars.

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

U 398 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.

U 400 Tribal Sovereignty 3 cr. Offered alternate years. An examination of the evolution of tribal governments from a historical and political perspective. Particular attention is devoted to the issues of tribal sovereignty and tribal-state conflicts.

U 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.

U 465H History of Indian Affairs to 1865 3 cr. Same as HIST 465H. A study of tribal encounters and adjustments to European and American powers.

U 466H History of Indian Affairs Since 1865 3 cr. Same as HIST 466H. A study of tribal encounters and adjustments to the American nation from 1865.

U 494 Reading Seminar in Native American Studies 3 cr. (R-6) Offered spring. Prereq., NAS major or minor, 18 credits in NAS, and junior standing or higher. Senior reading capstone course for the review of past and current literature on and by American Indians.

U 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-6) Prereq., upper-division standing and consent of instr. Selected topics on American Indians under the direct supervision of a faculty member.

U 499 Senior Thesis in Native American Studies 3-9 cr. (R-9) Offered every term. Prereq., NAS major or minor, 18 credits in NAS, junior standing, and consent of instr. Independent research project in Native American Studies, supervised by a faculty member, and leading to completion of baccalaureate degree.

G 560 Methods and Sources in Native American Studies 3 cr. Prereq., consent of instr. Methods, sources for, and actual experience in the use of field observations, interviews, special collections, federal records, and library materials in Native American studies research and writing. Required of all Native American studies affiliated graduate students.

G 594 Seminar in Native American Studies 1-3 cr. (R-6) Prereq., consent of instr.

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

G 596 Independent Study Variable cr. (R-6) Prereq., graduate standing and consent of instr. Study of selected topics or problems on American Indians under the direct supervision of a faculty member.

G 598 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.
Faculty

Professor
Richmond L. Clow, Ph.D., University of New Mexico, 1977

Associate Professors
David R. M. Beck, Ph.D., University of Illinois at Chicago, 1994
Stephen Greymorning, Ph.D., University of Oklahoma, 1992

Kathryn W. Shanley, Ph.D., University of Michigan, 1987 (Chair)

Assistant Professor
Wade M. Davies, Ph.D., Arizona State University, 1998

Instructor
Angelica Lawson, A.B.D., University of Arizona, 2001

Adjunct Professors
George Price, M.A., The University of Montana, 1996
Robert Stahl, Ph.D., The University of Oklahoma, 1978

Nonprofit Administration

Jonathan R. Tompkins, (Professor of Political Science), Advisor

The interdisciplinary minor in nonprofit administration concentrates on nonprofit board and committee development, fund raising principles and practices, nonprofit financial management, human resource development, nonprofit management and program planning, risk management, and nonprofit marketing. It is designed to complement students’ major areas of study and prepare them to enter careers in the nonprofit sector.

Students pursuing the nonprofit administration minor will have the option to obtain certification from the national American Humanics organization if they complete additional requirements that include participation in the campus-based student association, extra-curricular training sessions and events, and attendance at a national American Humanics Management Institute. The director of the Office for Civic Engagement serves as the director for the national certification program. Students should contact that office for information regarding certification.

Requirements for a Minor
Students must complete successfully 21 credits in the following courses:
1. PSC 466 Nonprofit 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
   b. Youth and Adult Development
      - PSYC 240S Child and Adolescent Development
      - PSYC 245 Adult Development and Aging
   c. Human Resources Development and Supervision
      - PSC 460 Human Resource Management
      - RECM 380 Recreation Administration and Leadership
   d. Nonprofit Program Planning
      - RECM 230 Programming in Recreation
      - RECM 485 Recreation Planning (for RECM majors only)
   e. Nonprofit Marketing
      - MKTG 363 Marketing Communications (prereq., 360)
      - MKTG 495 Nonprofit Marketing (prereq., 360)
   f. Nonprofit Accounting/Financial Management
      - ACCT 201 Financial Accounting

Department of Philosophy

Richard 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 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 for 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 or certify equivalent competency. Recommended languages for philosophy are Greek, Latin, French, and German.

Suggested Course of Study

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PHIL 100 Introduction to Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 210 Introduction to Logic</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>5</td>
</tr>
<tr>
<td>Foreign language</td>
<td>4</td>
</tr>
<tr>
<td>HIST 104H, 105H or 107H, 108H</td>
<td>3</td>
</tr>
<tr>
<td>European Civilization</td>
<td>4</td>
</tr>
<tr>
<td>College mathematics course</td>
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Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHIL 215 Philosophical Reasoning</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 251H History of Ancient and Medieval Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 252H History of Modern Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 300E Systematic Ethics</td>
<td>3</td>
</tr>
<tr>
<td>Foreign language</td>
<td>4</td>
</tr>
<tr>
<td>LS 151L and 152L Introduction to the Humanities</td>
<td>4</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td>16</td>
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</tbody>
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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. 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 work in ethics may supplement primary readings.

U 201E Political Ethics 3 cr. Offered autumn and spring. An examination of the issues of political ethics through the careful study of selected writings from the three great Western political traditions: classical natural law theory, modern individualism, and contemporary distributive justice.

U 210 Introduction to Logic: Deduction 3 cr. Offered autumn and spring. Understanding general principles of reasoning and the habits of clear and correct thinking. Emphasis on the analysis of the logical structure of claims in natural language and the skills of elementary deductive inference.


U 215 Philosophical Reasoning 3 cr. Offered autumn. Prereq., philosophy major or minor or consent of instr. Focus on basic skills essential to success in philosophy; careful reading, critical analysis, and well-structured writing. Emphasis on repeated practice in recognizing, reading, analyzing, and writing philosophical arguments. Intended primarily for philosophy majors and minors.

U 223E Business and Ethics 3 cr. Offered intermittently. An analysis of ethical conflicts that may arise in business.

U 251H History of Ancient and Medieval Philosophy 3 cr. Offered autumn. The origin of philosophy in ancient Greece; its development in the Roman Empire; its encounter with the Jewish, Christian and Islamic traditions.

U 252H History of Modern Philosophy 3 cr. Offered spring. A survey of the history of philosophy from Descartes to Hegel, which includes other Continental Rationalists, the British Empiricists, and Kant.

U 290 Supervised Internship Variable cr. (R-9) Offered intermittently. Prereq., consent of faculty supervisor and department chair.

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

U 296 Independent Study 1-6 cr. (R-6) Offered intermittently.

U 298 Internship Variable cr. (R-9) Offered intermittently. Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning.
during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 300E Systematic Ethics 3 cr. Offered spring. Prereq., PHIL 215. Development of the fundamental principles grounding moral reasoning in the Western tradition. A more thorough treatment of the material offered in PHIL 200E intended for the philosophy major or prepared student interested in a rigorous introduction to the foundations of ethics.

U 325E Morality and the Law 3 cr. Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr. Analysis of moral reasoning in Anglo-American law, emphasizing certain ethical and legal concepts and the role of the Supreme Court.

U 327E Environmental Ethics 3 cr. Offered autumn. Same as EVST 327E. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment. Issues parallel to those in PHIL 427E, but presented in a manner available to those without prior experience in philosophy. Credit not allowed for both EVST/PHIL 327E and EVST/PHIL 427E.

UG 340L Aesthetics 3 cr. Offered intermittently. Prereq., upper-division standing. The nature of aesthetic experience, of art, and art criticism. Readings from philosophers, artists, and art critics.

U 362H Ancient Greek and Roman Philosophy 3 cr. Offered intermittently. Same as MCLG 362H and LS 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 390 Supervised Internship 1-12 cr. (R-12) Offered intermittently. Prereq., consent of faculty supervisor and department chair.

UG 393 Omnibus Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Independent work under the University omnibus option. See index.

UG 394 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

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., consent of instr.

UG 397 Research Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

U 398 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.

UG 410 Formal Logic: Scope and Limits 3 cr. Offered intermittently. Prereq., PHIL 210 or equiv. A systematic study of first-order logic, including development of standard meta-theory and the significance of modern formal methods.

UG 411 Philosophy of Science 3 cr. Offered intermittently. Prereq., upper-division standing. A consideration of philosophical issues relating to the nature of modern physical science: method, explanation, theory, progress, space/time, causality, relation of science to philosophy.

UG 421E Medical Ethics 3 cr. Offered intermittently. Prereq., upper-division standing and lower-division course in Perspective 5, or consent of instr. An examination of ethical problems raised by the practice of medicine and by recent developments in medically-related biological sciences.

UG 422E Contemporary Moral and Political Theory 3 cr. Offered intermittently. Prereq., upper-division standing and PHIL 200E or 201E. Recent theories in ethics and their implications; recent work in political theory, emphasizing contemporary liberalism and its critics.

UG 427E Environmental Ethics II 3 cr. Offered spring. Prereq., lower-division course in Perspective 5 or consent of instr. Same as EVST 427E. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment. Issues parallel to those in PHIL 327E, but considered from a more philosophically sophisticated perspective. Credit not allowed for both EVST/PHIL 327E and EVST/PHIL 427E.

UG 429E Feminist Ethics 3 cr. Offered intermittently. Prereq., lower-division perspective 3 course or consent of instr., PHIL 200 strongly recommended. Examination of the implications for philosophic ethics of the claim that Western men and women have different moral perspectives.

UG 430 Topics in the Philosophy of Religion 3 cr. Offered intermittently. 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.

UG 441E Philosophy in Literature 3 cr. Offered intermittently. Prereq., upper-division standing or consent of instr. Philosophical thought in selected works of literature.

UG 443E Ethics and Public Affairs 3 cr. Offered intermittently. Prereq., lower-division perspective 5 course or consent of instr. Examination of morally relevant issues in government, journalism, education and other social institutions. Issues considered include deception, confidentiality, conflict of interest, privacy, paternalism, responsibilities in conflict with other institutions, and responsibilities across national boundaries, among others.

UG 444 Topics in the Philosophy of the Arts 3 cr. (R-9) Offered intermittently. Prereq., upper-division standing. Examination of philosophical problems related to the particular arts and discussion of the nature of the arts. Topics include music, visual arts, literature, and film.

UG 450 Classical Modern Philosophy 3 cr. (R-6) Offered autumn even-numbered years. Prereq., PHIL 252H or consent of instr. Intensive reading of one major philosopher from the rationalist tradition (Descartes, Spinoza or Leibniz) and one from the empiricist tradition (Locke, Berkeley or Hume).

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 intermittently. Prereq., PHIL 251H. General introduction to the philosophy of Plato emphasizing dialogues of the Early and Middle periods.

UG 463 Aristotle 3 cr. Offered intermittently. Prereq., PHIL 251H. General introduction to Aristotle. Early biological writings, Categories, De Interpretatione, Nicomachean Ethics, selections from Physics, De Anima and Metaphysics.

UG 465 Major Philosophers of the 19th Century 3 cr. (R-6) Offered intermittently. Prereq., PHIL 252H or consent of instr. Selection to be announced in the class schedule.

UG 467 20th Century Continental Philosophy 3 cr. (R-9) Offered intermittently. Prereq., upper-division standing. Intensive study of the work of one philosopher (Heidegger, Husserl, Sartre, Merleau-Ponty, Ricoeur, Derrida, etc.) or
several texts representing a major movement in 20th century continental thought (Phenomenology, Existentialism, Hermeneutics, Post-structuralism, etc.)


UG 471 Topics in the Philosophy of Language 3 cr. (R-6) Offered intermittently. Prereq., upper-division standing. Same as LING 482. Discussion of one or more of the following topics: theories of meaning, theories of reference, pragmatics, the origin of language, psycholinguistics, and foundations of linguistic theory.

UG 477 Philosophy of Society and Culture 3 cr. Offered intermittently. Prereq., upper-division standing. A philosophical examination of cultural forces shaping modern society, forces such as science, technology, or domesticity.

UG 480 Senior Seminar 3 cr. (R-9) Offered intermittently. Prereq., senior standing. Research in problems in philosophy.

UG 490 Supervised Internship Variable cr. (R-12) Offered intermittently. Prereq., consent of faculty supervisor and department chair.

UG 493 Omnibus Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Independent work under the University omnibus option. See index.

UG 494 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

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

UG 496 Independent Study Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

UG 497 Research Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

UG 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 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. Fro 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 Borgmann, Ph.D., University of Munich, 1963
Deborah Slicer, Ph.D., University of Virginia, 1989
Richard E. Walton, M.A., Claremont Graduate University, 1968

Associate Professor
David Sherman, Ph.D., University of Texas, Austin, 1999

Assistant Professors
Bridget Clarke, Ph.D., University of Pittsburgh, 2003
Paul Muench, Ph.D., University of Pittsburgh, 2006

Adjunct Associate Professor
Mark Hanson, Ph.D., University of Virginia, 1993

Adjunct Assistant Professors
Sean O'Brien, Ph.D., University of Colorado, 1989
Christopher Preston, Ph.D., University of Oregon

Emeritus Professors
Thomas P. Huff, Ph.D., Rice University, 1968
Burke A. Townsend, Ph.D., University of Hawaii, 1976
Department of Physics and Astronomy

David B. Firend, Chair

Physics is considered to be the most fundamental of all the disciplines in the natural sciences. In physics we try to describe and understand a myriad of physical phenomena ranging from subatomic to cosmological scales by quantifying the relationships among different physical quantities. Not only does physics have its own merit as a challenging but exciting scientific endeavor, it provides the basis for understanding underlying processes in astronomy, biology, chemistry, geology, computer science, engineering, and even in behavioral sciences. Applications of physics are virtually unlimited: computers, communications, energy production, medical technology, and space flight, to name just a few.

The Department of Physics and Astronomy offers a range of physics courses from introductory to advanced undergraduate level in both experimental and theoretical physics with computational methods in mind. In addition, we offer introductory to advanced astronomy and astrophysics courses in which astronomical applications of physics are emphasized. These courses deal with the Universe, from the solar system to clusters of galaxies, both theoretically and observationally.

The Department of Physics and Astronomy offers the Bachelor of Arts degree with a major in physics. Graduates with this degree are prepared for further study in physics or related fields at the masters or Ph.D. level, as well as a wide variety of technical positions in industry. In addition, the department offers two other degree paths which combine a 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: 221N-222N (normally during the sophomore year), and 301, 321, 325, 330, 341, 371 (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 (CS 131, 201, or 204).

Recommended courses in other departments include Mathematics 317, 412, 418.

Bachelor of Arts with a major in Physics: Astronomy Option

During their first two years, students in the astronomy option should take ASTR 131N, 132N, 134N, 135N, PHYS 221N-222N (normally during the sophomore year), and MATH 152, 153, and 251 (MATH 121, if necessary).

Forty-five credits in astronomy and physics courses are required for the B.A. degree in physics with astronomy option. Required courses in physics are: 221N-222N, 301, 480 plus at least four courses from the following: 325, 341, 371, 372, 414, 415, and 461. Required astronomy courses are: 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. Foreign language requirements must be met as set forth above under Bachelor of Arts with a major in Physics.

Bachelor of Arts with a major in Physics: Computational Physics Option:

The purpose of the computational physics option is to provide a thorough background in both physics and computer science and to inculcate a deeper understanding of their goals and methods. A student earns the computational physics option by completing at least 50 credits in the two disciplines, 30 of these credits in physics courses and 20 of these in computer science courses. The following courses are required: Physics 221N-222N, 301, 331, 341, 371, 414, and 480 (PHYS 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 243, 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 the major teaching field of Physics, a student must complete the following course requirements: 34 credits in Physics including Physics 121N-122N or 221N-222N, 301, 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 131 or 201 or 204; Curriculum & Instruction 426, Chemistry 151N and 485; Biology 108N or 110N or 120N or 121N; and Geology 100N and 301. Students also must gain admission to Teacher Education and Student
Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

**Minor Teaching Field of Physics:** For an endorsement in the minor teaching field of Physics, a student must complete Physics 121N-122N or 221N-222N, 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 of Study

#### Bachelor of Arts with a Major in Physics

For physics majors with four years of college preparatory mathematics or exemption from MATH 121 by examination:

**First Year**
- CS 131 Fundamentals of Computer Science → 3
- *ENEX 101 Composition → 3
- MATH 152-153 Calculus I, II → 4
- PHYS 221N-222N Fundamentals of Physics → 5
- Electives and General Education → 15

*Semester of enrollment depends on beginning letter of student's last name.

**Second Year**
- MATH 251 Calculus III → 4
- PHYS 301 Mathematical Methods for Physical Scientists → 3
- Electives and General Education → 15

*Can be waived with two years of foreign language in high school.

**Third Year**
- MATH 311, 412-Differential Equations → 3
- PHYS 321 Electronics for Scientists → 3
- PHYS 325 Optics → 3
- PHYS 341 Fundamentals of Modern Physics → 3
- PHYS 371-372 Classical Mechanics I, II → 3
- PHYS 446 Thermodynamics & Stat Mech → 3
- Electives and General Education → 15

**Fourth Year**
- PHYS 414-415 Electromagnetism → 3
- PHYS 444 Advanced Physics Laboratory → 3
- PHYS 446-Thermodynamics and Statistical Mechanics → 3
- PHYS 461-Quantum Mechanics I → 3
- PHYS 463-Selected Topics or 462 Quantum Mechanics II → 3
- PHYS 480 Senior Seminar → 1
- Electives and General Education → 15

#### Bachelor of Arts with a Major in Physics and an Option in Astronomy

**First Year**
- ASTR 131N-132N Elementary Astronomy → 3
- ASTR 134N-135N Elementary Astronomy Laboratory → 1
- CS 101 Introduction to Programming or ENEX 101 Composition* → 3
- CS 131 Fundamentals of Computer Science → 3
- MATH121 Precalculus → 4
- MATH 152 Calculus I → 4
- Foreign language + or General Education → 5

*ENEX 101 is required unless exempted by testing. Semester of enrollment depends on beginning letter of student's last name.

+Can be waived with two years of foreign language in high school.

**Second Year**
- MATH 153-251 Calculus II, III → 4
- PHYS 221N-222N Fundamentals of Physics with Calculus* → 5
- General Education → 6

*Student who are ready for calculus in their first year could take PHYS 221N-222N in their first year instead of a foreign language.
### College of Arts and Sciences - Department of Physics and Astronomy - 151

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTR 351 Planetary Science or ASTR 362 Observational Astronomy*</td>
<td>2-3</td>
</tr>
<tr>
<td>ASTR 335 Galactic Astrophysics and Cosmology*</td>
<td>3</td>
</tr>
<tr>
<td>MATH 311 Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 301 Mathematical Methods for Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 325 Optics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 330 Communicating Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 341 Fundamentals of Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>General Education or electives</td>
<td>3</td>
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**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ASTR 363-364 Stellar Astronomy and Astrophysics*</td>
<td>3</td>
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<tr>
<td>PHYS 371-372 Classical Mechanics I, II or PHYS 414-415 Electromagnetism I, II</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 480 Senior Seminar</td>
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<tr>
<td>General Education or electives</td>
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<td><strong>Total</strong></td>
<td>15</td>
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</tbody>
</table>

*Upper-division astronomy courses can be taken in a different order, as they are offered only in alternate years.

### Bachelor of Arts with a Major in Physics with an Option in Computational Physics

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<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>PHYS 221N-222N Fundamentals of Physics</td>
<td>5</td>
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<tr>
<td>General Education</td>
<td>3</td>
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<td><strong>Total</strong></td>
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</tbody>
</table>

*Semester of enrollment depends on beginning letter of student’s last name.

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>CS 241 Data Structure</td>
<td>4</td>
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<tr>
<td>MATH 225 Discrete Math</td>
<td>3</td>
</tr>
<tr>
<td>MATH 251 Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 301 Mathematical Methods for Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 331 Introduction to Computational Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 341 Fundamentals of Modern Physics</td>
<td>5</td>
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<tr>
<td>General Education or electives</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
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</table>

*Can be waived with two years of foreign language in high school.

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CS 242 Programming Languages</td>
<td>4</td>
</tr>
<tr>
<td>CS 281 Computer Architecture and Assembly</td>
<td>3</td>
</tr>
<tr>
<td>MATH 311 Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>MATH 325 Discrete Math</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 321 Electronics for Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 331 Introduction to Computational Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 371-372 Classical Mechanics I, II</td>
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<td>General Education or electives</td>
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**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 332 Algorithms</td>
<td>3</td>
</tr>
<tr>
<td>CS 415E Computers, Ethics, and Society*</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 414-415 Electromagnetism*</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 480 Senior Seminar</td>
<td>3</td>
</tr>
<tr>
<td>General Education or electives</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>15</td>
</tr>
</tbody>
</table>

* CS and PHYS courses marked with * are recommended. Other courses in physics and computer science can be substituted for them.

### Requirements for a Minor in Astronomy

To earn a minor in astronomy the student must complete PHYS 121N-122N or 221N-222N; ASTR 131N-132N (ASTR 134N-135N strongly recommended); and eight credits from ASTR 351, 353, 362, or 363-364. (Mathematics prerequisites for the astronomy minor are MATH 152, 153, and 251.)

### Requirements for a Minor in Physics

To earn a minor in physics the student must complete PHYS 121N-122N or 221N-222N; PHYS 371-372; and six credits from PHYS 301, 325, 341, 414, 415, 446, or 461-462. (Mathematics prerequisites for the physics minor are MATH 152, 153, 251, and 311.)

### 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 I 3 cr.** Offered autumn. Prereq., high school algebra and geometry. An introduction to historical and solar system astronomy.
- **U 132N Elementary Astronomy II 3 cr.** Offered spring. Prereq., high school algebra and geometry. An introduction to stars, stellar evolution, galaxies, and the universe.
- **U 134N Elementary Astronomy Laboratory I 1 cr.** Offered autumn. Prereq. or coreq., ASTR 131N Laboratory exercises in observational and solar system astronomy.
- **U 135N Elementary Astronomy Laboratory II 1 cr.** Offered spring. Prereq. or coreq., ASTR 132N. Laboratory exercises in stellar and galactic astronomy.
- **U 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 GEOG 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 321N, 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 321N, PHYS 222N. Telescopes and instrumentation for the determination of the positions, brightness, colors and other properties of stars;
particular attention to photoelectric photometry. Includes observational and computational problems.

UG 363 Stellar Astronomy and Astrophysics I 3 cr. Offered autumn odd-numbered years. Prereq., ASTR 132N, MATH 251, and PHYS 222N; PHYS 341 recommended. Detailed application of physical laws to determine the nature of the stars; analysis of stellar spectra and atmospheres; solar astrophysics; structure of stars and their evolution.

UG 364 Stellar Astronomy and Astrophysics II 3 cr. Offered spring even-numbered years. Prereq., ASTR 363. Continuation of ASTR 363.

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

U 398 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 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.

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.

UG 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.

UG 325 Optics 3 cr. Offered autumn. 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 Schrödinger 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.

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

G 597 Research 1-6 cr. (R-9) Offered intermittently. Prereq., consent of instr. Research in selected physics topics.

G 598 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.


Faculty

Professors

James P. Jacobs, Ph.D., University of Washington, 1991
Eijiro Uchimoto, Ph.D., University of Wisconsin, 1988
Andrew S. Ware, Ph.D., University of California, San Diego, 1992

Associate Professor

David B. Friend, Ph.D., University of Colorado, 1982

Assistant Professor

Daniel B. Reisenfeld, Ph.D., Harvard University, 1998

Research Assistant Professor

Maureen A. McGraw, Ph.D., University of California, Berkeley, 1996

Adjunct Associate Professors

David E. Andrews, Ph.D., Cornell University 1972
Bradford L. Halfpap, Ph.D., Arizona State University, 1987

Adjunct Instructor

Diane S. Friend, M.S., The University of Montana, 2000

Emeritus Professors

Richard J. Hayden, Ph.D., University of Chicago, 1948
Mark J. Jakobson, Ph.D., University of California, Berkeley, 1951
Randolph H. Jeppesen, Ph.D., New Mexico State University, 1980

The scope of the faculty's interest and research is wide. They bring special insights gained through study and residence in Canada, England, Western Europe, the former Soviet Union, Africa, India, the Far East and Latin America, as well as in Montana and Washington, D.C. All members of the department teach introductory and advanced courses.

Courses offered in the department are designed to: (1) assist students to secure a broad liberal education and to equip them with the foundations for American citizenship; (2) provide undergraduate preparation for those students who propose to continue study at the graduate level with the ultimate goal of college teaching and research; (3) offer a broad program of training for those students who plan careers in government or politics; (4) assist in preparing students for careers in teaching at both the elementary and secondary levels; (5) provide a sound background for those students who intend to enroll in law and other professional schools.

The major fields of political science are (1) American government and politics with national, state and local government, politics, and public law as sub-fields; (2) public administration; (3) political theory; (4) comparative government; (5) international relations, organization and law.

Department of Political Science

Jonathan R. Tompkins, Chair

From the time of Plato and Aristotle, the study of politics has been concerned with how human communities use power to shape the lives of individuals. Students of politics observe the world's political institutions, from local governments to international organizations. They are interested in the quality of political leadership, the values which underlie public affairs, the political and legal processes used to make governmental decisions, and the wisdom of policies. Politics is the continuing dialogue about the best way for communities to govern themselves.

The department offers a varied undergraduate curriculum covering domestic, foreign, and international politics. By meeting requirements outlined below, a student may earn a bachelor degree in political science or in political science-history; a minor in political science; or a bachelor degree in political science with an option in American politics, international relations and comparative politics, public administration or public law. A Master of Arts degree in political science and a Master of Public Administration degree are also offered.
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; 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 foreign language study; b) internship/study-abroad program. Courses used to complete the upper-division requirement of this major must also fulfill the 400 level requirement of this option also fulfill the requirement in the respective major fields of political science.

**Political Science Major with an Option in American Politics:** A student may earn a major in political science with an option in American politics by completing 39 credits in political science, including: 100S, 120S, 130E, 150E; one 300-400 level course in four of the five major fields of political science listed previously; and five of the following courses: 341, 342, 343, 352, 366, 370, 387, 468. Courses used to complete the upper-division requirement of this option also fulfill the 400-level requirement in the respective major fields of political science.

**Political Science Major with an Option in International Relations and Comparative Politics:** A student may earn a major in political science with an option in international relations and comparative politics by completing 39 credits in political science, including: 100S, 120S, 130E, 150E; one 300-400 level course in four of the five major fields of political science listed previously; and three courses from each of the following groups: a) 321H, 322H, 325, 326H, 327, 328H, 329H, 420; and b) 335, 336, 430, 431, 433, 463S. Strongly recommended: a) minimum of two years of foreign language study; b) internship/study-abroad program. Courses used to complete the upper-division requirement of this option also fulfill the 400-level requirement in the respective major fields of political science.

**Political Science Major with an Option in Public Administration:** A student may earn a major in political science with an option in public administration by completing a minimum of 39 credits in political science, including: 100S, 120S, 130E, 150E; one 300-400 level course in four of the five major fields of political science listed previously; and three courses from each of the following groups: 361, 460, and two of the following courses: 364, 461, 463S, 466 and 467. A legislative or administrative internship is strongly recommended. Courses used to complete the upper-division requirement of this option also fulfill the 400-level requirement in the respective major fields of political science.

**Political Science Major with an Option in Public Law:** A student may earn a major in political science with an option in public law by completing a minimum of 39 credits in political science, including: 100S, 120S, 130E, 150E; one 300-400 level course in four of the five major fields of political science listed previously; 370, and four of the following courses: 352, 420, 433, 460, 461, 471, 472. Courses used to complete the upper-division requirement of this option also fulfill the 400-level requirement in the respective major fields of political science.

**Teacher Preparation in Political Science (Government)**

**Major Teaching Field of Political Science (Government):** Students seeking licensure to teach government in a middle or secondary school must complete the requirements for the B.A. degree with a major in political science and C&I 422. Students must complete a teaching minor in another curriculum area taught in grades 5-12. Students must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of this catalog. Students are encouraged to seek licensure advising from the Department of Curriculum & Instruction (see the School of Education section of this catalog).

**Minor Teaching Field of Political Science (Government):** Students seeking a teaching minor in political science (government) must complete the requirements for the academic minor in political science and C&I 422. Students must complete a teaching major in another curriculum area taught in grades 5-12. Students must gain admission to the Teacher Education Program and meet the professional studies requirements for all middle and secondary teachers, as indicated in the School of Education section of the catalog.

**Combined Political Science-History degree and Comprehensive Social Science teaching major:** The B.A. degree with a major in Political Science-History is designed for students seeking licensure to teach government, history, and another social sciences in middle and secondary schools, grades 5-12. The government-history teaching major qualifies as a single-field endorsement and does not require a teaching minor. Students satisfy the political science-history major requirements by completing the course requirements for the Comprehensive Social Science Teaching major. See the Department of Curriculum & Instruction in this catalog for information about this major, admission to the Teacher Education Program and requirements for licensure in Montana.

**Suggested Course of Study**

**Political Science Major:**

<table>
<thead>
<tr>
<th>First Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>PSC 100S Introduction to American Government</td>
<td>3</td>
</tr>
<tr>
<td>PSC 120S Comparative Government</td>
<td>-</td>
</tr>
<tr>
<td>Seven General Education courses</td>
<td>12</td>
</tr>
<tr>
<td>One elective</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Second Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSC 130E International Relations</td>
</tr>
<tr>
<td>PSC 150E Political Theory</td>
</tr>
<tr>
<td>Seven General Education courses</td>
</tr>
<tr>
<td>One elective</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Third Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four PSC 300-400-level courses</td>
</tr>
<tr>
<td>Six electives</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Four PSC 300-400-level courses</td>
</tr>
<tr>
<td>Six electives</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Political Science with American Politics Option:

First /Second Year: same for all options
- First Year: A
- Second Year: S

Third Year
- Three 300-400-level American Politics courses: 6 S
- Two other 300-400-level PSC courses: 3 S
- Five electives: 6 S

Fourth Year
- Two 300-400-level American Politics courses: 3 S
- Two other 300-400-level PSC courses: 3 S
- Six electives: 9 S

Political Science with International Relations and Comparative Politics Option:

First /Second Year: same for all options

Recommend beginning foreign language study as part of General Education courses.

Third Year
- Three 300-400-level International and Comparative courses: 6 S
- Two other 300-400-level PSC courses: 3 S
- Five electives: 6 S

Fourth Year
- Three 300-400-level International and Comparative courses: 6 S
- One 300-400-level PSC course: 3 S
- Six electives: 6 S

Political Science with Public Administration Option:

First /Second Year: same for all options

Third Year
- PSC 361 Public Administration: 3 S
- One 300-400-level public administration course: 3 S
- Two other 300-400-level PSC courses: 3 S
- Six electives: 9 S

Fourth Year
- One 300-400-level public administration course: 3 S
- PSC 460 Human Resource Management: 3 S
- Three other 300-400-level PSC courses: 6 S
- Five electives: 6 S

Political Science with Public Law Option:

First /Second Year: same for all options

Third Year
- PSC 370 Courts and Judicial Politics: 3 S
- Two 300-400-level Public Law courses: 3 S
- Two other 300-400-level PSC courses: 3 S
- Five electives: 9 S

Fourth Year
- Two 300-400-level Public Law courses: 3 S
- Two other 300-400-level PSC courses: 3 S
- Six electives: 9 S

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 chair. 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 autumn and spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to define the nature of the "good" society.

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

U 196 Independent Study 1-6 cr. (R-6) Offered intermittently.

U 300 Writing in Political Science 1 cr. (R-3) Offered every term. Coreq., any upper-division political science course. Designed for students seeking an approved writing course or desiring additional experience in writing.

UG 321H Politics of Western Europe 3 cr.
Offered autumn. Prereq., PSC 100S and junior standing or consent of instr. Comparative analysis of parliamentary forms of government and politics with emphasis on Great Britain, France and Germany.

UG 325 Politics of Latin America 3 cr.
Offered autumn. Latin American politics from both historical and contemporary perspectives.

UG 326H Politics of Africa 3 cr.
Offered autumn. Prereq., junior standing or consent of instr. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Considereation 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 355 American Foreign Policy 3 cr. Offered spring. Prereq., PSC 130E and junior standing or consent of instr. American diplomatic, economic and defense policies since World War II and their significance in international politics.

UG 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.

U 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.

U 381 Special Topics: Comparative Politics Variable cr. (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.

U 382 Special Topics: International Relations Variable cr. (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of international relations.


U 384 Special Topics: Political Theory Variable cr. (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.

U 385 Special Topics: Public Administration or Policy Variable cr. (R-6) Offered intermittently. Experimental or one-time offerings in the subfield of public administration or policy.

U 387 Legislative Politics 3 cr. Offered spring. Prereq., PSC 100S. Structure, processes, and politics of U.S. Congress and state legislatures. During legislative years, special emphasis will be devoted to the Montana Legislature.

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 400 Advanced Writing in Political Science 1 cr. (R-3) Offered every term. Coreq., any upper-division political science course. Designed for political science students to satisfy their upper-division writing expectation for the major or for students desiring additional experience in writing.

U 420 Comparative Legal Systems 3 cr. Offered spring. Prereq., PSC 100S. Analysis of legal systems of East Asia. Focus on constitutional law, judicial process, civil liberties, and law enforcement and corrections.

UG 430 Inter-American Relations 3 cr. Offered intermittently. Prereq., PSC 325 or consent of instr. Examination of problems, issues and concepts in the international relations of nations of the western hemisphere.

UG 431 Politics of Global Migration 3 cr. Offered spring. Prereq., junior standing or consent of instr. Exploration of the elective and forced migration of peoples within countries and across national boundaries. Geographical coverage includes Asia, North and Central America, Africa, and Europe. Attention to policy and gender issues surrounding economic and political migration.

UG 433 International Law and Organizations 3 cr. Offered spring. Prereq., junior standing or consent of instr. Introduction to classical principles and contemporary issues of the law of nations and the organizations created to facilitate international cooperation.

UG 450 Utopianism and Its Critics 3 cr. Offered intermittently. Examination of classic and contemporary utopias, from Plato's Republic to Barbara Goodwin's Justice by Lottery as well as their critics.

UG 460 Human Resource Management 3 cr. Offered spring. Study of the essential elements of human resource management, including analysis and evaluation of work, and
the selection, management, and evaluation of public employees.

UG 461 Administrative Law 3 cr. Offered autumn odd-numbered years. Prereq., PSC 100S and junior standing. The legal foundations of public administration with emphasis on legislative delegation, administrative rulemaking and adjudication, judicial review, and public participation.

UG 463S Development Administration 3 cr. Offered autumn. Prereq., junior standing or consent of instr. Study of the functions and processes of public administration in the Third World. Focus 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 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.

U 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.

U 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 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. The 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.
Pre-Engineering

Eijiro Uchimoto (Professor of Physics), Advisor

The pre-engineering curriculum is for students planning to transfer to technical engineering schools. Since engineering curricula differ for the different divisions of engineering, the general curriculum listed below serves only as a guide. A student planning to transfer into a particular type of engineering or into a particular school should work out a special program with his or her advisor.

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>COMM 111A Intro to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111S or 112S 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>
<td>4</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
<td>5</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>PHYS 295 Engineering Statics</td>
<td>3</td>
</tr>
<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>17</td>
</tr>
</tbody>
</table>

Pre-Law

David Sherman (Assistant Professor of Philosophy), Coordinator

Pre-law students are required to choose a degree major in which they will specialize. No one major best prepares students for law school and no particular course of study is a prerequisite for admission to law school. The Pre-Law Advising Committee suggests that the best preparation for law school is a broad education which ensures exposure to the varieties of thought about the social, political, economic, philosophical, and cultural forces which have shaped law and the societies it governs. Pre-law students must develop substantial skills in writing and be able to think critically and logically.

The Pre-Law Advising Committee urges students to see one of its members as soon as they consider going to law school. Advice on the specific character of each student’s pre-law program, help in preparation for the LSAT examination, and support in admission to law school are the aims of each member of the committee.

Pre-Law Advising Committee

Irene Appelbaum (Assistant Professor, Philosophy)
Thomas P. Huff (Professor, Philosophy)
Michael R. Brown (Professor, Accounting)
James W. Burfeind (Associate Professor, Sociology)
Daniel P. Doyle (Professor, Sociology)
Pre-Nursing

Kate Delaney, Pre-Nursing Advising Program, Lommasson Center, Room 286

The pre-nursing curriculum is a two-year program which is designed to provide the basic undergraduate education needed for entry into the professional portion of a baccalaureate nursing program.

Through an arrangement with the College of Nursing at Montana State University-Bozeman, The University of Montana-Missoula offers approved prerequisite courses for pre-nursing students. Students who intend to pursue the Bachelor of Science in Nursing degree offered through Montana State University can complete the 15 credits of sophomore level nursing courses in Bozeman. In addition, these 15 credits of sophomore level nursing courses are currently offered through a limited option 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 does not accept C- as a passing grade in required courses. Though a grade of "C" (2.00) is minimally acceptable, students are advised to attain the highest grade average possible in these courses for placement consideration at the upper-division level. Acceptance to clinical nursing is based on the average of the grades received in required prerequisite courses at the time of application. Admission is based strictly on grade prioritization. There is a competitive component to a successful application. 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.

Suggested Course of Study

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 110N Principles of Biology (recommended prereq. for BIOL 312)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BIOL 106N Elementary Medical Microbiology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CHEM 151N-152N General and Inorganic</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Chemistry/Organic and Biochemistry</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 154N Organic and Biochemistry</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Laboratory</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENEX 101 English Composition</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 117 Linear Algebra and Probability (Prereq. to MATH 241)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>SOC 110S Principles of Sociology</td>
<td>3</td>
<td></td>
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<td></td>
<td>15</td>
<td>15</td>
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</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<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>3</td>
<td></td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>PSYC 240S Child and Adolescent Development</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSYC 245 Adult Development and Aging</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>General Education</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>16</td>
<td>14</td>
</tr>
</tbody>
</table>

Individual programs may differ from the suggested course of study to better fill the needs of the particular student.

Students desiring admission to other schools of nursing are encouraged to obtain a catalog from the college and, in consultation with the pre-nursing advisor, develop a plan of study tailored to meet the specific course requirements of the college of their choice. In Montana the associate 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 BSN completion program can be obtained at MSU-Northern, Havre; 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.

Harry W. Fritz (Professor, History)
Jerry L. Furniss (Professor, Management)
Forest L. Grieves (Professor, Political Science)
David H. Jackson (Professor, Forestry)
James J. Lopach (Professor, Political Science)
Michael Mayer (Professor, History)

Jack K. Morton (Professor, Management)
Dennis O'Donnell (Professor, Economics)
John G. Photiades (Professor, Economics)
David Sherman (Assistant Professor, Philosophy, Coordinator)
Jon Tompkins (Professor, Political Science)
Department of Psychology

Nabil Haddad, Chair

Psychology is the science of the behavior of humans and other animals. The psychologist, using scientific methods, seeks to understand the causes and purposes of behavior. Psychologists pursue their research and its application in academia, business, government, health, military and social service. The department offers the Bachelor of Arts, Master of Arts and Doctor of Philosophy degrees.

Admission Requirements
To be admitted to either option of the psychology major, a student must satisfy the following requirements:
1) completion of 30 credits overall
2) completion of 6 credits in psychology courses, including PSYC 100S and 110
In addition, to be admitted to the research option of the psychology major, students also should have:
3) a minimum overall GPA of 3.0
   Students who intend to major in psychology but who have not yet met the credit hour requirements are admitted to the program as pre-psychology majors. Prior to meeting the above requirements for admission pre-psychology students should go to University College in 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.

Research Option
The research option provides the student with an adequate foundation for graduate studies in psychology. To earn a Bachelor of Arts degree in psychology, the student must:
1) PSYC 100S Introduction to Psychology
2) PSYC 110 Careers in Psychology
3) PSYC 120 Introduction to Psychological Research Methods
4) PSYC 220 Psychological Statistics
5) PSYC 320 Advanced Psychological Research Methods
6) PSYC 297 Supervised Research (minimum of 2 credits)
7) At least two of the following:
   -PSYC 260S Fundamentals of Learning
   -PSYC 265S Cognition
   -PSYC 270N Fundamentals of Biological Psychology
6) At least four of the following:
   -PSYC 240S Child and Adolescent Development
   -PSYC 245 Adult Development and Aging
   -PSYC 330S Abnormal Psychology
   -PSYC 350S Social Psychology
   -PSYC 351S Psychology of Personality
7) At least one of the following:
   -MATH 117 Probability, Linear Mathematics
   -MATH 150 Applied Calculus
   -MATH 152 Calculus I
8) At least four other three-credit psychology courses, not to include 296, 298, 396, 398, 493, or 499.

Teacher Preparation in Psychology
Major Teaching Field of Psychology: For an endorsement in the major teaching field of Psychology, a student must complete the requirements for the B.A. degree with a major in Psychology, General Option. Students also must complete C&I 428, gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section).
Students are advised that the demand in Montana high schools for teaching of courses in this field is limited. Students should complete the required second endorsement (major or minor) in a field other than Drama, Economics, Geography, Journalism or Sociology.

**Minor Teaching Field of Psychology:** For an endorsement in the minor teaching field of Psychology, a student must complete the requirements for the psychology minor as given in the section. Requirements for a Minor: Students also must complete C&J 428, gain admission to Teacher Education and Student Teaching, and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

### Suggested Course of Study

<table>
<thead>
<tr>
<th>Year</th>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Year</td>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>PSYC 110 Careers in Psychology</td>
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<tr>
<td></td>
<td>PSYC 120 Introduction to Psychological</td>
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</tr>
<tr>
<td></td>
<td>Research Methods</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MATH 117 Probability and Linear MATH or 150</td>
<td>3-4</td>
</tr>
<tr>
<td></td>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Four General Education courses</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Two elective courses</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>16-17</strong></td>
</tr>
</tbody>
</table>

| Second Year   | PSYC 220 Psychological Statistics          | 3       |
|               | Three other 200-level psychology courses   | 6       |
|               | Four General Education courses             | 6       |
|               | Two elective courses                       | 3       |
|               | **Total**                                  | **15-15**|

| Third Year    | PSYC courses                               | 3       |
|               | PSYC 297 Supervised Research               | 2       |
|               | PSYC 320 Advanced Psychological Research   | 3       |
|               | Electives and General Education            | 9       |
|               | **Total**                                  | **15-15**|

| Fourth Year   | PSYC courses                               | 6       |
|               | Electives                                  | 6       |
|               | **Total**                                  | **15-16**|

### 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 260S 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 265S Fundamentals of Biological Psychology
   - PSYC 270N Fundamentals of Human Neuropsychology
   - PSYC 372 Intermediate Behavioral Biology

At least six of the 21 credits must be at the 300-level or above.

All minors are required to earn a "C" (2.00) or better in all psychology classes taken to fulfill requirements.

### Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R. 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 PSY 100U.

- **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.

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

- **U 220 Psychological Statistics** 3 cr. Offered every term. Prereq., PSYC 100S, 120; MATH 117, 150 or 152. Application of statistical techniques to psychological data. Credit not allowed for both PSYC 220 and Soc 202.

- **U 240S Child and Adolescent Development** 3 cr. Offered every term. Prereq., PSYC 100S. An overview of research findings on development from infancy through adolescence, with emphasis on application.

- **U 245 Adult Development and Aging** 3 cr. Offered intermittently. Prereq., PSYC 100S. An overview of theories and research findings in the psychology of adulthood and aging.

- **U 260S Fundamentals of Learning** 3 cr. Offered autumn. Prereq., PSYC 100S. Basic theory and research on the nature of animal learning and behavior.

- **U 265S Cognition** 3 cr. Offered intermittently. Prereq., PSYC 100S. The acquisition and uses of knowledge. An examination of research and theories of human learning, memory, and thinking.

- **U 270N Fundamentals of Biological Psychology** 3 cr. Offered every term. Prereq., PSYC 100S. Introduction to the relationships between biological structures and mechanisms, and their corresponding psychological processes and events. Origins and adaptations of structures and behaviors as well as the methods used to study these relationships.

- **U 294 Seminar Honors** 1 cr. (R-3) Offered intermittently. Prereq., consent of instr.; coreq., another psychology course. Taken in conjunction with another psychology course to provide additional content and discussion for honors students. Consent of the corequisite course instructor is required for this course.
U 295 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., PSYC 100S. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study Variable cr. (R-6) Offered every term.

U 297 Supervised Research Variable cr. (R-6) Offered every term.

U 298 Internship 1-6 cr. (R-6) Offered every term. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off-campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. 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 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 372 Intermediate Behavioral Biology 3 cr. Offered autumn. Prereq., PSYC 270N. Advanced evaluation and analysis of animal behavior through the synthesis of theory, research, and methods found in comparative psychology, behavioral biology, ethology, and sociobiology.

U 385 Psychology of Family Violence 3 cr. Offered spring odd-numbered years. Prereq., PSYC 100S; recommended 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 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. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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 spring even-numbered years. 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 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 odd-numbered years. 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 1-6 cr. (R-9) Offered autumn and spring. Prereq., PSYC 540 or equiv. Individualized, applied experience working with and/or observing a particular population of interest, including children, adolescents, or older adults. Involves the completion of an independent project, which may comprise program assessment, research proposal development, etc.

G 546 History and Theories of Developmental Psychology 3 cr. Offered intermittently. Prereq., PSYC 540 or equiv. History, theories, and research in developmental psychology. Consideration of selected topics.

G 547 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 555 Advanced Social Psychology 3 cr. Offered autumn even-numbered years. Prereq., consent of instr. Principles and methods pertaining to the acquisition and retention of new behavior.

G 556 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 557 Advanced Physiological Psychology 3 cr. Offered autumn even-numbered years. Prereq., consent of instr. Brain mechanisms and behavior; electrophysiological correlates of behavior.

G 558 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 fit with current systems of psychology.

G 582 Behavioral Assessment 4 cr. Offered autumn even-numbered years. Prereq., graduate standing in psychology or consent of instr. Introduces theoretical and practical applications of behavioral assessment. Students develop skills using behavioral observation and sampling through supervised experience in applied settings.

G 583 Educational Assessment 4 cr. Offered spring odd-numbered years. Prereq., graduate standing in psychology or education. Develops assessment skills using problem-solving strategies to make educational decisions with Curriculum-Based Measures (CBM). Supervised direct experience in applied settings.

G 584 Academic and Behavioral Interventions 3 cr. Offered autumn odd-numbered years. Prereq., graduate standing in psychology or education. The fundamental principles underlying the design and implementation of...
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 autumn and spring. Prereq., enrollment in school psychology program or consent of instr. Supervised work experience in the role and functions of school psychologists.

G 594 Seminar Variable cr. (R-12) Offered intermittently.

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

G 596 Independent Study Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Assigned readings and other special study projects.

G 597 Research Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Independent supervised research projects, other than thesis or dissertation.


G 625 Psychological Evaluation III: Projectives and Integration 3 cr. Offered 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 1-4 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 4 cr. Offered autumn even-numbered years. Prereq., graduate standing in school psychology. Theoretical background and case conceptualization in academic and behavioral consultation. Supervised direct experience 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 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

Maureen Fleming, Ph.D., Southern Illinois University, 1969
Nabil F. Haddad, Ph.D., University of Oklahoma, 1976 (Chair)
D. Balfour Jeffrey, Ph.D., University of Utah, 1973
Lynne S. Koester, Ph.D., University of Wisconsin, Madison, 1976
Lois Muir, Ph.D., State University of New York at Stony Brook, 1982
David Schuldberg, Ph.D., University of California, Berkeley, 1981
Thomas Seekins, Ph.D., University of Kansas, 1983
Paul S. Silverman, Ph.D., University of Georgia, 1977
David A. Strobel, Ph.D., The University of Montana, 1972 (Dean of the Graduate School)
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-Petree, 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
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, 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.

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 interpretive 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 381 Comparative Ethics 3 cr. Prereq., lower-division course in Perspective 5 or consent of instr. An examination of models for cross-cultural study, concentrating on the formation and exercise of values in eastern cultures as approached from the standpoint of western students.

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 396 Independent Study Variable cr. (R-6)

U 495 Special Topics Variable cr. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Studies 3 cr. (R-9) Prereq., consent of instr. Work on selected problems by individual students under direct faculty supervision.

Faculty

Professors

Paul A. Dietrich, Ph.D., University of Chicago, 1981
Alan Sponberg, Ph.D., University of British Columbia, 1980

Assistant Professor

Megan Williams, Ph.D., Princeton, 2002

Adjunct Professor

Thomas R. Lee, Ph.D., University of California, 1979

Russian Studies

Ona Renner-Fahey (Assistant Professor of Modern and Classical Languages and Literatures), Advisor

Students interested in Russian studies may choose a minor in Russian studies as listed below. Students will receive formal guidance for their interest in Russian studies and recognition for completing a defined program. For assignment to an advisor in Russian studies, the student may contact Dr. Fred Skinner, Department of History.

Requirements for a Minor

The following requirements must be successfully completed to obtain a minor in Russian studies:

1. Twelve credits of course work concerning the former Russian area and its successor states. The Russian Studies Faculty Committee will designate the courses which may be used for the minor. These twelve credits will include at least one course concerning Russian area studies in at least three of the following disciplines: anthropology, business administration, economics, modern and classical languages and literatures (not including the language requirement), geography, history, communication studies, political science, sociology.

2. Second year proficiency in the Russian language.

Related Courses

Following is a list of possible course selections for the minor in Russian Studies. It is not an exhaustive list so students are advised to consult with their advisors for course suggestions appropriate to the minor.

Anthropology

385S Indigenous Peoples and Global Development 3 cr.

Business Administration-Management

348 Entrepreneurship 3cr.
368 International Business 3cr.

465 World Trade and Commerce 3 cr.

Communication Studies

451S Intercultural Communications 3 cr.
452 Cultural Codes in Communication 3 cr.

Economics

374 Comparative Economic Systems 3 cr.

Geography

351 Geography of a Selected Region 3 cr.
396 Problems in Geography 3 cr.

History

319H Contemporary Europe 3 cr.
331H Foreign Relations of the Great Powers, 1870-Present 3 cr.
332H The Global Diplomacy of the Cold War 3 cr.
344 Russia to 1801 3 cr.
345 Russia Since 1801 3 cr.
348 Eastern Europe: Past and Present 3 cr.
395 Russia: Past and Present 3 cr.
446 The Russian Revolution, 1900-1930 3 cr.
460E Problems of Peace and National Security 3 cr.

Political Science

322H Soviet and Post Soviet Politics 3 cr.
323 Theories of Civil Violence 3 cr.

Russian

301 Oral and Written Expression 3 cr.
302 Russian Culture and Civilization 3 cr.
305L-306L Introduction to Russian Literature 6 cr.
395 Special Topics Variable cr.
401 Advanced Conversation and Composition 3 cr.
411 19th Century Major Russian Authors 3 cr.
412 20th Century Major Russian Authors 3 cr.
Science

David B. Firend, (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 and one or two Saturday field trips.

Sociology

320 Complex Organizations
325 Social Stratification
455 Classical Social Theory
Study in Russia

Primarily a language-based program taught by native Russian instructors for beginning through advanced language students.

U 296 Independent Study 1-9 cr. (R-9) Offered intermittently.
U 350 Environmental Perspectives 2 cr. Offered autumn and spring. Critical analysis of the assumptions and effects of past and present patterns of land use, based on readings drawn from both the sciences and humanities.
U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 396 Independent Study 1-12 cr. (R-12) Offered intermittently.
U 493 Omnibus Variable cr. (R-8) Offered intermittently. Prereq., consent of instr. Independent work under the University omnibus option. See index.
U 494 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Seminars and conferences designed to update teachers on developments in science and technology or to introduce interdisciplinary concepts.
U 495 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 496 Independent Study 1-12 cr. (R-12) Offered intermittently.
U 497 Research 1-10 cr. (R-10) Offered intermittently.
U 498 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 offers a perspective—a way to view the world—that examines the social contexts in which people live. A sociological perspective enables us to grasp connections among individuals, their communities, and the broader society. It facilitates understanding of complex social processes and problems, and can offer insights into how to improve social welfare. At the University of Montana-Missoula, the Sociology faculty, graduate students, and undergraduates learn about the sociological perspective through coursework on a variety of theoretical and methodological approaches, and topics that engage social issues in our own Rocky Mountain region to places all around the globe.

At the University of Montana-Missoula sociology faculty, graduate students, and undergraduates use a variety of theoretical and methodological approaches to study important social issues affecting our local community, the Rocky Mountain region, the nation, and the world.

Special Degree Requirements

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

The general sociology major requires a minimum of 33 sociology credits. Students may choose an option in criminology or in rural and environmental change. These options require 39 sociology credits. All sociology majors must complete a 3-credit extra-departmental requirement in computer science (does not count toward 33/39 credit minimum), a required core and four courses from the major content list, in order to insure broad exposure to the field of sociology. No more than 60 sociology credits may count for graduation. In addition to meeting 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 421, 438, 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:

Those students interested in the general sociology major must take three electives in addition to the core skills and major content requirements listed above. Students whose primary interest is in a general sociology degree are urged to develop a plan of study with their advisors. The following courses are available for consideration: 130S, 212H, 225, 235, 306, 308, 310, 322, 325, 330, 332, 333, 334, 335, 340, 342, 346, 350S, 355, 370S, 386, 421, 424, 435, 438, 460, 470, 490, 493, 496.

Criminology Option:

Criminology is an intriguing field of study which examines the making of law, the nature and extent of crime and criminality, and efforts to control crime. The option builds upon the required course work in sociology and allows students to pursue extended study of crime and the criminal justice system. In addition, the option provides opportunity for practical experience in the criminal justice system through internship placement. The criminology option requires 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:
- 322—Sociology of Law Enforcement
- 333—Criminal Adjudication
- 334—Sociology of Corrections
- 335—Juvenile Justice System
- 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**

**Major Teaching Field of Sociology:** For an endorsement in the major teaching field of Sociology, a student must complete the requirements for the B.A. degree with a major in Sociology and C&I 428. Students also must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog). Students are advised that the demand in Montana high schools for teaching of courses in this field is limited.

**Minor Teaching Field of Sociology:** For an endorsement in the minor teaching field of Sociology, a student must complete SOC 230, 230S, 201, 220S, 230S or 330, 455 and 6 elective credits in Sociology courses 200 and above. Students also must complete C&I 428, gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher. (See the School of Education section of this catalog.)

### Suggested Course of Study

#### General Sociology Majors:

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 1105 Principles of Sociology</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
</tr>
<tr>
<td>Lower-division Writing course</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>9</td>
</tr>
<tr>
<td>SOC 1105</td>
<td>15</td>
</tr>
<tr>
<td>ENEX 101</td>
<td>15</td>
</tr>
</tbody>
</table>

**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CS 171 Communicating Via Computers or 172</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Computer Modeling</td>
<td>-</td>
</tr>
<tr>
<td>SOC 202 Social Statistics</td>
<td>3</td>
</tr>
<tr>
<td>SOC 230 Criminology or SOC 270 Introduction</td>
<td>3</td>
</tr>
<tr>
<td>to Rural and Environmental Change</td>
<td>-</td>
</tr>
<tr>
<td>SOC 235 Criminal Justice System or elective</td>
<td>3</td>
</tr>
<tr>
<td>Sociology major content courses</td>
<td>3</td>
</tr>
<tr>
<td>General Education</td>
<td>6</td>
</tr>
<tr>
<td>SOC 1105</td>
<td>15</td>
</tr>
<tr>
<td>ENEX 101</td>
<td>15</td>
</tr>
</tbody>
</table>

All sociology majors are expected to have their general education work completed by the end of their sophomore year. The bulk of the work in sociology should occur during the junior and senior years.

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 201 Social Science Methods</td>
<td>3</td>
</tr>
<tr>
<td>SOC 455 Classical Social Theory</td>
<td>3</td>
</tr>
<tr>
<td>Sociology major content course</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division writing course</td>
<td>3</td>
</tr>
<tr>
<td>Option courses (Crim or Rural) or electives</td>
<td>9</td>
</tr>
<tr>
<td>SOC 201</td>
<td>15</td>
</tr>
<tr>
<td>SOC 455</td>
<td>15</td>
</tr>
</tbody>
</table>

**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC 460 Capstone in Rural and Environmental Change (Rural option)</td>
<td>3</td>
</tr>
<tr>
<td>Option courses (Crim or Rural) or electives</td>
<td>15</td>
</tr>
<tr>
<td>SOC 460</td>
<td>15</td>
</tr>
</tbody>
</table>

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.

**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 1105, 201, 455 and two (2) major content courses.

**Courses**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

**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 230S Criminology 3 cr. Offered autumn. Prereq., SOC 110S. A critical examination of crime in society: how crime is defined, the extent and distribution of crime, theoretical explanations of criminal behavior, and crime control efforts.

U 235 Criminal Justice System 3 cr. Offered spring. Prereq., SOC 110S. A systematic survey of crime and the administration of justice in the United States, including the organizational structures, processes, and dynamics of law enforcement, criminal adjudication, and corrections.

U 270 Introduction to Rural and Environmental Change 3 cr. Offered autumn. Introduction to the study of relationships and interactions between people in rural societies and the environment.

U 275S Gender and Society 3 cr. Offered autumn. Same as WS 275S. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S. How gender ideologies affect the social definition and position of men and women in work, family, sexual relationships, sexual divisions of labor, and social movements.

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

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; 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 230S 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. 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 Prereq. in Sociology 2-3 cr. Offered autumn and spring. Prereq., SOC 110S and consent of instr. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors with instructor’s consent. Proposals must be approved by department chair.
U 395 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of new courses or one time offerings of current topics.

U 398 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 421 Issues in Sociology of Family 3 cr. Offered spring odd-numbered years. Prereq., SOC 300 or equiv. Analysis of selected topics on deviance, Montana families, family and the state, families and poverty, feminist perspectives on family, social psychology of families and families in cross-cultural perspective. This course will meet the upper-division writing expectation for sociology majors only.

UG 423 Addiction Studies 3 cr. Offered spring even-numbered years. Same as PSYC and SW 423. Examination of chemical dependency and behavioral compulsion, including alcohol and other drugs, gambling, eating disorders, sexual addictions. Ecosystems perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors.

UG 424 Community Forestry and Conservation 3 cr. Offered spring even-numbered years. Same as FOR 424. A review of agroforestry, community forestry and opportunities and constraints to the use of 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 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 Chipstone 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 470 Society and Environment 3 cr. Offered spring even-numbered years. Prereq., SOC 110S. Introduction to the field of environmental sociology and influential sociological perspectives on global environmental change. Case examples from agrarian and industrialized regions around the world.

UG 485 Political Sociology 3 cr. Offered spring odd-numbered years. Prereq., junior or senior standing. Analysis of political theory and behavior; social bases of power and policy determination; institutional interrelationships; intellectuals and 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.

UG 490 Internship Variable cr. (R-12) Offered every term. Prereq., SOC 110S, 201 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business, which involves work experience related to sociology, criminology, and/or rural and environmental change.

UG 493 Omnibus Variable cr. (R-12) Offered every term. Prereq., SOC 110S and consent of instr. Theoretical and methodological approaches to social research, emphasizing analysis, interpretation, and communication of sociological data. May count toward graduation. (R-6)

UG 494 Seminar 2-3 cr. Offered intermittently. Prereq., SOC 110S and at least junior standing. Selected sociological topics.

UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., SOC 110S. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study 1-3 cr. (R-9) Offered every term. Prereq., SOC 110S and consent of instr. Independent work under the University omnibus option. See index.

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 themes and theoretical perspectives of criminology together with relevant research findings.

G 538 Seminar in Crime and Deviance 3 cr. Offered intermittently. Advanced study of a specific criminological topic or issue with special emphasis on research and public policy. Possible topics include women and crime, cross-cultural criminal justice, sentencing, the social location of crime, drugs and crime, causal analysis of crime and criminality.

G 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 577 Seminar in Rural Development 3 cr. Offered spring odd-numbered years. Advanced study of rural
sociology and community development in rural areas with an emphasis on an applied rural development research experience.

G 590 Internship Variable cr. (R-6) Offered every term. Prereq., consent of instr. Supervised placement for graduate students in an agency or business which involves work experience related to sociology, criminology and/or rural and environmental change.

G 594 Graduate Seminar 3 cr. (R-9) Offered intermittently. Selected sociological topics.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of instr. Work with a faculty supervisor in an area of special interest.

G 597 Graduate Research 2-3 cr. (R-9) Offered every term. Directed research. 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 (Chair)
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. Hollist, 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. Sobieszczyn, Ph.D., Cornell University, 2000

Women's Studies Program

Sara Hayden and Anya Jabour, Co-Directors
Women's 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 Studies encourages students to think critically and to envision justice for all peoples.

The Women's Studies program is administered by the director, with assistance from the program coordinator, in consultation with the Women's Studies Steering Committee, an interdisciplinary group of faculty and professional associates with teaching, research, and scholarly interests in women and gender.

Students may include Women's Studies in their studies in two ways. They can major in Liberal Studies with an option in Women's Studies, or they can complete the Women's and Gender Studies minor. Students may select coursework from a wide variety of courses offered in the humanities, social sciences, natural sciences, law, education and other disciplines. Women's Studies offers scholarships, and sponsors or co-sponsors a variety of events including lectures, discussions, and performances that make a vibrant contribution to both the campus and the Missoula community life.

To be admitted, students must register with the Women's Studies director, who will explain option or minor requirements and supervise their program.

Special Degree Requirements

For the Women's Studies option under the Liberal Studies major, the following requirements must be met (not necessarily in sequence):

1) Completion of Liberal Studies core curriculum. (See the Liberal Studies section of this catalog.)
2) Completion of WS 119H or approved alternative.
3) At least 21 credits of 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 Studies office, LA 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 265N Human Sexuality
ANTH 327 Anthropology of Gender
ART 480H Women Artists and Art History
COMM 380 Gender and Communication
COMM 480 The Rhetorical Construction of "Woman"
COMM 481 The Rhetoric of US Women's Activism, 1960-Present
ENLT 321-324* Women's Literature
ENLT 336 American Women Writers
ENLT 337 African-American Literature: Women Writers
ENLT 336 American Women Writers
ENLT 421 Feminist Theory
HIST 370H Women in America: to the Civil War
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 four required courses or approved alternatives: (1) WS 119H, Philosophical Perspectives on Women in the Western Hemisphere, or WS 263S, Introduction to Women’s and Gender Studies, (2) WS 275, Gender and Society, (3) WS 363, Feminist Theories and Methods, and (4) WS 494, Women’s Studies Capstone (1 credit). In addition, students must complete three upper-division (300- or 400-level) elective courses (nine credits) from the list of Women’s Studies “content” and “focus” courses. Students may apply WS 398, Cooperative Education (internships), toward their elective credits. All requests for substitutions or equivalency must be approved by the director(s) of the Women’s 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.

Women’s Studies (WS)

U 119H Philosophical Perspectives on Women in the Western Hemisphere 3 cr. Offered spring. Same as LS and PHIL 119H. Introduction to the discipline and scope of Western philosophy focusing on women as the subject rather than men. A chronological study following the ideological development in the West of social attitudes and scientific theses.

U 263S Introduction to Women’s and Gender Studies 3 cr. Offered spring add-numbered years. Broad 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 autumn. Same as SOC 275S. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S. How gender ideologies affect the social definition and position of men and women in work, family, sexual relationship, sexual divisions of labor, and social movements.

U 294 Seminar 1-6 cr. (R-6) Offered intermittently.

U 295 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 320 Women in Antiquity 3 cr. Offered intermittently. Same as MCLG and LS 320. Examination of varied sources from Ancient Greece, the Hellenistic World, and republican and imperial Rome to clarify the place of women in communities. Women’s contribution to community and the mechanisms by which communities attempted to socialize female populations.

U 323 Women and Social Action in the Americas 3 cr. Offered autumn odd-numbered years. Prereq., one of SW 100S, SOC 110S, or ANTH 101H or consent of instr. Same as SW 323. Focus on women’s experiences of and contributions to social change in North, South and Central America in the mid- to late-20th century. Through case studies, testimonials, discussions with activists and Internet connections examine social constructions of gender, compare forms of social action in diverse cultural, political and
historical contexts, link practice to theories of social participation, and reflect on lessons learned from women’s experiences.

U 324 Gender and the Politics of Welfare 3 cr. Offered spring even-numbered years. Prereq., SW 100S or consent of instr. Same as SW 324. Exploration of the relationship between gender ideologies and the development of social welfare policies. Examination of historic and contemporary social welfare policies, practices and debates in the United States through a gender lens.

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

U 336 American Women Writers 3 cr. Offered spring odd-numbered years. Prereq., ENLT 301 or consent of instr. Same as ENLT 336. Consideration of political and aesthetic purposes in women’s fiction through a progression of 19th century literary forms: a cautionary seduction novel, sentimental and domestic novels, realism, naturalism, and utopianism.

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 even-numbered years. 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 autumn or spring. Prereq., ENLT 301 or consent of instr. Same as ENLT 372. Review of the history of the gay and lesbian movement in the twentieth century as a basis for understanding the political, social, and sexual issues that influenced homoerotic cultural representation in plays, films, and novels.

U 380 Gender and Communication 3 cr. Offered autumn. Same as COMM 380. The meaning of gender in our culture and how gender is displayed and perpetuated through our private and public verbal and nonverbal interactions.

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

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

U 395 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 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 and Gender Studies 3 cr. Offered every term. Prereq., WS 119H, WS 275S or ANTH/Biol 265N or consent of instr. Capstone course for the Women 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 Studies Steering Committee/Faculty

Professors
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, 1993 (Communication Studies)
Anya Jobour, 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)

Associate Professors
Hiltrudis Arens, Ph.D., University of Maryland, 1997 (German)
Jill Bergman, Ph.D., University of Illinois, Urbana, 1999 (English)
Jone Crumley, 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)
Kari Harris, Ph.D., University of Kansas, 1998 (Research, Psychology and Pharmacy)
Maxine Jacobson, Ph.D., University of Utah, 1998 (Social Work)
Jennifer Waltz, University of Washington, 1993 (Psychology)
Celia Winkler, Ph.D., University of Oregon, 1996 (Sociology)

Assistant Professors
- Karen Ruth Adams, Ph.D., University of California, Berkeley, 2000 (Political Science)
- Heather Bruce, Ph.D., University of Utah, 1997 (English)
- Bryan Cochran, Ph.D., University of Washington, 2003 (Psychology)

Kelli Cummings, Ph.D., University of Oregon, 2004 (Psychology)
- Sarah Halvorson, Ph.D., University of Colorado-Boulder, 2000 (Geography)
- Kathleen Kane, Ph.D., University of Texas, 1997 (English)
- Kathy Kuipers, Ph.D., Stanford University, 1999 (Sociology)
- Kimber Haddix McKay, Ph.D., University of California, Davis, 1997 (Anthropology)
- Teresa Sobieszczyk, Ph.D., Cornell University (Sociology)
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 increasing resource utilization to sustainability efforts and ecosystem preservation. Resource professionals need a broad range of talents and perspectives to solve present day problems and quickly adapt to address an even more complex future. Our instructional programs produce both specialists and broadly trained generalists, all of whom understand the complex interrelationships between resource use and quality of human environment.

All instructional programs emphasize interaction with practicing professionals and opportunities to observe and participate in current field resource management situations. Field trips are offered in many courses. In addition, students in several options may obtain intensive field experience through on-site course offerings in a camp setting at the Lubrecht Experimental Forest.

High School Preparation: Students planning to enter the College of Forestry and Conservation should attain a sound high school background in English, social studies, mathematics, biology, and other sciences.

Entering freshmen and non-resident transfer students will be admitted to the College of Forestry and Conservation in accordance with general university admissions requirements listed previously in the catalog. See index.

Resident transfer students must have a grade point average of 2.0 or above to be admitted to the College of Forestry and Conservation.

University students wanting to change their major to the College of Forestry and Conservation must have a grade point average of 2.0 or above.

Students are required to consult with their advisors before each registration period. New students needing an advisor and current students who wish to change advisors should contact the Dean’s Office. Students may change their advisor at any time, and often do as their specific interests develop or change. Students are responsible for fulfilling the published requirements. Students are urged to solicit the advisor’s help at all times.

Special Degree Requirements

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

Degree candidates must complete successfully a curriculum that includes:

1. A minimum of three courses primarily designed to develop communication skills with at least one each in the areas of oral communications and written communications including an upper-division writing course.

2. A minimum of three quantitative courses CS 172, BADM 201, FOR 201, PSYC 220, SOC 202, WBI 240, ANTH 381, and MATH 117 or higher, but not to include MAT 005, MATH 100, 107, 109, 130 or 132.

3. Except for the B.S. in Wildlife Biology, a course of study containing not less than 36 traditional letter-graded semester credits in the College of Forestry and Conservation, of which a minimum of 20 credits must be taken while an approved major within the College of Forestry and Conservation.

4. Except for the B.S. in Wildlife Biology, a minimum of 400 hours of work experience appropriate to the degree being sought and to the student’s career objectives, as determined by the forestry faculty.

5. An overall course of study approved by the forestry faculty selected from one of the following academic program areas:

   - Forest Resources Management Option in Forestry (BSF)
   - Range Resources Management Option in Forestry (BSF)
   - Conservation Option in Resource Conservation (BSRC)
   - Land and People Option in Resource Conservation (BSRC)
   - Terrestrial Sciences Option in Resource Conservation (BSRC)
   - Recreation Management (BSRM)
   - Terrestrial Option in Wildlife Biology (BSWB)
   - Aquatic Option in Wildlife Biology (BSWB)
   - Honors Emphasis in Wildlife Biology (BSWB)

Each student will select an academic option, preferably during the first or early in the second year. A coursework program will be worked out for each student with an advisor, according to the guidelines and any additional requirements set forth in the current University Catalog.

6. All students in any of the academic program areas in the College of Forestry and Conservation will complete, and pass with a D or better, a core curriculum that includes:
   a) Natural Resources Measurements Summer Camp (except Wildlife Biology students—see Wildlife Biology section of this catalog) (if a student enters the University with 60 or more transfer credits, he/she will be exempt)
   b) A course in ecology (FOR 330, FOR 462, BIOL 340/341 or transferred equivalent)
   c) A course in natural resources policy (FOR 422, REM 370, WBI 410, WBI 475, or transferred equivalent)
   d) A course in interdisciplinary 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
Resources Management and Range Resources Management.
The Forest Resources Management option is accredited by the
Society of American Foresters. Both options are 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 prescribed. 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 Wildlife Biology**

The College of Forestry and Conservation cooperates with the
Division of Biological Sciences in offering a degree program in
wildlife biology.

Wildlife biology is the study of wild vertebrate animals, their
habitats and their environment. The undergraduate curriculum
constitutes pre-professional training for employment in fish and
game conservation, and provides an excellent background in
general ecology.

Since few employment opportunities exist in wildlife
management or research for students with the bachelor's degree,
wildlife biology students should plan to continue their
education, at least through the master's degree, to qualify for
most state and federal wildlife management or research
positions.

Three curricula are offered in the wildlife biology program:
Terrestrial, Aquatic, and Honors. Curriculum requirements are
found under the Wildlife Biology section in this catalog.

**Minor in Nature and Democracy**

Descriptions of this minor and of the Bolle Center for People
and Forests are found under the Nature and Democracy section
of this catalog.

**Minor in Wilderness Studies**

Descriptions of this minor and of the Wilderness and
Civilization program are found under the Wilderness Studies
section of this catalog.

**Graduate Programs**

The College of Forestry and Conservation offers these
graduate degrees: Master of Science in Resource Conservation,
Master of Science in Forestry, Master of Ecosystem
Management, Master of Science in Wildlife Biology, Master of
Science in Recreation Management, and Doctor of Philosophy.
For further information on these programs contact the
Graduate School.

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**Forestry**

**Bachelor of Science in Forestry**

**Forest Resources Management Option**

In addition to special degree requirements listed previously,
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**

<table>
<thead>
<tr>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 120N General Botany</td>
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<tr>
<td>CHEM 151N General Chemistry</td>
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<tr>
<td>COMM 111A Introduction to Public Speaking</td>
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<tr>
<td>ECON 111S Introduction to Microeconomics</td>
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<tr>
<td>ENEX 101 Composition</td>
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<tr>
<td>MATH 121 Pre-Calculus</td>
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<tr>
<td>MATH 150 Applied Calculus</td>
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<tr>
<td>Electives and General Education</td>
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</tbody>
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**Summer**

FOR 200 Natural Resources Measurements Camp | 2

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**Second Year**

FOR 201 Forest Biometrics | 3
FOR 202 Forest Mensuration | 3
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 | 3
FOR 275 Wildlife Conservation | 2
RECM 217 Wildland Recreation Management | 3
Electives and General Education | 2

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**Third and Fourth Years**

FOR 320 Forest Economics | 3
FOR 330 Forest Ecology | 3
FOR 340 Harvesting and Products | 4
FOR 347 Multiple Resource Silviculture | 3
FOR 351 Photogrammetry and Remote Sensing | 3
Range Resources Management Option
In addition to special degree requirements listed previously, students electing the range resources management option must complete the following required courses, or their equivalent if transferred from another college or university. Transfer equivalence will be determined by the University and College of Forestry and Conservation. Electives may be taken at appropriate times, keeping in mind these requirements as well as the University's General Education requirements for graduation.

First Year  
BIOL 120N General Botany .................. 3  
CHEM 151N General Chemistry ............... 3  
COMM 111A Introduction to Public Speaking .... 2  
ECON 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.

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.

Forestry (FOR)
U 140 Introduction to Urban Forestry 2 cr. Offered spring. An introduction to urban forestry principles and practices. Benefits of the urban forest. Topics covered include plant species selection, site design, site assessment, planting, watering, fertilization, insects and diseases, pruning and tree care, inventory of property values, and community forestry development.

U 170N International Environmental Change 2 cr. Offered spring. An introduction to natural and anthropogenic environmental change from ancient to contemporary times. Exploration of the historical role and importance of ecological disturbance on the development and maintenance of terrestrial ecosystems around the world. Introduction to fields of study available in the College of Forestry and Conservation.

U 180 Careers in Natural Resources 2 cr. Offered autumn and spring. Same as WBIO 180 and RECM 180. Subject matter and fields of study within natural resources management. Topics include forestry, wildlife biology, range, water, recreation management, forest products production, and other opportunities for careers in natural resources.

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

U 196 Independent Study Variable cr. (R-3) Offered every term. Prereq., consent of instr. Problems course designed to allow individual research at the undergraduate level.

U 200 Natural Resources Measurements 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, and biological properties of soils.

U 220 Technical Writing 2 cr. Offered every term. Emphasis on style, tone and content in 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 writing, organizing and producing documents, electronic communication, and editing with microcomputers.

U 230 Forest Fire Management 2 cr. Offered spring. Suppression and suppression of fire and the use of fire in management practices. Use of fire in management and how to adopt a wide range of tones and styles in writing various technical documents to diverse audiences. Focus on more effective technical writing, organizing and producing documents, electronic communication, and editing with microcomputers.

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 240 Tree Biology 2 cr. Offered autumn. Suggested coreq., FOR 241N. The physical and biological requirements for the growth and development of trees. Discussion of identification, classification and 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 the natural and human made disturbance on the development and maintenance of terrestrial ecosystems around the world. Introduction to fields of study available in the College of Forestry and Conservation.

U 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
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 and BIOL 165N. Description, identification, forage value and ecology of forage plants of the western United States; important weed species, management of grazing lands, and the relationship of ecophysiology and morphology to grazing response.

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.

U 380S Environmental Conservation 3 cr. Offered autumn. Prereq., junior standing. The interrelationships of resource conservation programs and programs; 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.

UG 423 Montana Wilderness Policy and Politics 2 cr. Examination of congressional legislative processes and congressional efforts concerning wilderness and roadless public lands management, particularly in Montana. Consideration of economic, social, and political factors affecting how congress and the executive branch determine the fate of roadless lands.

UG 424 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 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 462 Range Ecology 3 cr. Offered spring. Prereq., FOR 360 and one course in plant ecology. Applied ecology of rangeland uses by various biota, synecological response to grazing, fire, herbicides, fertilizers and mechanical treatments, structural and functional responses of grassland systems to disturbance.

UG 463 Range Improvement 3 cr. Offered autumn. Prereq., FOR 360. Methods of improving rangelands, including grazing systems, control of weeds, controlled burning, seeding, fertilization and mechanical soil treatments.

UG 465 Restoration Ecology 3 cr. Offered spring. Prereq., senior standing and a course in 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 480 Forest and Rangeland Area Planning and Design 3 cr. Offered autumn. Prereq., senior standing, WBI 370, REC 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 Perspectives 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.

UG 496 Independent Study 1-3 cr. (R-10) Offered every term. Prereq., consent of instr. Individual study or research problems.

UG 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 database 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 SPS sampling uses and precision.
G 508 Modeling Forest Dynamics 3 cr. Offered autumn odd-numbered years. Prereq., FOR 500 and some experience with statistical methods and a programming language. Introduction to the construction of simulation models for forecasting change in forest vegetation. Survey of alternative modeling approaches followed by construction of a simulator. Includes specification of conceptual model, statistical analysis of data, and programming a working simulator.

G 510 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 topics each semester. Students become familiar with silviculture literature, develop skills for scrutinizing scientific literature, and examine silvicultural topics in detail.

G 547 Forest Vegetation Dynamics 3 cr. Offered autumn. Prereq., consent of instr. Role of disturbances, plant interactions, tree architecture, and structure on forest stand development. Laboratory provides experience with vegetation development reconstruction. Discusses even-aged, uneven-aged, single- and mixed-species stand development as well as landscape linkages.

G 548 Forest Stand Dynamics and Culture 1 cr. Offered intermittently. Prereq., FOR 347 or equiv. One-week continuing education course designed to present emerging concepts in stand dynamics and stand culture to practicing silviculturists. Topics include even- and uneven-aged stand dynamics and density control, fire management, fertilization, and stand health.

G 551 Digital Image Processing 4 cr. Offered autumn even-numbered years. Prereq., FOR 351 or equiv. and consent of instr. Fundamentals of electro-optical digital remote sensors, data compilation, preprocessing, and pattern recognition.

G 571 International Resource Management 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 every term. Preparation of Master of Ecosystem Management professional paper.

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 topic areas.

Nature and Democracy

Jill Belsky (Professor), Director, Bolle Center for People and Forests

The Bolle Center for People and Forests was established on the campus of The University of Montana in Missoula in 1994. Its mission is to provide "interdisciplinary education, research, and community service to advance knowledge of the relationships between forests and people with the goal of ensuring the continued diversity, productivity, and beauty of forests through the healthful coexistence with human communities." The strategic plan of the Bolle Center identifies the development of a new, interdisciplinary curriculum as a major programmatic response to fulfill the mission of the Center. The curriculum for the minor, Nature and Democracy, combines understanding of cultural, political, and ecological contexts surrounding natural-resource issues with basic skills to participate in conflict-laden decision-making processes. This curriculum enriches research and learning opportunities for students, faculty, and residents of the region. Its goal is to develop effective professional participants in the public affairs surrounding natural resources decisions. The Nature and Democracy curriculum examines the effects of people, places and processes on natural resources management, advancing toward the objective of interdisciplinary education.

The Nature and Democracy minor provides a semester-based course format with specialized training modules and community-level problem-solving experiences. Although presented as a package which provides an academic minor to upper-level undergraduate students, it is also an open-ended, regional resource for learning among all interested parties.

Course offerings allow academic credit for graduate students, and outreach mechanisms incorporated into the design promote distance learning. The curriculum offers opportunities for interaction between students and residents of rural communities, providing valuable contacts for post-academic endeavors.

Admission to the minor: Students are required to apply for admission to the Nature and Democracy minor. Applications and information are available from the Bolle Center for People and Forests, Science Complex 465. Upper-level undergraduates and graduate students from all departments are eligible with 18-24 students accepted annually.

Prerequisites: An academic foundation in natural science, humanities, and social sciences is necessary for students entering the minor. Undergraduate students are required to have at least two courses relevant to understanding biophysical functions and processes (available within the natural science perspective of General Education Requirements), at least one course in introductory economics, and at least two preparatory courses in the social sciences and humanities. Transfer students may apply relevant courses at other institutions to fulfill these requirements. The adequacy of the specific courses will be determined by the Bolle Center Director, who serves as advisor for only the academic minor for each student enrolled in the Nature and Democracy minor.

Requirements for a Minor

To earn a minor in Nature and Democracy the student must complete successfully 24 credits including:

FOR/HFD 471 Natural Resource Management Core Behaviors .................................................. 3
FOR 472 Building Knowledge on an Integrative Theme ......................................................... 3
FOR/EVST 473 Collaboration in Natural Resources Decisions ................................. 3
FOR 478 Montana Community Analysis .................................................................. 3
FOR 479 Nature and Democracy Synthesis ................................................................. 2
One 3-credit ecology course .................................................................................... 3
From BIOL 121N; FOR 330, 462; other 300-level course in BIOL or WBIO
One 3-credit natural resources management course ........................................... 3
From FOR 271, 275, 296, 360, 441, 455; RECM 217; WBIO 370
One 4-credit internship ......................................................................................... 4
(Must be fulfilled prior to enrollment in final semester. Placement, supervision, and evaluation will be responsibility of the Bolle Center director.)

Recreation Management

The B.S. in Recreation Management degree is designed to prepare students for professional positions developing and managing recreation and park resources located primarily beyond the urban fringe. Students pursuing this degree must choose between an option in Recreation Resources Management or Nature-Based Tourism. The Recreation Resources Management option provides educational background necessary for evaluating and managing lands for their aesthetic and recreational values. The Nature-Based Tourism option is designed to combine an understanding of social, cultural, political, environmental, and economic contexts surrounding tourism in a natural resource setting. All students learn the processes and conceptual skills needed to determine alternative management strategies, make management decisions and carry out management programs. Included are courses leading to an understanding of the basic ecological characteristics of recreational lands. Students also take courses dealing with human behavior and management. Emphasis is placed on presenting problems that would be encountered while managing national parks and forests, state and regional parks, wilderness areas, and other recreation resources of international and national significance. The degree and Recreation Resources Management option are accredited by the National Recreation and Parks Association and the American Association for Leisure and Recreation.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog including College of Forestry and Conservation curriculum requirements. See Index.

Students pursuing the B.S. in Recreation Management degree complete the following courses or their equivalent if transferred from another college or university. Transfers and equivalency will be determined by the University and the College of Forestry and Conservation. In addition, students are required to take a practicum in recreation management, RECM 460. This work-learning experience involves at least 10 weeks full-time equivalent of learning in a professional work environment. RECM 460 has a prerequisite of 400 previous hours of relevant work experience. Electives may be taken at any time, keeping in mind these courses as well as the University's General Education requirements for graduation.
### First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 151N</td>
<td>General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111S</td>
<td>Intro to Economics</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101</td>
<td>Composition</td>
<td>3</td>
</tr>
<tr>
<td>FOR 200</td>
<td>Natural Resources Measurements Camp</td>
<td>2</td>
</tr>
<tr>
<td>MATH 117</td>
<td>Probability and Linear Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>RECM 110S</td>
<td>Introduction to Recreation Management</td>
<td>3</td>
</tr>
<tr>
<td>RECM 180</td>
<td>Introduction to Natural Resource Issues</td>
<td>2</td>
</tr>
<tr>
<td>SOC 110S</td>
<td>Principles of Sociology</td>
<td>3</td>
</tr>
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<td>Electives and General Education</td>
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### Summer

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<th>Course Title</th>
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</thead>
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<td>FOR 200</td>
<td>Natural Resources Measurements Camp</td>
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### Second Year

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 108N</td>
<td>Diversity of Life</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 109N</td>
<td>Diversity of Life Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>COMM 111A</td>
<td>Public Speaking</td>
<td></td>
</tr>
<tr>
<td>FOR 210N</td>
<td>Introduction to Soils</td>
<td>3</td>
</tr>
<tr>
<td>MATH 241</td>
<td>Statistics, FOR 201 Forest Biometrics or</td>
<td>3-4</td>
</tr>
<tr>
<td>SOC 202</td>
<td>Social Statistics</td>
<td></td>
</tr>
<tr>
<td>RECM 217</td>
<td>Wildland Recreation Management</td>
<td>3</td>
</tr>
<tr>
<td>RECM 230</td>
<td>Programming in Recreation</td>
<td>3</td>
</tr>
<tr>
<td>Technical Writing (e.g. FOR 220)</td>
<td>2-3</td>
<td></td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>2-6</td>
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### Third and Fourth Years

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>FOR 330</td>
<td>Forest Ecology or 462 Range Ecology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 480</td>
<td>Project Design and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>RECM 370</td>
<td>Conservation of Wilderness, Wild Rivers and Parks</td>
<td>3</td>
</tr>
<tr>
<td>RECM 380</td>
<td>Recreation Administration and Leadership</td>
<td>3</td>
</tr>
<tr>
<td>RECM 450</td>
<td>Preparation for Professional Practice</td>
<td>1</td>
</tr>
<tr>
<td>RECM 460</td>
<td>Practicum in Recreation</td>
<td>9</td>
</tr>
<tr>
<td>RECM 486</td>
<td>Recreation Research and Program Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>17-19</td>
<td></td>
</tr>
</tbody>
</table>

### Recreation Resources Management Option

In addition to special degree requirements listed previously, students electing the recreation resources management option must successfully complete the following required courses, or their equivalent if transferred from another college or university. Transference and equivalency will be determined by the University and the College of Forestry and Conservation.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 172</td>
<td>Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 100S</td>
<td>Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>RECM 481</td>
<td>Managing Recreation Resources and Visitors</td>
<td>4</td>
</tr>
<tr>
<td>RECM 482</td>
<td>Wilderness and Protected Area Managements</td>
<td>3</td>
</tr>
<tr>
<td>RECM 483</td>
<td>Comercial Recreation, Marketing and Tourism</td>
<td>3</td>
</tr>
<tr>
<td>RECM 484</td>
<td>Recreation Management Field Techniques</td>
<td>3</td>
</tr>
<tr>
<td>RECM 485</td>
<td>Recreation Planning</td>
<td>4</td>
</tr>
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</table>

### Nature-Based Tourism Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BADM 201</td>
<td>Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>FOR 473</td>
<td>Collaboration in Natural Resource Decisions</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 360</td>
<td>Marketing Principles</td>
<td>3</td>
</tr>
<tr>
<td>MKTG 362</td>
<td>Consumer Behavior</td>
<td>3</td>
</tr>
<tr>
<td>RECM 210</td>
<td>Nature-Based Tourism</td>
<td>3</td>
</tr>
<tr>
<td>RECM 483</td>
<td>Comercial Recreation, Marketing &amp; Tourism</td>
<td>3</td>
</tr>
<tr>
<td>RECM 451</td>
<td>Tourism and Sustainability</td>
<td>3</td>
</tr>
</tbody>
</table>

### Courses

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

- **UG 370S Conservation of Wilderness, Wild Rivers, and National Parks 3 cr.** Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure.

- **UG 371 Wilderness Issues Lecture Series 1 cr. (R-3)** Offered every term. Same as EVST 371. Explores current issues in wilderness preservation, management and research.

- **UG 380 Recreation Administration and Leadership 4 cr.** Offered spring. Prereq., RECM 110S, 217 and 230 or consent of instr. Personnel, leadership, finance, facilities, programs and public relations. Coordination with user serving institutions, government agencies, and private or commercial organizations.

- **U 395 Special Topics Variable cr. (R-12)** Offered intermittently. Experimental offerings of visiting professors, new 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 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 Principles and Techniques of Interpretation in Recreation Area 3 cr. Offered autumn. Prereq. one biology course; one public speaking course. Principles, concepts, techniques essential to providing high quality interpretive programs in natural or cultural history.

UG 450 Pre-Practicum Professional Preparation 1 cr. Offered autumn. A pre-practicum class to provide orientation for the practicum, RECM 460, in recreation management.

UG 451 Tourism and Sustainability 3 cr. Offered spring. Prereq., RECM 210 and 217. Theories and conceptual models are applied to analyzing relationships between the integration of planning theories to sustainability concepts.

UG 460 Practicum in Recreation 1-15 cr. (R-15) Offered every term. Prereq., RECM 380, senior standing, and consent of instr. Supervised pre-professional practice in approved recreation management agencies.


UG 472 Management of the Wilderness Resource 4 cr. An ecology-based treatment of wilderness management. Brief overview of fundamental ecological principles followed by an examination of their specific and often unique application to wilderness ecosystems. Presentation of basic wilderness management principles and guidelines. Discussion of non-conforming wilderness uses.

UG 474 Wilderness Management Planning 3 cr. Exploration of basic planning theory, concepts, effective 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 481 Managing Wildland Resources and Visitors 4 cr. Offered autumn. Prereq., RECM 217. Balancing the needs of people for recreation with the impact of recreational use.

UG 482 Wilderness and Protected Area Management 3 cr. Offered autumn. Prereq., RECM 217, 370. Examination of the origin, evolution, and application of the park concept on state, federal, and international levels. Evaluation of legislation, philosophy, and policy leading to consideration of goals, objectives, and strategies for park management.

UG 483 Commercial Recreation, Marketing and Tourism 3 cr. Offered autumn. Prereq., RECM 217. Interactions between wildland recreation areas and the private sector are reviewed. Linkages between natural resources and the tourism industry are discussed. Principles of marketing for the private sector within this context are presented.

UG 484 Recreation Management Field Techniques 3 cr. Offered autumn. Prereq., 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.

# 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:

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
</tr>
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<tbody>
<tr>
<td>BIOL 120N General Botany</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 151N General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>2</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 121 Pre-Calculus</td>
<td>4</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>15-18</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Summer</th>
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</tr>
</thead>
<tbody>
<tr>
<td>FOR 200 Natural Resources Measurements Camp</td>
<td>2</td>
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</table>

<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 111S Introduction to Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 112S Introduction to Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>PSC 100S Introduction to American Government</td>
<td>3</td>
</tr>
<tr>
<td>FOR 210N Introductory Soils</td>
<td>3</td>
</tr>
<tr>
<td>FOR 220 Technical Writing</td>
<td>2</td>
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<td>Electives and General Education</td>
<td>16-20</td>
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</table>

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<tr>
<th>Third and Fourth Year</th>
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<tbody>
<tr>
<td>(minimum of 30 credits at the 300-level or above; and at least two 400-level or above to include For 422).</td>
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</tbody>
</table>

### 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.

<table>
<thead>
<tr>
<th>First Year</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 151N General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 152N-154N Organic Chemistry</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 108N-109N Diversity of Life</td>
<td>5</td>
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<tr>
<td>GEOL 100N General Geology or 109N</td>
<td>5</td>
</tr>
<tr>
<td>Environmental Geoscience</td>
<td>2</td>
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<tr>
<td>GEOL 101N Geology Laboratory</td>
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<tr>
<td>MATH 121 Pre-Calculus</td>
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<td>MATH 152 Calculus I</td>
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<tbody>
<tr>
<td>FOR 200 Natural Resources Measurements Camp</td>
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<table>
<thead>
<tr>
<th>Second Year</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>FOR 201 Forest Biometrics</td>
<td>3</td>
</tr>
<tr>
<td>FOR 210N Forest Soils</td>
<td>3</td>
</tr>
<tr>
<td>FOR 220 Technical Writing</td>
<td>2</td>
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<tr>
<td>FOR 240 Tree Biology</td>
<td>2</td>
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<tr>
<td>FOR 241 Dendrology</td>
<td>3</td>
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<tr>
<td>PHYS 221N General Physics I</td>
<td>5</td>
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<tr>
<td>PHYS 222N General Physics II</td>
<td>5</td>
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<tr>
<td>MATH 153 Calculus II or MATH 158 Differential Equations</td>
<td>3</td>
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<tr>
<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 other upper-division courses in forestry, recreation, or wildlife biology.

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<th>First Year</th>
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<tr>
<td>ENEX 101 Composition</td>
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<tr>
<td>COMM 111A Introduction to Public Speaking</td>
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<td>MATH 121 Precalculus</td>
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<td>CHEM 151N General Chemistry</td>
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<td>CS 101 Introduction to Programming or CS 172</td>
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<td>Introduction to Computer Modeling</td>
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<td>GEOL 109N Environmental Geoscience</td>
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<td>BIOL 121N Introductory Ecology</td>
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<td>ECON 111S-112S Micro- and Macro-economics</td>
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<td>FOR 200 Natural Resources Measurements Camp</td>
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<tr>
<td>or PSYC 220 Statistics</td>
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<td>FOR 210N Introductory Soils</td>
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<tr>
<td>FOR 220 Technical Writing</td>
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<tr>
<td>FOR 230 Forest Fire Management</td>
<td>2</td>
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<tr>
<td>WBIO 275 Wildlife Conservation</td>
<td>2</td>
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<tr>
<td>RECM 217 Wildland Recreation Management</td>
<td>3</td>
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<tr>
<td>Electives and General Education</td>
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</tbody>
</table>
Wilderness Studies

Laurie Yung (Assistant Professor) Director of Wilderness Institute

The Wilderness Institute in the College of Forestry and Conservation offers educational opportunities and special presentations, and coordinates research related to wilderness and wildlands management. In addition to the Wilderness Issues Lecture Series and a summer educational program, the Wilderness Institute offers the interdisciplinary undergraduate program Wilderness and Civilization.

The Wilderness and Civilization program is designed to provide students, at or beyond the sophomore level, with a broad interdisciplinary introduction to the subject of wilderness, focusing on the multi-faceted values that wild lands hold for civilized society. The intent is to produce informed citizens, better able to participate in processes for public involvement concerning wilderness issues; the program is not intended as a professional land management qualification, although many students supplement their professional education through this program. A special feature is that students develop a sense of community by participating as a group in the intensive package of courses and field experiences required. Students who complete the Wilderness and Civilization program become eligible for the wilderness studies minor.

Admission to Wilderness and Civilization is based on academic ability and promise, commitment to wilderness studies, and over quality of application. Applicants must have a cumulative GPA of 3.0 or higher for all college and university work. Applications are due by April 1st and are available at the Wilderness Institute, University Hall 303.

Requirements for a Minor

To earn a minor in wilderness studies the student must participate in the Wilderness and Civilization two-semester program and fulfill the course requirements shown below (a minimum of 18 credits). The program’s course offerings may vary from year to year, but will include sufficient courses from the A and B lists:

**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


**Section B: Biophysical and Social Sciences**

- ECON 345S Economics of Wildland Preservation 3
- EVST 101N Environmental Science 4
- FOR 130N Introduction to Ecology 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
- FOR 424 Community Forestry and Conservation 3
- FOR 480 Project Design and Analysis 3
- FOR 489 Ethics and Management of Public Lands 3
- Electives and General Education 33

Wildlife Biology

Daniel H. Pletscher, Professor, Wildlife Biology Director

Wildlife Biology is the study of wild animals, their habitats, and their conservation. The Bachelor of Science in Wildlife Biology degree constitutes the preprofessional training for future employment in wildlife biology and management, and provides an excellent background in general ecology. The educational requirements for certification by The Wildlife Society can be met within the framework of the undergraduate program.

While employment opportunities do exist in wildlife conservation for students with the baccalaureate degree, many students plan to continue their education through the master’s degree to qualify for wildlife management or research positions.

Three optional curricula are offered in the Wildlife Biology Program: terrestrial, aquatic, and honors. All three options follow the same schedule of courses for the freshman and most of the sophomore year, then pursue different curricula for the last two years. Each leads to a B.S. in Wildlife Biology.

The University is well-suited for instruction in wildlife biology because of the excellent opportunities for field instruction and research, and the presence of such facilities as the Lubrecht Experimental Forest, Yellow Bay Biological Station at Flathead Lake, the Montana Forest and Conservation Experiment Station, the Montana Cooperative Wildlife Research Unit, and the Theodore Roosevelt Memorial and Bandy ranches.
High School Preparation: In addition to general University admission requirements, the student should elect four years of mathematics and three years of science, including biology, chemistry and physics.

Special Degree Requirements

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

The Upper-division Writing Expectation must be met by successfully completing BIOL 341 and two courses selected from BIOL 304, 306, 316, 366, W BIO 470, 497 (senior thesis).

The student must complete the requirements for one of the options indicated below. A reading knowledge of a modern foreign language is suggested for students electing preparation for graduate work leading to a doctorate.

To obtain the B.S. in Wildlife Biology, the student must have a 2.5 grade point average or higher in all courses taken at The University of Montana.

Suggested sequence subject to frequent change. Some courses are offered more than one semester/year.

Terrestrial and Aquatic Options

First Year
BIOL 108N Diversity of Life .................................. 3
BIOL 109N Diversity of Life Laboratory ................... 2
CHEM 151N General Chemistry ................................ 3
CHEM 152N General Chemistry ................................ 3
CHEM 154N General Chemistry Laboratory ............... 2
ENEX 101 Composition ....................................... 3
W BIO 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 W BIO 240 Introduction to Biostatistics .................. 3-4
FOR 220 Technical Writing or W BIO 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:
W BIO 410 Wildlife Policy and Biopolitics ............. 3
W BIO 475 Case Histories in Conservation Policy ....... 3
FOR 422 Natural Resources Policy and Administration .... 3

And one of the following:
FOR 347 Multiple Resource Silviculture ................. 3
FOR 360 Range Management .................................. 3

And
BIOL 340 Ecology ........................................ 3
BIOL 341 Ecology Lab ...................................... 2
W BIO 370 Wildlife Habitat Conservation ............... 3
Electives and General Education ......................... 8-14

Fourth Year
W BIO 446 Wildlife Physiological Ecology ............. 3
W BIO 470 Conservation of Wildlife Populations ....... 3
W BIO 494 Senior Seminar .................................. 1
FOR 480 Forest/Range Plan and Design ................. 3
Electives and General Education ......................... 16-22

Aquatic Option

Third Year
BIOL 308 Biology and Management of Fishes ............ 4
BIOL 340 Ecology ........................................ 3
BIOL 341 Ecology Lab ...................................... 2
BIOL 366 Freshwater Ecology .................................. 5
BIOL 400-401 General Parasitology and Laboratory OR
W BIO 406 Insect Behavior and Evolution OR
BIOL 410 Insect Biology .................................... 4

and one of the following:
W BIO 410 Wildlife Policy and Biopolitics or
FOR 422 Natural Resource Policy and Administration or
W BIO 446 Wildlife Physiological Ecology ............. 3
Electives and General Education ......................... 5-11

Fourth Year
W BIO 494 Senior Seminar .................................. 1
BIOL 316 Plant Form and Function ....................... 5
BIOL 408 Advanced Fisheries Science ................... 2
FOR 385 Watershed Hydrology .................................. 3
FOR 480 Forest/Range Planning and Design ............. 3
Electives and General Education ......................... 12-18

Wildlife Biology Honors Emphasis

The honors curriculum is designed particularly for students with strong academic records who intend to do graduate work. Entrance into this emphasis is open only to students who, at the beginning of the junior year of the wildlife biology program, have a grade-point average of 3.5 or above and who petition the faculty for entrance.

Honors students must complete either W BIO 370, 470 and 494 (terrestrial option) or BIOL 308, 366 and W BIO 494 (aquatic option). Honors students are encouraged to enroll also in W BIO 497 Senior Thesis. The balance of the coursework for the junior and senior years will be developed in consultation with the honors student's faculty advisor and committee appointed by the director of the wildlife biology program.

All students in the honors emphasis are required to meet with their faculty advisors prior to autumn semester registration of their junior and senior years to work out their course schedules.

Requirements for a Minor

To earn a minor in wildlife biology, the student must successfully complete the following coursework: BIOL 108N, 109N, 201N, 350; FOR 275; FOR 330 or 360; W BIO 180, 270.

Courses

U = for undergraduate credit only, UG = 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 (W BIO)

U 105N Wildlife and People 3 cr. Offered autumn.

Intended for non-wildlife majors. Interactions of wildlife and people in today's society.
**Wildlife Biology**  Offered every term:


- **UG 460 International Wildlife Conservation Issues** 2 cr. Offered spring. Prereq., a course in wildlife biology and/or conservation biology. Review of major international wildlife conservation issues with emphasis on the social context of the issues and applied solutions.

- **UG 470 Conservation of Wildlife Populations** 3 cr. Offered autumn and spring. Prereq., 300-level animal ecology class, W BIO 370, and senior standing. Application of population ecology principles and theory to the conservation and management of wildlife populations.

- **UG 472 Wildlife Handling and Veterinary Perspectives** 2 cr. Offered spring. Field techniques associated with wildlife capture and handling. Ethical and legal issues, field organization, animal care and handling, chemical immobilization, veterinary emergencies and human safety.

- **UG 475 Case Histories in Conservation Policy** 3 cr. Offered spring. Prereq., senior or graduate standing in conservation major or consent of instr. Understanding development and primary aspects of conservation policy. Exercises in policy analysis as individuals and in team efforts.

- **UG 494 Senior Wildlife Seminar** 1 cr. Offered autumn and spring. Prereq., senior standing in wildlife biology or consent of instr. Analysis and discussion led by students of current topics in wildlife biology.

- **UG 495 Special Topics Variable cr.** (R-12) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics.

- **UG 496 Independent Study Variable cr.** (R-10) Offered every term. Prereq., consent of instr. Original investigations or problems not related to student's thesis.

- **UG 497 Senior Thesis 1-3 cr.** (R-6) Offered autumn and spring. Prereq., consent of instr.; senior standing. Preparation of major paper based on study or research of a topic selected with an advisor according to needs and objectives of student.

- **UG 498 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 540 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 every term. Prereq., graduate standing in wildlife biology. Preparation of thesis. Selection of content based on either primary or faculty committee. Graded pass/not pass only.

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)
Stephen F. McCool, Ph.D., University of Minnesota, 1970
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)
Hans R. Zuuring, Ph.D., Iowa State University, 1975 (Chair of Forest Management)

Associate Professors
Paul B. Alaback, Ph.D., Oregon State University, 1980
William T. Borrie, Ph.D., Virginia Polytechnic Institute and State 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
Woodam Chung, Ph.D., Oregon State University, 2002
Elizabeth D. Coulter, Ph.D., Oregon State University, 2004
Elizabeth Crone, Ph.D., Duke University, 1995
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
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
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
college of
health professions and
biomedical sciences
College of Health Professions and Biomedical Sciences

David S. Forbes, Dean
Lori J. Morin, Assistant Dean for Student Affairs

The College of Health Professions and Biomedical Sciences offers the Bachelor of Arts in Social Work, the Doctor of Pharmacy (Pharm.D.) degree; the Master of Science degrees in Neuroscience, Pharmaceutical Sciences, Physical Therapy; and Toxicology; and the Master of Public Health degree, the Master of Social Work degree, the Doctor of Physical Therapy degree, and the Doctor of Philosophy (Ph.D.) degrees in Neuroscience, Biomedical Sciences and Toxicology.

The focus of these programs is to provide a composite of educational experiences that will produce a well-educated person and a highly trained, professional social worker, health care practitioner or scientist.

Skaggs School of Pharmacy

Pharmacy is the study of the physical, chemical and biological characteristics of medicinal substances and the utilization of these substances in the prevention, treatment, and control of illness and disease. It also encompasses a study of the systems of delivering health care and the function of the professional pharmacist within these systems.

The Skaggs School of Pharmacy was established in 1907 at Montana State College and was transferred to the University in 1913. The pharmacy program consists of two departments, Pharmacy Practice and Biomedical Sciences.

The Skaggs School of Pharmacy is a member of the American Association of Colleges of Pharmacy. The entry-level doctor of pharmacy program is fully accredited by the Accreditation Council for Pharmacy Education, 20 North Clark Street, Suite 2500, Chicago IL 60602-5109, telephone (312) 664-3575, (800) 533-3606; FAX (312) 664-4652.

The curriculum offered by the Skaggs School of Pharmacy consists of a six year program leading to the entry-level Pharm.D. degree. The first two years, or pre-professional portion of the curriculum, are spent in studies of the basic physical and biological sciences, and in course work necessary to satisfy the University general education requirements.

During the first three years of the professional program, students devote their time to the study of the biomedical and pharmaceutical sciences and pharmacy practice. Areas of study include biochemistry, microbiology, pharmacetics, medicinal chemistry, pharmacology, social administrative pharmacy, and therapeutics. The final professional year is entirely experiential.

A program of selected electives allows the student to obtain further educational experience in specialized areas of pharmaceutical knowledge. Students in the professional program may choose elective courses in specific areas of interest which include community pharmacy practice, sales and management, research and teaching, or hospital and institutional pharmacy practice. All students must confer with assigned advisors prior to each registration period and receive approval of proposed courses.

In addition to their formal educational program, students, to become registered pharmacists, must complete practical experience or internship under the direction of a registered pharmacist and pass an examination given by the State Board of Pharmacy.

Career opportunities exist in the fields of community pharmacy, institutional pharmacy, federal or state government service, public health agencies, and with the pharmaceutical industry in sales positions or in manufacturing. Those with advanced degrees are in demand for research positions and in pharmaceutical education.

High School Preparation: In addition to the general University admission requirements, algebra, trigonometry, biology, chemistry, physics and a course in computers are recommended.

Admission

The general requirements for admission to the University are listed separately in this catalog.

Pre-Pharmacy Program

The pre-pharmacy curriculum, which requires a minimum of two years of full-time study, may be taken at any accredited college or university.

Students at The University of Montana-Missoula may enter the pre-pharmacy program during any semester. It is recommended that students considering pharmacy as a major declare a pre-pharmacy major as early as possible in order to receive appropriate advising. Upon designating pre-pharmacy as a major, students will be assigned an advisor within the pharmacy program.

Professional Pharmacy Program

Students must apply for admission to the professional program. Class size in the professional pharmacy program is restricted and admission to the program is competitive. The admission process is designed to admit the best overall class into professional study. Completed applications are evaluated by the Skaggs School of Pharmacy Admissions Committee. Acceptances are made by the pharmacy faculty and the dean based on the recommendations of the committee.

Since very few elective credits are available in the professional pharmacy curriculum, students will be expected to have completed all General Education requirements except for the upper-division writing and ethics requirements prior to entering the professional curriculum. Students must complete all General Education requirements before entering pharmacy practice experience rotations during the final year of the program.

Applicants will be screened based on academic record (both overall and in the required pre-pharmacy course work) and
Pharmacy College Admission Test scores (refer to www.pcatweb.info for test dates). To be eligible for admission, students must have a minimum grade point average of 2.5 on a 4 point scale, both overall and in required pre-professional courses. For the past several years there have been more than four applicants for each opening, and the grade point average of the entering class has been about 3.5. In addition, applicants must present proof of having completed at least 60 hours of volunteer or paid service in a medical or social field, and an evaluation form filled out by someone involved with the applicant in such an experience.

As a state supported institution, the 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 March 1st preceding the autumn semester of the year for which admission is requested. An application fee must be submitted with the application. Admission for one academic year cannot be deferred to another academic year. Official transcripts of all academic courses taken must be forwarded directly to the 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 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 program who have a pharmacy or professional grade point average of less than 2.0 or who receive a grade of D or F in any required course in the professional curriculum will be placed on academic probation. 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. Because the program is academically intense, employment beyond minimal, part-time work is not recommended.

Students who have failed ten or more credits of required professional course work or who fail to progress in the expected manner for two consecutive years may be dismissed from the professional pharmacy program, subject to review by the Academic Standards Committee and the dean of the College of Health Professions and Biomedical Sciences.

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.

**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 and at least a C average in all PHAR and BMED courses.
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 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. A complete list is available upon request.

5. Students will receive credit for internship time and/or courses taken if such experience is certified by the preceptor and/or instructor and approved by the State Board of Pharmacy.

**Pre-Pharmacy Curriculum**

The courses shown here must be completed before entering the professional pharmacy program. The sequence of courses is illustrative and, if proper prerequisites are satisfied, the student may alter the order in which the courses are taken.

In addition, applicants to the professional pharmacy program must present proof of having completed at least 60 hours of volunteer or paid service in a medical or social field, and one letter of evaluation from someone involved with the applicant in such an experience. The Pharmacy College Admission Test (PCAT) must be taken during the second pre-pharmacy year.

### Pre-Pharmacy First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>CHEM 161N, 162N College Chemistry with Laboratory</td>
<td>5</td>
<td></td>
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<tr>
<td>MATH 150 Applied Calculus (prereq. MATH 121 or appropriate placement score)</td>
<td>4</td>
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<tr>
<td>ECON 111S Introduction to Microeconomics or ECON 112S Introduction to Macroeconomics</td>
<td>3</td>
<td></td>
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<tr>
<td>ENEX 101 Principles of Sociology</td>
<td>3</td>
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<td>Social science elective chosen from:</td>
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<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SOC 110S Principles of Sociology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SOC 110S Interpersonal Communication+</td>
<td>3</td>
<td></td>
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<tr>
<td>*Electives and General Education</td>
<td>15</td>
<td></td>
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</table>

### Pre-Pharmacy Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>CHEM 221, 222 Organic Chemistry</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CHEM 223 Organic Chemistry Laboratory</td>
<td>2</td>
<td></td>
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<tr>
<td>BIOL 221 Cell and Molecular Biology (prereq., BIOL 110N or equiv.)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MATH 241 Statistics or PSYC 220 Psychological Statistics or SOC 202 Social Statistics (prereq., MATH 150 or 117)</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>PHYS 121N General Physics</td>
<td>5</td>
<td></td>
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<tr>
<td>Communications elective chosen from:</td>
<td></td>
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</tr>
<tr>
<td>COMM 110S Interpersonal Communication+ or COMM 111A Introduction to Public Speaking or DRAM 111A Acting for Nonmajors</td>
<td>3</td>
<td></td>
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<tr>
<td>*Electives and General Education</td>
<td>16</td>
<td></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 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 Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

### First Professional Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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</thead>
<tbody>
<tr>
<td>BIOC 380 Elementary Biochemistry</td>
<td>4</td>
<td></td>
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<tr>
<td>BIOL 107N Elementary Microbiology Laboratory</td>
<td>1</td>
<td></td>
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<tr>
<td>BMED 328 Antimicrobial Agents</td>
<td>3</td>
<td></td>
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<tr>
<td>BMED 331 Pharmaceutics</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BMED 341, 342 Physiological Systems I, II</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BMED 361-362 Pharmaceutical Sciences Lab</td>
<td>1</td>
<td></td>
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<tr>
<td>MICB 302 Medical Microbiology</td>
<td>3</td>
<td></td>
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<tr>
<td>PHAR 309 Pharmacy Practice I</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PHAR 310 Pharmacy Practice II</td>
<td>3</td>
<td></td>
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<tr>
<td>PHAR 371-372 Integrated Studies</td>
<td>1</td>
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</table>

### Second Professional Year

#### Autumn/Spring Intersession:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>PHAR 480 Community Pharmacy Introductory Experience</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BMED 421, 422 Medicinal Chemistry I, II</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BMED 432 Biopharmaceutics/Pharmacokinetics</td>
<td>3</td>
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<tr>
<td>BMED 443, 444 Pharmacology and Toxicology</td>
<td>4</td>
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<tr>
<td>PHAR 412 Pharmacy Practice III-Social and Behavioral Pharmacy</td>
<td>3</td>
<td></td>
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<tr>
<td>PHAR 451, 452 Therapeutics I, II</td>
<td>3</td>
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<tr>
<td>PHAR 471, 472 Integrated Studies</td>
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### Third Professional Year

#### Autumn/Spring Intersession:

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>PHAR 481 Hospital Pharmacy Introductory Experience</td>
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<tr>
<td>PHAR 505 Pharmacy Practice IV-Pharmaceutical Care</td>
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<td></td>
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<tr>
<td>PHAR 506 Pharmacy Practice V-Advanced Pharmaceutical Care</td>
<td>4</td>
<td></td>
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<tr>
<td>PHAR 513 Pharmacoeconomics and Outcomes Research</td>
<td>4</td>
<td></td>
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<tr>
<td>PHAR 514E Pharmacy Ethics</td>
<td>3</td>
<td></td>
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<tr>
<td>PHAR 530 Drug Literature Evaluation</td>
<td>3</td>
<td></td>
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<tr>
<td>PHAR 533, 554 Therapeutics III and IV</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>PHAR 557 Public Health in Pharmacy</td>
<td>2</td>
<td></td>
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<tr>
<td>PHAR 571, 572 Integrated Studies</td>
<td>1</td>
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</tbody>
</table>

*Students must complete the University’s General Education requirements. Due to the limitation of elective credits in the professional pharmacy curriculum, students are advised to complete the General Education requirement during the pre-pharmacy curriculum.
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 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 4 cr. (R-8) Offered every term. Prereq., completion of first professional year. Supervised professional experience in community pharmacy.

U 481 Hospital Pharmacy Introductory Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of first professional year. Supervised professional experience in a hospital pharmacy.

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 Pharmacoconomics and Outcomes Research 3 cr. Offered spring. Prereq., third professional year standing or consent of instr. Introduction to assessing the economic, clinical and humanistic outcomes of pharmacotherapy.

U 514E Case Studies in Pharmacy Ethics 3 cr. Offered spring. Prereq., third professional year standing or consent of
A practical discussion of pharmacy ethics, as it relates to pharmacy practice.

UG 516 Advanced Pharmacy Administration 2 cr. Offered intermittently. Prereq., consent of instr. Analysis of the pharmaceutical industry.


UG 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 Pharmacotherapeutics 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.

UG 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 interpreting material from the professional pharmacy curriculum.

UG 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 interpreting material from other pharmacy courses.

UG 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.

UG 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.

UG 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.

UG 583 Drug Information Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the provision of drug information by the pharmacist.

U 584 Specialized Services Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in specialized practice settings, such as home infusion, compounding, and nuclear pharmacies.

U 585 Geriatric Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience with geriatric patients in the long term care and/or other pharmacy setting.

U 586 Clinical Speciality Advanced Pharmacy Practice Experience 4 cr. (R-16) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the clinical functions of the pharmacist in specialty settings or with specialized groups of patients.

U 587 Administrative Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the administrative aspects of providing pharmaceutical care.

U 588 Research Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in a research setting.

U 589 Education Advanced Pharmacy Practice Experience 4 cr. Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in teaching in a pharmacy curriculum.

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
(Assistant Dean for Student Affairs)
Michael P. Rivey, M.S., University of Iowa, 1982 (Chair)

**Associate Professors**

Douglas R. Allington, Pharm.D., University of South Carolina, 1988
Donna G. Beall, Pharm.D., University of Florida, 1984

**Assistant Professors**

Sherrill Brown, Pharm.D., University of Missouri, Kansas City, 2003

Jean T. Carter, Ph.D., University of Arizona, 1997
Vincent J. Colucci, Pharm.D., Idaho State University, 1995
Lawrence A. Dent, Pharm.D., Idaho State University, 1993

**Instructor**

Genine Thormahlen, The University of Montana, 2004

**Adjunct Assistant Professors**

Lisa C. Barnes, M.B.A., The University of Montana, 1994
Kristen Robbins, PharmD, The University of Montana, 2000

# 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, Sciences, and Toxicology; and the Ph.D. in Neuroscience, Biomedical Sciences, and Toxicology. These programs provide education and training in pharmacology, toxicology, neurobiology, pharmacokinetics, medicinal chemistry, and molecular genetics. Program graduates are well prepared for careers in academia, government and industry.

**Courses**

U = for undergraduate credit only. UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R. Credits beyond this maximum do not count toward a degree.

**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 121N, BIOL 221. Principles of anatomy, normal and abnormal physiology.


U 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 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 397 Research 1-3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research.

UG 421 Medicinal Chemistry I 3 cr. Offered autumn. Prereq., BIOL 380. The chemistry of organic compounds used medicinally and their biochemical mechanisms of action.

UG 422 Medicinal Chemistry II 3 cr. Offered spring. Prereq., BMED 421. Continuation of 421.


UG 432 Biopharmaceutics and Pharmacokinetics 3 cr. Offered spring. Prereq., BMED 331 and pharmaceutical calculation proficiency requirement, or consent of instr. Drug absorption, distribution and elimination.

UG 443 Pharmacology and Toxicology 4 cr. Offered autumn. Prereq., second professional year standing. Basic principles of pharmacology, toxicology and therapeutics.

UG 444 Pharmacology and Toxicology 4 cr. Offered spring. Prereq., BMED 443. Continuation of 443.

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

UG 497 Research 1-3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research.
G 545 Research Laboratory Rotations 2-3 cr. (R-6) Offered autumn and spring. Prereq., BMED 443 or graduate standing. Experience in research methods in departmental research laboratories.

G 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.

G 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.

G 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.

G 593 Current Research Literature 1 cr. (R-6) Offered autumn and spring. Readings and discussion of current research literature.

G 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.

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 Neuropsychopharmacology 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 569. 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 Pharmacuetics 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 toxicology. 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.

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 also is available on the program website at www.health.umt.edu/pt.

The Profession

Physical Therapy is a health care profession concerned with the habilitation and rehabilitation of individuals having limitations resulting from pathological, surgical, or traumatic conditions. The profession is also concerned with prevention of disability in an effort to promote maximal use of an individual’s capacities. Physical therapists are trained to evaluate neurological, musculoskeletal, cardiovascular, respiratory, and integumentary disorders. Exercise and physical agents, such as heat, cold, light, electricity, and massage are used to promote healing, relieve pain, maintain or restore strength, and improve joint range of motion and functional capabilities. Physical therapists play key roles in: 1) the physical therapy diagnosis and treatment of musculoskeletal injuries, 2) wellness and injury prevention, 3) rehabilitating injured workers to return to their jobs, 4) rehabilitating senior citizens after debilitating disease to enable them to remain independent, 5) helping handicapped children to live within the least restrictive environment, 6) preventing and treating sports related injuries, and 7) conducting research in the basic and clinical sciences. Knowledge of the psychological and social ramifications of disability affecting the individual and his or her family is an integral part of physical therapy intervention.

Physical therapy is practiced in diversified settings, including hospitals, clinics, skilled nursing facilities, sports medicine programs, public schools, and private practices. Legislation in Montana permits direct public access to physical therapists for evaluation and treatment without a physician referral. Even so, physical therapists remain committed to functioning as an integral member of the health care team.

The physical therapy educational program at The University of Montana seeks to prepare physical therapists who have a broad base of skills upon graduation, and who will be able to implement physical therapy services in many settings, especially rural environments. Rural settings require 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 professional 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.

Jerry R. Smith, Ph.D., University of Mississippi, 1977

Assistant Professors

Lilian Calderon-Garcidueñas, M.D., Ph.D., University of North Carolina, 2001
Fernando Cardozo-Pelaez, Ph.D., University of Southern Florida, 1996
Curly W. Noonan, Ph.D., Colorado State University, 2000
Mark A. Pershouse, Ph.D., University of Texas-Houston, 1993
Elizabeth A. Putnam, Ph.D., University of Texas-Houston, 1981
David M. Shepherd, Ph.D., Oregon State University, 1999

Lecturer

David S. Freeman, Ph.D., University of Washington, 1974

Research Assistant Professors

C. Sean Esslinger, Ph.D., Colorado State University, 1992
Kathleen M. George, Ph.D., Northwestern University, 1994
Jean C. Pfau, Ph.D., University of Montana, 1995
David J. Poulson, Ph.D., University of Delaware, 1995
John C. Schumpert, M.D., M.P.H., University of California, San Diego, 1992
Anthony Ward, Ph.D., The University of Oregon, 2001

Emeritus Professors

Charles L. Eyer, Ph.D., Washington State University, 1976
Rustem S. Medora, Ph.D., University of Rhode Island, 1965

Professor

Richard J. Bridges, Ph.D., University of California, Davis, 1977
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 Kavannaugh, Ph.D., Oregon Health Sciences University-Portland, 1987
Charles M. Thompson, Ph.D., University of California, Riverside, 1982

Associate Professors

Howard D. Beall, Ph.D., University of Florida, 1991
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
Darrell Jackson, Ph.D., Washington State University, 1990
Diana I. Lurie, Ph.D., University of Pennsylvania, 1989
Keith K. Parker, Ph.D., University of California, San Francisco, 1977
Kevan Roberts, Ph.D., Christie Hospital in Manchester, U.K., 1984

Graduate Faculty

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.
The Physical Therapy Program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association for the period 2001-2008.

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 taken 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

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

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 106N</td>
<td>Elementary Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 312-313</td>
<td>Anatomy/Physiology</td>
<td>8</td>
</tr>
<tr>
<td>BIOL 460</td>
<td>Medical Physiology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 151N-152N</td>
<td>154N General Chemistry and Laboratory</td>
<td>8</td>
</tr>
<tr>
<td>PHYS 121N-122N</td>
<td>General Physics</td>
<td>10</td>
</tr>
<tr>
<td>HHP 377-378</td>
<td>Exercise Physiology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 100S</td>
<td>Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 330S</td>
<td>Abnormal Psychology or 240S</td>
<td>3</td>
</tr>
<tr>
<td>Child and Adolescent Development or 245 Adult Development and Aging</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>HHP 288, 289</td>
<td>Advanced First Aid/CPR.</td>
<td></td>
</tr>
</tbody>
</table>

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.spahs.umt.edu/pt. An application fee is required. Questions about admission should be addressed to physical.therapy@umontana.edu.

The application form is submitted online and the supporting documents for admission to the first professional year must be forwarded directly to the Chair, Student Selection Committee, 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, physical therapy experience and letters of recommendation. Based upon the results of this screening, only those applicants who appear best qualified will be invited for a personal interview.

Although an invitation to appear for interview does not assure the applicant a place in the class, the final selection will be made from those interviewed. All applicants will be notified in writing of their status.

All applicants to the program must submit GRE scores.

Professional Physical Therapy Program

The professional D.P.T. program is 33 months in length. Enrollment is limited to 32 students in each class.

Refer to the tuition and fee schedules for additional tuition and fees charged to students in the Professional Physical Therapy Program.

Special Degree Requirements

Once admitted into the Professional Physical Therapy Program, all students must achieve a 2.00 (C) grade or higher (or a CR, in credit/no credit) in all required courses in the physical therapy curriculum. Because courses in the curriculum are sequential, a student who fails to achieve a 2.00 (C) grade (or a CR, in credit/nocredit 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

#### First Professional Year

- PT 503 Physical Therapy and Health Care System A
- PT 510 Applied Anatomy and Kinesiology S
- PT 516 Musculoskeletal Evaluation I A
- PT 519 Musculoskeletal Evaluation II S
- PT 520 Development Through the Life Span A
- PT 526 Physical Therapy Interventions I A
- PT 527 Electrophysiological Testing S
- PT 528 Physical Therapy Interventions II A
- PT 529 Biomechanics and Exercise Interventions A
- PT 536 Neurosciences S
- PT 560 Introduction to Research A
- PT 582 Clinical Experience I A

<table>
<thead>
<tr>
<th>Summer Session</th>
<th>Number of Credits</th>
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<tbody>
<tr>
<td>PT 587 Clinical Internship I</td>
<td>4</td>
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</tbody>
</table>

#### Second Professional Year

- PT 525 Clinical Medicine and Pharmacology A
- PT 561 Research in Physical Therapy S
- PT 562 Scholarly Project I A
- PT 563 Cardiopulmonary PT S
- PT 565 Physical Therapy for Children A
- PT 566 Advanced Anatomy Laboratory (1) (1)
- PT 567 Neurorehabilitation I A
- PT 568 Neurorehabilitation II S
- PT 569 Orthopedic Physical Therapy I A
- PT 570 Psychology of Illness and Disability A
- PT 572 Practice and Administration S
- PT 573 Orthopedic Physical Therapy II A
- PT 575 Physical Therapy Interventions III A
- PT 576 Synthesis of Clinical Evaluation and Intervention A
- PT 578 Physical Therapy Interventions IV A
- PT 579 Clinical Internship II A
- PT 671 Scholarly Project II S

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>Total</td>
<td>20-21</td>
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</tbody>
</table>

#### Third Professional Year

- PT 626 Primary Care in Physical Therapy A
- PT 627 Prevention, Wellness, and Education S
- PT 672 Research in Physical Therapy II A
- PT 673 Practice & Administration II A
- PT 676 Clinical Mastery in Physical Therapy A
- PT 679 Trend in Clinical Practice (may be repeated) A
- PT 690 Clinical Internship IV A

| Total | 17 |

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 (P T)

- **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 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 evaluation including pathology, patient interviews, measurement of ROM, strength, special tests.
- **G 519 Musculoskeletal Evaluation II 5 cr.** Offered spring. Prereq., PT 510, 516. Continuation of PT 516. Physical therapy musculoskeletal evaluation including screening and functional evaluation.
- **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 575 Physical Therapy Inte...
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. Our primary goal is to prepare students for beginning generalist social work practice. The Bachelor of Arts and Master of Social Work degrees are offered.

The undergraduate major in social work is available for those who wish to prepare for: (1) professional employment in the social services; (2) entry into a graduate school of social work; (3) graduate education in other helping service professions. The graduate degree in social work prepares graduates for advanced social work practice. Students can enroll in a two year full-time program or in a part-time option. See The University of Montana Graduate Catalog for a description of the Master of Social Work program. The M.S.W. program is a candidate for C.S.W.E. accreditation.

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; BIOL 100N; ANTH 180S or SOC 220S. No fewer than six of these eight course requirements must be completed before enrollment will be permitted in required 300-level social work courses.

To enroll in required 300- and 400-level social work courses, social work majors are required to have earned and to maintain a 2.5 grade average for all college course work. In order to insure that they have 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 the SW 489 course description for admission and completion requirements regarding this specific course.

The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. SW 310 will satisfy this requirement.

Social work majors who wish to explore more specialized study in such areas as aging, children, exceptional persons or the family should consider the Human and Family Development minor program, which is described elsewhere in the catalog. The 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.

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 Social Work Advising Guide available from the school or on web page [www.spahs.umt.edu/sw/].

The Master of Social Work requirements are detailed in The University of Montana Graduate online Catalog [www.umt.edu/grad/].

Suggested Course of Study

First Year

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<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tr>
<td>MATH 107</td>
<td>(or higher) Contemporary Mathematics</td>
<td>3</td>
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<tr>
<td>PSC 100S</td>
<td>Introduction to American Government</td>
<td>3</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>SW 100S</td>
<td>Introduction to Social Welfare</td>
<td>3</td>
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<td>General Education</td>
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<td>Total Credits</td>
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Second Year

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<tbody>
<tr>
<td>SW 200</td>
<td>Introduction to Social Work Practice</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 100N</td>
<td>The Science of Life</td>
<td>3</td>
</tr>
<tr>
<td>ECON 100S</td>
<td>Introduction to Political Economics</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 240S</td>
<td>Child and Adolescent Development</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 245</td>
<td>Adult Development and Aging</td>
<td>3</td>
</tr>
<tr>
<td>ANTH 180S</td>
<td>Race and Minorities</td>
<td>3</td>
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<table>
<thead>
<tr>
<th>Department</th>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>ECON</td>
<td>100S</td>
<td>Introduction to Political Economics</td>
<td>3</td>
</tr>
<tr>
<td>PSYC</td>
<td>240S</td>
<td>Child and Adolescent Development</td>
<td>3</td>
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<tr>
<td>PSYC</td>
<td>245</td>
<td>Adult Development and Aging</td>
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<tr>
<td>ANTH</td>
<td>180S</td>
<td>Race and Minorities</td>
<td>3</td>
</tr>
</tbody>
</table>
Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R. Credits beyond this maximum do not count toward a degree.

Social Work (5W)

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 school. Application of classroom learning in off campus placements. 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 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.

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

UG 300 Human Behavior and Social Environment 4 cr. Offered autumn and spring. Prereq., SW 200. Prereq. or coreq., Psyc 240S, junior standing. Using the ecological-social systems framework, the integration of knowledge and concepts from the social and behavioral sciences for analysis and assessment of problems and issues relevant to professional social work practice.


U 323 Women and Social Action in the Americas 3 cr. Offered autumn odd-numbered years. Prereq., one of SW 100S, SOC 110S, or ANTH 101H or consent of instr. Same as WS 323. Focus on women’s experiences of and contributions to social change in North, South and Central America in the mid- to late-20th century. Through case studies, testimonials, discussions with activists and Internet connections examine social constructions of gender, compare forms of social action in diverse cultural, political and historical contexts, link practice to theories of social participation, and reflect on lessons learned from women's experiences.

U 324 Gender and the Politics of Welfare 3 cr. Offered autumn even-numbered years. Prereq., WS 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 360 Social Work Intervention Methods II 4 cr. Offered autumn and spring. Prereq., SW 200; prereq. or coreq., SW 300. The study and application of the generalist model of social work practice and related techniques and procedures for the assessment, intervention and prevention of problems in social functioning. 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. 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 school will determine the number of credits to be earned for the experience based upon the activities outlined in the learning agreement. Prior approval must be obtained from the faculty supervisor and the Center for Work-Based Learning. The school has determined that a maximum of 3 credits can be applied to the schools' major. A maximum of 6 credits of Internship (198, 298, 398, 498) 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. 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. Ecosystems 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 to work with those youth. Attention to related systems in Missoula and Montana, including juvenile justice, mental health, child protection, substance abuse, and education.

UG 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 Practice in Rural Settings 2 cr. Offered autumn even-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, 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 488 Field Work Practicum Seminar 2 cr. Offered every term. Coreq., SW 489. Consideration and discussion of practicum-related matters, professional development, and issues confronting the profession. Generally taken during first semester of practicum.

U 489 Field Work Practicum Variable cr. (R-10) Offered every term. Prereq., SW 350 and 360 and approved application to practicum coordinator. Practicum must be taken over two consecutive semesters for a total of 10 credits. Minimum of one credit per semester. Cumulative grade average of 2.75 or above in SW 100, 200, 300, 350 and 360 and a 3.0 grade average for SW 200, 350 and 360 are required. Supervised field work in public and private agencies and institutions. During one semester of practicum, students must enroll in SW 488. Successful completion of the field work practicum requires a passing performance on the 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 1 cr. Prereq., admission to M.S.W. program. Seminar introducing M.S.W. students to program philosophy and social work's theory and value base.

G 505 Foundations of Social Work Practice 2 cr. Prereq., admission to M.S.W. program. Introductory practice course that examines generalist social work practice, dominant theoretical influences, and forces shaping social work over time.

G 510 Human Behavior and Social Environment I 3 cr. Prereq., admission to M.S.W. program. Introduction to and critical consideration of social work perspectives on human behavior as influenced by the social environment. Particular attention is paid to biological, psychological, social, cultural and spiritual influences.

G 511 Human Behavior and Social Environment II: Difference, Diversity and Oppression 3 cr. Prereq., admission to M.S.W. program and SW 510 or consent of instr. Advanced course on human behavior and social environment that addresses difference and diversity, histories and mechanisms of discrimination and oppression, and frameworks for thought and practice that recognize diversity and promote social justice.

G 515 Practice with Individuals and Families in a Community Context 4 cr. Prereq., admission to M.S.W. program or consent of instr. Practice-oriented course building on students' developing knowledge of engagement, assessment, intervention and evaluation and the application to practice with individuals and families in context of community.

G 520 Social Work Research Methods 3 cr. Prereq., admission to M.S.W. program or consent of instr. Introduction to principles, methodologies, technologies, and statistical approaches of human service research. Emphasis on beginning capabilities in evaluation of social work practice and skill development regarding use of published research.

G 521 Advanced Research and Program Evaluation 3 cr. Prereq., SW 515. The use of research within the integrated
practice model of social work through evaluation of practice and program evaluation. Advanced statistical concepts are applied to direct practice and five types of program evaluation.

G 525 Practice with Groups and Communities 4 cr. Prereq., admission to M.S.W. program or consent of instr. Practice-oriented course addressing theories, frameworks, principles, and skills of group and community work. Dynamics of group work and examination of modalities such as mutual aid and social action groups.

G 530 History of Social Policy, Justice and Change 3 cr. Prereq., admission to M.S.W. program or consent of instr. Foundation in social welfare policy and services; examination of relationship between history social welfare policy and emergence of social work profession. Introduction to frameworks for policy analysis.

G 531 Methods of Social Policy Analysis 3 cr. Prereq., SW 530. Focus on the analysis of existing or proposed policies specific to oppressed populations, rural areas and isolated communities.

G 535 Advanced Integrated Practice 4 cr. Prereq., consent of instr. Builds on the skills, knowledge, and values of the foundation generalist and practice courses.

G 545 Practice of Organizational Leadership 4 cr. Prereq., consent of instr. Advanced training in professional leadership and how to effectively conceive, plan, design, implement, manage, assess, and change contemporary organizations.

G 550 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 576 Foundation Integrative Seminar I 1 cr. Prereq., admission to M.S.W. program, SW 505, 587; coreq., SW 589. Seminar accompanying first semester foundation practicum in which students discuss experience with goal of integrating theory and practice.

G 577 Foundation Integrative Seminar II 1 cr. Prereq., admission to M.S.W. program, SW 505, 587; coreq., SW 589. Seminar accompanying second semester foundation practicum in which students discuss experience with goal of integrating theory and practice.

G 578 Advanced Integrative Seminar I 1 cr. Prereq., SW 586; coreq., SW 588. Critical analysis of how predominant social work theories and professional values and skills are being incorporated into the practicum.

G 579 Advanced Integrative Seminar II 1 cr. Prereq., SW 578; coreq., SW 589. Critical analysis of how predominant social work theories and professional values and skills are being incorporated into the practicum. Advanced portfolio development.

G 586 Foundation Practicum I 2 cr. Prereq., admission to M.S.W. program; coreq., SW 586. First semester foundation field practicum experience in a supervised setting designed to provide opportunities to integrate classroom learning and field experiences.

G 587 Foundation Practicum II 2 cr. Prereq., admission to M.S.W. program, SW 505, 587; coreq., SW 588. Second semester foundation field practicum experience in a supervised setting designed to provide opportunities to integrate classroom learning and field experiences.

G 588 Concentration Practicum I 2 cr. Prereq., SW 587, 589; coreq., SW 578. Advanced supervised field work in public and private agencies and institutions.

G 589 Concentration Practicum II 2 cr. Prereq., SW 588; coreq., SW 579. Advanced supervised field work in public and private agencies and institutions.

G 593 Professional Portfolio 1 cr. (R-2) Prereq., foundation courses. Summative and in-depth written analysis of course work and practicum experience.

G 594 Graduate Seminar 3 cr. (R-9) Offered autumn or spring. Prereq., admission to M.S.W. program or consent of instr. In-depth analysis of a current social work issue.

G 595 Special Topics Variable cr. (R-9) Offered autumn and spring. Prereq., admission to M.S.W. program or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-9) Offered autumn or spring. Prereq., admission to M.S.W. program or consent of instr. Work on selected problems by individual students under direct faculty supervision.

G 597 Research Variable cr. (R-9) Offered autumn or spring. Prereq., admission to M.S.W. program or consent of instr. Directed individual graduate research and study appropriate to background and objectives of the student.

Faculty

Professors
Cynthia Garthwait, M.S.S.W., University of Wisconsin, Madison, 1974 (Chair)
John Spores, Ph.D., University of Michigan, 1976

Associate Professors
Janet Finn, Ph.D., University of Michigan, 1995
Maxine Jacobson, Ph.D., University of Utah, 1997
Ryan Tolleson Knee, Ph.D., University of Denver, 1999
David Schantz, Ph.D., University of Washington, 1996

Assistant Professors
Timothy Conley, Ph.D., Boston College, 2001
Carol Hand, Ph.D., University of Wisconsin

Adjunct Assistant Professors
Doreen Antenor, J.D., The University of Montana, 1996
Tondy Baumgartner, M.S.W., Walla Walla College, 1998
Michaela Conway, M.S.W., San Diego State University, 1978
Michael Perry, M.S.W., Eastern Washington University, 1991
Tamara Tolleson Knee, M.S.W., University of Denver, 1994

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
Health Sciences Courses

Health Sciences
195 Special Topics
201 Living Well: Health and Disability
325 Clinical Issues in Geriatrics
326 Geriatric Practicum
327 Montana Gerontology Society Meeting
389 Recent Advances in Clinical Medicine
395 Special Topics

Anthropology
265N Human Sexuality
267N Human Genetics
343S Culture and Population
388 Native American Health and Healing
444 Culture, Health and Healing

Health and Human Performance
184 Personal Health and Wellness
236N Nutrition

Microbiology
106N Elementary Microbiology
107N Elementary Microbiology Laboratory
302 Medical Microbiology

Social Work
322S Explorations in Gerontology
423 Addiction Studies

Pharmacy
110N Use and Abuse of Drugs
324 Medicinal Plants
395 Indian Health Issues
423 Drug Induced Malnutrition

Philosophy
421E Medical Ethics

Courses

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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 325 Clinical Issues in Geriatrics 2 cr. Offered spring. Prereq., junior standing or consent of instr. An interdisciplinary seminar featuring didactic presentation and clinical demonstration of the assessment and management of health and social issues of older persons.

UG 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.

UG 327 Montana Gerontology Society Meeting 1 cr. (R-3) Offered spring. Attendance and participation in the Montana Gerontology Society meeting held annually in April.

UG 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.

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

UG 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

Kari Harris, Acting Chair

The public health program is an interdisciplinary program that offers the Master of Public Health degree and a public health certificate. 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 36 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 Community-Based Research
- PUBH 560 Environmental and Rural Health
- PUBH 580 Rural Health Issues in a Global Context
- PUBH 599 Professional Paper or Portfolio

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

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.

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 Community-Based Health Research 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.
- 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 599 Professional Paper 3 cr. Offered every term.

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)

Associate Professors

- Ann Cook, Ph.D., The University of Montana, 2001 (Research, Psychology)
- Janet L. Finn, Ph.D., University of Michigan, 1995 (Social Work and Anthropology)
- Christine Fiore, Ph.D., University of Rhode Island, 1990 (Psychology)
- Kari Harris, Ph.D., The University of Kansas, 1998; M.P.H., The University of Kansas Medical Center, 1997 (Acting Chair)
- Elizabeth A. Putman, Ph.D., University of Texas-Houston, 1989 (Biomedical and Pharmaceutical Sciences)
- Jean T. Carter, Ph.D., The University of Arizona, 1997; Pharm.D., The University of Arizona, 1993 (Pharmacy Practice)

Assistant Professor

- Curtis Noonan, Ph.D., Colorado State University, 2000 (Biomedical and Pharmaceutical Sciences and Pharmacy Practice)
- Robin Saha, Ph.D., University of Michigan, 2002 (Environmental Studies)

Adjunct

- Larry White, M.H.A., (College of Health Professions and Biomedical Sciences)
R. Paul Williamson, Dean

Lynn Stockling, 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 oriented curriculum. The program is administered by the College of Technology Department of 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 Applied Science program. This degree program is available for students who have completed approved Associate of Applied Science degrees. See the College of Arts and Sciences/Applications 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 prerequisite skills necessary for success in required course work.

The department oversees the Associate of Arts (A.A.) Degree. For additional information regarding admission and complete degree requirements, see the Admissions and Academic Policies and Procedures sections of this catalog.

Associate of Arts-A.A. Degree

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

Students may enter in the autumn or spring semester.

Following is a suggested first year course of study. Courses numbered below 100 and courses with a T suffix on the course number do not count toward the 60-credit requirement or general education course requirements.

Suggested Course of Study

First Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AASC 100 Introduction to the University Experience</td>
<td>2</td>
</tr>
<tr>
<td>AASC 101 Study and Learning Strategies</td>
<td>2</td>
</tr>
<tr>
<td>COM 150S Interpersonal Communications or</td>
<td>3</td>
</tr>
<tr>
<td>COM 160A Oral Communications</td>
<td>3</td>
</tr>
<tr>
<td>COM 101 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>(with appropriate placement score or COM 090T)</td>
<td>0-3</td>
</tr>
<tr>
<td>CRT 100 Computer Literacy</td>
<td>2</td>
</tr>
<tr>
<td>Math course based on placement test score (or MAT 002T)</td>
<td>0-3</td>
</tr>
<tr>
<td>Total credits toward degree requirements:</td>
<td>9-15</td>
</tr>
</tbody>
</table>

Additional semester’s coursework is 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 allows 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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 106N-107N Elementary Medical Microbiology and Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 221 Cellular and Molecular Biology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 151N-152N, 154N General Chemistry and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>COM 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>COM 150S Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100 Computer Literacy</td>
<td>2</td>
</tr>
<tr>
<td>MAT 117 Probability and Linear Math</td>
<td>3</td>
</tr>
<tr>
<td>PSY 100S Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>General Education</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>16</td>
</tr>
</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANTH 101H Introduction to Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>COM 115 Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>COM 160A Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>COM 210E Critical Thinking and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
</tr>
<tr>
<td>SCN 201n-202n Anatomy and Physiology</td>
<td>4</td>
</tr>
<tr>
<td>SCN 220 Human Physiology</td>
<td>4</td>
</tr>
<tr>
<td>General Education</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>16</td>
</tr>
<tr>
<td></td>
<td>18</td>
</tr>
</tbody>
</table>

Courses

U = for undergraduate credit only. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R. 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 (COMM)

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 196T 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 formula for conscious resolution strategies.

U 220T Training Techniques 3 cr. Offered spring. Prereq., COM 115, COM 160A or consent of instr. The practical application of adult learning theory to documenting procedures, creating user guides, writing instructions, developing courses, using tutorials, evaluating and using training materials, and giving effective oral presentations. Students prepare and deliver mini-courses to develop these skills.

U COM 242 Argumentation 3 cr. Offered 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 296T Independent Study 1-6 cr. (R-6) Offered intermittently.

Mathematics (MAT)

U 002T Prealgebra 4 cr. Offered every term. Arithmetic and basic algebra skills needed for Introductory Algebra. Topics include integers and rational numbers, decimals and percentages with applications, ratios and proportions with applications, single variable linear equations with applications, exponents, factoring, and an introduction to polynomials. Credit does not count toward a certificate or degree.

U 005 Introductory Algebra 4 cr. Offered every term. Review of arithmetic principles of integers and rational numbers, linear equations in one or two unknowns, and operations with polynomials and rational expressions. Credit does not count toward an associate of arts or baccalaureate degree.

U 100 Intermediate Algebra 3 cr. Offered autumn and spring. Prereq., MAT 005 or appropriate placement score. Topics include linear equations and systems of linear equations, inequalities, applications and graphing; polynomials; rational expressions and equations; radicals, rational exponents and complex numbers; quadratic equations; introduction to exponential and logarithmic functions. Credit not allowed for both MAT 100 and MATH 100.

U 110T Industrial Math 3 cr. Offered autumn. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing.

U 113T Merchandising Math 3 cr. Offered intermittently. Use of mathematical concepts in retailing. Specific application of these concepts to markups, markdowns, inventory turnover, and other basic formulas.

U 114T Food Production Math 3 cr. Offered 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 functions. 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 201T 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 196T 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 175T Integrated Sciences 3 cr. Offered every term. Prereq., or coreq., MAT 005. An introduction to the basic principles of physics, chemistry, environmental and earth sciences, biology, and astronomy, emphasizing the scientific method and real-world applications.

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 120T Technical Physics I 4 cr. Offered autumn. Introduction to models, measurements, vectors, motion in a straight line, motion in a plane, Newton's laws of motion, application of Newton's laws, and circular motion and gravitation.

U 121T Technical Physics II 4 cr. Offered spring. Prereq., SCN 120T. Introduction to work and energy, impulse and momentum, rotational motion, equilibrium of a rigid body, elasticity, heat, and thermodynamics.

U 125T Medical Physics 3 cr. Offered autumn. A presentation of physical principles that apply to respiratory care equipment and cardiopulmonary physiology.

U 150N Nutrition 3 cr. Offered autumn and spring. Nutritional needs throughout the life cycle and measures to assist in the meeting of those needs in health or stress/disease.

U 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 190T 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 100T 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., COM 090T or passing score on placement test. Instruction and practice in both the expository writing and research process. Emphasis on the use of specific techniques of writing to develop style, unity, clarity, and force of ideas, and structure. Students are expected to write without major errors in sentence structure or mechanics. Credit not allowed for both COM 101 and ENEX 101. Grading A-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 185A Beginning Creative Writing: Fiction 3 cr. Offered every term. Prereq., COM 101 or ENEX 101 or consent of instr. A beginning writing workshop focused on the reading, discussion, and revision of students' short fiction. Students also will be introduced to models of fiction techniques. No prior experience in writing short fiction required.

U 186A Beginning Creative Writing: Poetry 3 cr. Offered every term. Prereq., COM 101 or ENEX 101 or consent of instr. A beginning writing workshop focused on the reading, discussion, and revision of students' poems. Students also will be introduced to models of poetic techniques. No prior experience in writing poetry required.

U 195T Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196T Independent Study 1-6 cr. (R-6) Offered intermittently.

U 215 Advanced Technical Writing 3 cr. Offered every term. Prereq., WTS 115 or consent of instr. Continuation of technical writing with emphasis on technical text including
Department of Applied Computing and Electronics

Thomas Gallagher, Chair

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.cie.umontana.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.

Students enter 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.

Network Management Option

The Network Management option prepares students for careers as network technicians, network administrators, PC field technicians, and help-desk engineers. Students receive a foundation in networking technologies found in the business environment. The program prepares students to support LAN/WAN devices and services. Students install, configure, maintain, and troubleshoot cabling, NICs, hubs, switches, and routers in multi-protocol networks. Students perform network administrative tasks on client PCs and servers. Students install, implement, and manage enterprise directory and infrastructure services. Opportunities exist for students to earn professional certification from Cisco (CCNA), Microsoft (MCP, MCSA), and CompTIA (A+, Network+ and Security+).

Autumn Entry:

<table>
<thead>
<tr>
<th>First Year</th>
<th>A</th>
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<tbody>
<tr>
<td>BUS 1035 Principles of Business</td>
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<td>COM 101 English Composition</td>
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<td>CRT 103T Survey of Information Technology</td>
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<td>CRT 112T Operating System Fundamentals</td>
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<tr>
<td>CRT 121 Introduction to Programming</td>
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<tr>
<td>CRT 122E Ethics and Information Technology</td>
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<tr>
<td>CRT 151T Networking Basics</td>
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<tr>
<td>CRT 152T Routers and Router Basics</td>
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<tr>
<td>CRT 172 Introduction to Computer Modeling</td>
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<tr>
<td>MATH 117 Probability and Linear Mathematics</td>
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<tr>
<th>Second Year</th>
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<tr>
<td>COM 160A Oral Communications</td>
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<tr>
<td>CRT 210T Advanced Operating Systems</td>
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<tr>
<td>CRT 215T 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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<tr>
<td>CRT 251T Switching Basics and Intermediate</td>
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<td>CRT 252T WAN Technologies</td>
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<td>CRT 270 C++ Programming</td>
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<tr>
<td>CRT 285T PC Hardware Support</td>
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<td>CRT 289T Professional Certification</td>
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<tr>
<td>CRT 290T Computer Technology Internship</td>
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<td>Total</td>
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</table>
Information Systems Management Option

The Information Systems Management option prepares students to implement information technology in the business environment. Students analyze business requirements and design technology-based solutions to business problems. The program provides students with a foundation in business principles, accounting, management, and information technology. Students install, upgrade, maintain, and troubleshoot PC hardware and software. Students develop, create, and maintain databases, print-based media, and web-based media. Graduates from the program enter careers in business PC support, developing software and hardware solutions, training and supporting users, and presenting business solutions. Opportunities exist for students to earn professional certification from CompTIA (A+) and Microsoft (MCP).

Fall Entry:

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BUS 103S Principles of Business</td>
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<td>COM 101 English Composition</td>
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<td>COM 160A Oral Communications</td>
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<tr>
<td>CRT 103T Survey of Information Technology</td>
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<tr>
<td>CRT 112T Operating System Fundamentals</td>
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<tr>
<td>CRT 121T Introduction to Programming</td>
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</tr>
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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 172 Introduction to Computer Modeling</td>
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<td>MATH 117T Probability and Linear Mathematics</td>
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<td><strong>Total</strong></td>
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Second Year

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<th>Course</th>
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<tr>
<td>ACC 132T Accounting I</td>
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<tr>
<td>CRT 203 Systems Analysis</td>
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<tr>
<td>CRT 210T Advanced Operating Systems</td>
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<tr>
<td>CRT 263T Web Design and Development</td>
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<tr>
<td>CRT 270 C++ Programming</td>
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<tr>
<td>CRT 275 Database Design and Implementation</td>
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<tr>
<td>CRT 285T PC Hardware Support</td>
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<td>CRT 289T Technical Certification</td>
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<td>CRT 290T Computer Technology Internship</td>
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<td>Directed Electives</td>
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Directed Electives Options:

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<tr>
<th>Course</th>
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<tr>
<td>ACC 133T Accounting II</td>
<td>4</td>
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<tr>
<td>BUS 125T Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 135T Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS 243T Psychology of Management and Supervision</td>
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</tr>
<tr>
<td>BUS 250T Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>COM 115 Technical Writing</td>
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</tr>
<tr>
<td>COM 150S Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>COM 220T Training Techniques</td>
<td>3</td>
</tr>
</tbody>
</table>

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.

First Year

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>COM 115 Technical Writing</td>
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<td>CRT 112T Operating Systems Fundamentals</td>
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<td>EET 101T Direct and Alternating</td>
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<tr>
<td>CRT 121T Introduction to Programming</td>
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<td>CRT 151T Networking Basics</td>
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<td>CRT 172 Introduction to Computer Modeling</td>
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Second Year

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<tr>
<td>CRT 121T Introduction to Programming</td>
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<tr>
<td>EET 227T Digital Electronics</td>
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<tr>
<td>EET 238T Instrumentation</td>
<td>3</td>
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<tr>
<td>EET 232T Microprocessors</td>
<td>3</td>
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<tr>
<td>EET 234T Automatic Controls</td>
<td>4</td>
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<tr>
<td>EET 240T Robotics</td>
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<tr>
<td>EET 260T Data Communications</td>
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<td>EET 270T Wireless Communications</td>
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<td>PSY 110S Organizational Psychology</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>17</strong></td>
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</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.

Computer Technology (CRT)

U 007T Keyboarding 1 cr. Offered intermittently. Basic keyboarding including development of keystroking speed and accuracy. Proofreading is emphasized.

U 100 Computer Literacy 2 cr. Offered autumn and spring. Introduction to computer terminology, hardware, and software, including wire/wireless communications and multimedia devices. Students utilize word processing, create projects common to business and industry in a networked computing environment. Internet research, email usage, and keyboarding proficiency are integrated.

U 103T Survey of Information Technology 3 cr. Offered autumn. Prereq., CRT 100 or demonstrated computing experience. A survey of computing concepts for students entering the information technology field. Topics include computer hardware, telecommunications, Internet technologies, productivity software, file management, disaster recovery, and system security.

U 108 Word Processing 2 cr. Offered autumn and spring. Prereq., CRT 100 or basic computer experience and consent of instr. Preparation of business forms, correspondence, mail
merges, columnar projects, and reports using up-to-date software. Business related application projects, graphics, and printer operation are included.

**U 112T Operating System Fundamentals 3 cr.** Offered spring. Prereq., CRT 100 or demonstrated computing experience. Introduction to common operating systems used in modern computing. Emphasis on thorough understanding and use of command line and graphical user interfaces. Hands-on experience with single-user and multi-user/multi-access software. Focus on using, comparing, and analyzing the capabilities of existing and emerging operating systems.

**U 115T Advanced Document Production 3 cr.** Offered autumn and spring. Prereq., CRT 108. Analysis of the concepts of advanced word processing document production underlying mastery of the software. Business-related application projects utilizing critical thinking included. Speed and timing component to increase skills essential for employment.

**U 121 Introduction to Programming 3 cr.** Offered autumn and spring. Prereq., MAT 100 and demonstrated computing experience. An introduction to object-oriented programming using an even-driven paradigm. Basic concepts of control structures, data handling, documentation, and error control. Fundamentals of algorithm design and structured software development.

**U 122E Ethics and Information Technology 3 cr.** Offered spring. Prereq., COM 100. 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 computing 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 181T Introduction to Database Software 2 cr.** Offered autumn. Prereq., CRT 100. Basics of using a current database software package to solve business problems.

**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 files; 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 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, WAN technology and terminology, PPP, ISDN, DDR, 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 switch LANs. Topics include VLANs, switching protocols, routing, redundancy, multicasting, quality of service, security, and transparency.

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 autumn. 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 spring. 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 position 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 101T Direct and Alternating Current Theory 7 cr. Offered autumn. Study of current flow, resistance, capacitance, inductance, power, and impedance. Topics include direct current circuits, alternating current circuits, and magnetism. All circuit theorems are explored using various methods of circuit analysis and problem solving. Includes hands-on labs and building an electronic lab trainer.

U 103T Semiconductor Circuits 7 cr. Offered spring. Prereq., EET 101T. Covers theory of diodes, bipolar transistors, and field effect transistors, and their application in electron circuits. Topics include circuit analysis, circuit construction, and an introduction to operational amplifiers. Includes hands-on labs.

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 227T Digital Electronics 4 cr. Offered autumn. Prereq., CRT 103T. Explores digital electronic circuits and devices that make up a computer system. Topics include binary and hexadecimal number systems, Boolean algebra and digital logic 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 is 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 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 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.

Department of Business Technology

Vicki Micheletto, Chair

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 for the specific requirements.

Accounting Technology-A.A.S. Degree

Almost all organizations need either in-house financial staff or outside bookkeeping/accounting services to aid with 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:

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<tr>
<th>First Year</th>
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<tbody>
<tr>
<td>ACC 132T-133T Accounting I, II</td>
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<td>ACC 134T Payroll Topics</td>
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<td>BUS 103S Principles of Business</td>
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<td>BUS 135T Business Law</td>
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<td>COM 160A Oral Communications</td>
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<tr>
<td>CRT 100 Computer Literacy</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>CRT 180T Spreadsheet Software</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>PSY 110S Organizational Psychology</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
<td>3</td>
<td>-</td>
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<tr>
<td>Total</td>
<td>18</td>
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<table>
<thead>
<tr>
<th>Second Year</th>
<th>A</th>
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<tbody>
<tr>
<td>ACC 232T Nonprofit Accounting</td>
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</tr>
<tr>
<td>ACC 234T Managerial Accounting</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>ACC 236T Income Tax</td>
<td>-</td>
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</tr>
<tr>
<td>ACC 237T Strategies for Business Entities</td>
<td>3</td>
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<tr>
<td>ACC 250T Accounting Capstone</td>
<td>-</td>
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<tr>
<td>ACC 290T Accounting Internship</td>
<td>-</td>
<td>2</td>
</tr>
<tr>
<td>COM 210E Critical Thinking, Analysis and Problem Solving</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>CRT 172 Introduction to Computer Modeling</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111S Microeconomics</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>HMR 232T Wage and Benefits Administration</td>
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<td>4</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>16</td>
</tr>
</tbody>
</table>

Computer Support Option

This option provides students with a technical background in computer hardware, operating systems, Internet technologies, networking/telecommunications, and application software. In addition to accounting technician training, students selecting this option will be prepared to manage and maintain 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:

<table>
<thead>
<tr>
<th>First Year</th>
<th>A</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACC 132T-133T Accounting I, II</td>
<td>4</td>
<td>4</td>
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<tr>
<td>ACC 134T Payroll Topics</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>BUS 103S Principles of Business</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>COM 101 English Composition</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>CRT 103T Survey of Information Technology</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>CRT 112T Operating System Fundamentals</td>
<td>-</td>
<td>3</td>
</tr>
</tbody>
</table>
**Human Resources Option**

In addition to accounting technician training, students selecting this option will be prepared to aid management in complying with federal and state employment laws, maintaining personnel records, and assisting with pension and other benefit plan administration.

**Administrative Management- A.A.S. Degree**

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 meet 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 assume supervisory, organizational, and communication 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 Title</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>
<td>Customer Service</td>
<td>4</td>
</tr>
<tr>
<td>COM 115</td>
<td>Technical Writing</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>
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<tr>
<td>PSY 110S</td>
<td>Organizational Psychology</td>
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<tr>
<td>Total</td>
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**Second Year**

<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<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>
</tbody>
</table>

**Customer Relations-Certificate**

The Customer Relations program provides students with the skills to promote excellent customer relations in business settings. Courses related to the service industry, service-level decisions, formulation of service policies, customer service management, and staff development are included. Students gain knowledge of customer care, effective communication, and the importance of public relations to promote a positive company image. Students develop an understanding of challenges and conflicts while servicing both internal and external customers. Emphasis in business, computers, and psychology provide a solid background for customer relations positions in the current business environment.

A Certificate of Completion is awarded for successful completion of the program.

Students 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>
</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>
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</tr>
<tr>
<td>BUS 135T</td>
<td>Business Law</td>
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</tr>
<tr>
<td>BUS 140T</td>
<td>Customer Service</td>
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</tr>
<tr>
<td>COM 115</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>
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<tr>
<td>MAT 100</td>
<td>Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PSY 110S</td>
<td>Organizational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
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</table>

**Culinary Arts-Certificate**

The Bureau of Labor Statistics indicates the hospitality field is America's number one retail employer and predicts its growth will increase 30 percent over the next two years. Students entering the Culinary Arts Certificate program or Food Service Management degree program prepare for careers in the hospitality industry. Students develop skills to seek employment in hotels, restaurants, resorts, casinos, clubs, catering, and corporate dining. Culinary careers encompass hospitality management, sales, product development, or entrepreneurship. To meet the growing demand of the hospitality industry, two program options are available. Students may earn a Culinary Arts Certificate of Completion or a 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>COM 115</td>
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</tr>
<tr>
<td>COM 150S</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>
<td>3</td>
</tr>
<tr>
<td>FSM 270</td>
<td>Purchasing and Cost Controls</td>
<td>5</td>
</tr>
<tr>
<td>FSM 271</td>
<td>Food Service Management</td>
<td>4</td>
</tr>
<tr>
<td>CUL 156T</td>
<td>Dining Room Procedures</td>
<td>2</td>
</tr>
<tr>
<td>CUL 157T</td>
<td>Pantry and Garde-Manger</td>
<td>2</td>
</tr>
<tr>
<td>CUL 158T</td>
<td>Short Order Cookery</td>
<td>2</td>
</tr>
<tr>
<td>CUL 160T</td>
<td>Soups, Stocks, and Sauces</td>
<td>3</td>
</tr>
<tr>
<td>CUL 161T</td>
<td>Meats and Vegetables</td>
<td>3</td>
</tr>
<tr>
<td>CUL 165T</td>
<td>Baking and Pastry</td>
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</table>

**Total** 16 16

**Food Service Management-A.A.S. Degree**

The Food Service Management program culminates in an Associate of Applied Science Degree. This program combines theory, practical training, and industry experience to prepare students for entry-level and management positions in the diverse and dynamic hospitality industry. The degree program is designed to continue principles taught in the culinary arts certificate program. The spectrum of learning is expanded to include more in-depth professional studies thereby enhancing employment opportunities. Accreditation by the American Culinary Federation ensures graduates’ eligibility for certification as an ACF “Certified Culinary.”

Technical subjects 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>
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</thead>
<tbody>
<tr>
<td>COM 115</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>COM 150S</td>
<td>Interpersonal Communication</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
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</tr>
<tr>
<td>CUL 151T</td>
<td>Introduction to Food Service Industry</td>
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<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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<td>FSM 270</td>
<td>Purchasing and Cost Controls</td>
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<td>FSM 271</td>
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<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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<td>CUL 158T</td>
<td>Short Order Cookery</td>
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<td>CUL 160T</td>
<td>Soups, Stocks, and Sauces</td>
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<td>CUL 161T</td>
<td>Meats and Vegetables</td>
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<tr>
<td>CUL 165T</td>
<td>Baking and Pastry</td>
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**Total** 16 16

**Second Year**

<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>BUS 112T</td>
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<tr>
<td>BUS 113T</td>
<td>Psychology of Selling</td>
<td>3</td>
</tr>
<tr>
<td>BUS 125T</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 135T</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
<td>2</td>
</tr>
<tr>
<td>CRT 172</td>
<td>Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>MAT 100</td>
<td>Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PSY 110S</td>
<td>Organizational Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total** 17 16

**Management-A.A.S. Degree**

The Management program provides graduates with the skills required to own and operate their own businesses or become sales representatives and managers of retail organizations.

**Entrepreneurship Option**

Students selecting the Entrepreneurship option will focus on venture initiation, constructing business plans, generating financing, and beginning operations. Areas of study focus on the critical factors involved in accounting, sales strategy, advertising and marketing issues complemented with supervisory skills. Students gain knowledge of basic disciplines of business through both classroom and hands-on training. Computer technology and web development are added components to assist students to compete in today’s changing business climate. Applications of the elements learned are included where practical. Successful graduates will depart with a comprehensive business plan and presentation skills required to approach financiers.

The Associate of Applied Science degree is awarded upon successfully completing the program.

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>ACC 132T</td>
<td>Accounting I, II</td>
<td>4</td>
</tr>
<tr>
<td>BUS 112T</td>
<td>Professional Sales</td>
<td>2</td>
</tr>
<tr>
<td>BUS 113T</td>
<td>Psychology of Selling</td>
<td>3</td>
</tr>
<tr>
<td>BUS 125T</td>
<td>Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>BUS 135T</td>
<td>Business Law</td>
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</tr>
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<td>COM 101</td>
<td>English Composition</td>
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</tr>
<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
<td>2</td>
</tr>
<tr>
<td>CRT 172</td>
<td>Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>MAT 100</td>
<td>Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>PSY 110S</td>
<td>Organizational Psychology</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total** 17 16

**Second Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 224T</td>
<td>Advertising and Promotion</td>
<td>3</td>
</tr>
<tr>
<td>BUS 243T</td>
<td>Psychology of Management and Supervision</td>
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</tr>
<tr>
<td>BUS 250T</td>
<td>Entrepreneurship</td>
<td>3</td>
</tr>
<tr>
<td>BUS 290T</td>
<td>Management Internship</td>
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</tr>
<tr>
<td>COM 160A</td>
<td>Oral Communications</td>
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</tr>
</tbody>
</table>
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</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>ACC 132T-133T Accounting I, II</td>
<td>4</td>
</tr>
<tr>
<td>BUS 109T Visual Merchandising and Display</td>
<td>3</td>
</tr>
<tr>
<td>BUS 112T Professional Sales</td>
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</tr>
<tr>
<td>BUS 113T Psychology of Selling</td>
<td>3</td>
</tr>
<tr>
<td>BUS 125T Principles of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>COM 101 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100 Computer Literacy</td>
<td>2</td>
</tr>
<tr>
<td>CRT 172 Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>HMR 110T Introduction to Public Relations</td>
<td>3</td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
</tr>
</tbody>
</table>

**Medical Information Technology-A.A.S. Degree**

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</th>
<th>Units</th>
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<tbody>
<tr>
<td>COM 115 Technical Writing</td>
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<td>CRT 100 Computer Literacy</td>
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<tr>
<td>MAT 100 Intermediate Algebra</td>
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<tr>
<td>MED 152T Insurance Processing for Coding Specialists</td>
<td>2</td>
</tr>
<tr>
<td>MED 154T Beginning Medical Terminology</td>
<td>2</td>
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<tr>
<td>MED 155T Medical Software</td>
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</tr>
<tr>
<td>MED 161T Medical Administrative Procedures</td>
<td>4</td>
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<tr>
<td>MED 163T Healthcare Data and Content</td>
<td>3</td>
</tr>
<tr>
<td>MED 270T Terminology for Health Professions I</td>
<td>2</td>
</tr>
</tbody>
</table>

**Sales and Marketing-Certificate**

Students in the Sales and Marketing program are trained in sales and supportive tasks relating to retail or wholesale organizations. They study the application of the latest counselor selling techniques to assist clients in meeting needs. The curriculum also involves marketing activities, bookkeeping functions, and merchandising skills.

Students are awarded a Certificate of Completion after successfully completing the program.
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 work flow 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>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 106T</td>
<td>Records and Information Management</td>
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<td>BUS 140T</td>
<td>Customer Service</td>
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</tr>
<tr>
<td>COM 115T</td>
<td>Technical Writing</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>
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<td>MED 153T</td>
<td>Insurance Processing</td>
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<td>MED 154T</td>
<td>Beginning Medical Terminology</td>
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<td>MED 155T</td>
<td>Medical Software Applications</td>
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<td>MED 161T</td>
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**Second Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
</tr>
</thead>
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<tr>
<td>ACC 131T</td>
<td>Essentials of Accounting</td>
<td>4</td>
</tr>
<tr>
<td>ACC 134T</td>
<td>Payroll Topics</td>
<td>3</td>
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<tr>
<td>BUS 240T</td>
<td>Administrative Support for the Automated Office</td>
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</tr>
<tr>
<td>BUS 243T</td>
<td>Psychology of Management and Supervision</td>
<td>2</td>
</tr>
<tr>
<td>COM 150S</td>
<td>Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>CRT 172</td>
<td>Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>MED 216T</td>
<td>Medical Transcription I</td>
<td>3</td>
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<tr>
<td>MED 290T</td>
<td>Medical Information Internship</td>
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**Spring Entry:**

<table>
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<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>
<td>1</td>
</tr>
<tr>
<td>COM 115T</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
<td>2</td>
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<tr>
<td>MAT 100</td>
<td>Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MED 154T</td>
<td>Beginning Medical Terminology</td>
<td>2</td>
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<tr>
<td>SCN 115N</td>
<td>Anatomy</td>
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</table>

**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.

Student successfully completing the program are awarded the Associate of Applied Science degree. Students may enter either autumn or spring semester.

**Autumn Entry**

**First Year**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</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>COM 115T</td>
<td>Technical Writing</td>
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<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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<td>Advanced Document Production</td>
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<td>Insurance Processing</td>
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<td>Beginning Medical Terminology</td>
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<tr>
<td>MED 155T</td>
<td>Medical Software Applications</td>
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<td>MED 161T</td>
<td>Medical Administrative Procedures</td>
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**Second Year**

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<tr>
<td>ACC 131T</td>
<td>Essentials of Accounting</td>
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</tr>
<tr>
<td>COM 210E</td>
<td>Critical Thinking, Analysis and Problem Solving</td>
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<tr>
<td>CRT 172</td>
<td>Introduction to Computer Modeling</td>
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<tr>
<td>HMR 165T</td>
<td>Healthcare Data and Content</td>
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<td>MED 216T</td>
<td>Terminology for Health Professions II</td>
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<td>MED 256T</td>
<td>Medical Transcription I</td>
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<td>MED 290T</td>
<td>Medical Information Internship</td>
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<tr>
<td>PHA 160T</td>
<td>Survey of Pharmacy Products</td>
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<td>PSY 110S</td>
<td>Organizational Psychology</td>
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**Directed Elective Options**

<table>
<thead>
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<th>Course Title</th>
<th>Hours</th>
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<tbody>
<tr>
<td>BUS 103S</td>
<td>Principles of Business</td>
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<tr>
<td>BUS 240T</td>
<td>Administrative Support for the Automated Office</td>
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<td>CRT 180T</td>
<td>Spreadsheet Software</td>
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### Autumn Entry:

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<tr>
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<td>MED 154T</td>
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<td>SCN 115N</td>
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### Spring Entry:

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<td>CRT 108</td>
<td>Word Processing</td>
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<tr>
<td>MAT 100</td>
<td>Intermediate Algebra</td>
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### ACC 131T Essentials of Accounting

<table>
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<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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<td>COM 150S</td>
<td>Interpersonal Communication</td>
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<td>COM 210E</td>
<td>Critical Thinking, Analysis and Problem Solving</td>
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### CRT 172 Introduction to Computer Modeling

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<td>MED 257T</td>
<td>Medical Transcription II</td>
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<td>MED 290T</td>
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<td>PSY 110S</td>
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### Directed Elective Options

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<thead>
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<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>
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</tr>
<tr>
<td>CRT 180T</td>
<td>Spreadsheet Software</td>
<td>3</td>
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<tr>
<td>MED 152T</td>
<td>Insurance Processing for Coding Specialists</td>
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<tr>
<td>MED 155T</td>
<td>Medical Software Applications</td>
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### Medical Reception-Certificate

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<tr>
<td>CRT 108</td>
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<tr>
<td>MAT 100</td>
<td>Intermediate Algebra</td>
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<tr>
<td>MED 153T</td>
<td>Insurance Processing</td>
<td>3</td>
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<tr>
<td>MED 154T</td>
<td>Beginning Medical Terminology</td>
<td>2</td>
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<tr>
<td>MED 155T</td>
<td>Medical Software Applications</td>
<td>1</td>
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### College of Technology - Business Technology - 225

#### Paralegal Studies-A.A.S. Degree

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 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:

<table>
<thead>
<tr>
<th>First Year</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACC 131T Essentials of Accounting</td>
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<tr>
<td>CRT 100 Computer Literacy</td>
<td>3</td>
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<tr>
<td>CRT 108 Word Processing</td>
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<tr>
<td>LEG 183T Contracts</td>
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</tr>
<tr>
<td>LEG 184T Legal Ethics</td>
<td>2</td>
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<tr>
<td>LEG 185T Introduction to Paralegal Studies</td>
<td>3</td>
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<tr>
<td>LEG 186T Introduction to Legal Research</td>
<td>2</td>
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<tr>
<td>LEG 187T Legal Research/Writing I</td>
<td>2</td>
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<tr>
<td>LEG 188T Principles of Real Estate</td>
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<tr>
<td>LEG 189T Criminal Procedures</td>
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MAT 100 Intermediate Algebra 3
PSC 100S Introduction to American Government 3
PSY 110S Organizational Psychology 3
Total 18

Second Year
COM 160A Oral Communications 3
COM 210E Critical Thinking, Analysis, and Problem Solving 3
CRT 188T Computers and Law 3
LEG 270T Civil Litigation 3
LEG 282T Contemporary Legal Issues 3
LEG 283T Trial Preparation 3
LEG 285T Family Law 3
LEG 286T Legal Research/Writing II 3
LEG 287T Legal Research/Writing III 3
LEG 288T Estate Administration 3
LEG 290T Paralegal Studies Internship 3
SOC 110S Principles of Sociology 3
Total 17

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 and completing the accounting cycle.

U 133T Accounting II 4 cr. Offered autumn and spring. Prereq., ACC 132T with competency test score of 75% or better. Expansion of ACC 132T including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in debt and equity securities, and the statement of cash flow.

U 134T Payroll Topics 3 cr. Offered autumn and spring. Prereq., ACC 132T with competency test score of 75% or greater. Comprehensive payroll course including computation/preparation of paychecks, completing deposits and payroll tax returns, informational returns and issues relating to identification and compensation of independent contractors. Includes state and federal payroll law, introduction to Montana’s Department of Labor and Industry, Unemployment Insurance Division, an State Compensation Insurance Fund.

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

U 230T Computerized Accounting Systems 2 cr. Offered autumn and spring. Prereq., CRT 100 or CRT 103T, ACC 131T or 132T with competency test score of 75% or better. With previous knowledge and skill related to double-entry accounting, payroll taxes and manual preparation of financial reports, students use a common accounting software package to accomplish similar tasks electronically.

U 232T Nonprofit Accounting 3 cr. Offered spring. Prereq., ACC 132T-133T or ACCT 201, or consent of instr. Continuation of accounting series with a focus on managerial accounting topics. These topics include cost classification, variable and absorption costing, job order costing and standard costing. JIT, total quality management, quality costs and activity-based costing included.

U 234T Managerial Accounting 3 cr. Offered autumn. Prereq., ACC 132T, 133T or ACCT 201 or consent of instr. Continuation of accounting series with a focus on managerial accounting topics. Includes cost classification, variable and absorption costing, job order costing and standard costing. JIT, total quality management, quality costs and activity-based costing also will be addressed. Credit not allowed for both ACC 234T and ACCT 202.

U 236T Income Tax 3 cr. Offered autumn. Prereq., ACC 134T with a "C" grade or better. An introduction to taxation concepts, principles and theory. Extensive tax return preparation emphasizing sole proprietorships and individuals.

U 237T Strategies for Business Entities 3 cr. Offered autumn. Prereq., ACC 132T or consent of instr. Legal, accounting, and tax strategies relating to corporations, partnerships, sole proprietorships, LLCs and LLPs. Includes tax preparation projects.


U 290T Accounting Internship 2 cr. Offered autumn and spring. Prereq., last semester in program, minimum grade of "C" in all ACC courses, and approval of program director. On-the-job training in positions related to the accounting field. This experience increases students’ skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend scheduled one-hour seminars.

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

Business (BUS)

U 103S Principles of Business 3 cr. Offered autumn and spring. Introduction to the world of business. Examines capitalism, the economic environment, the types of business organizations, management, marketing, production, labor, financing, and business/governmental relations. Credit not allowed for both BUS 103S and BADM 100S.

U 105T Deciding Majors and Careers 2 cr. Offered autumn and spring. Develops 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 production of 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 entree salads, cold sauces, appetizers, finger sandwiches, pates, gelatins, mousses, 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 classic 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, piping, 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. 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 1 2 cr. Offered spring. Prereq., LEG 186T. Advanced legal research focusing on how to find, use, understand, and correctly cite legal resources. Electronic research methods are presented. Application of legal research to writing is introduced.

U 188T Principles of Real Estate 2 cr. Offered spring. Prereq., LEG 185T or consent of instr. The study of property law focusing on the nature and ownership of real property, title insurance, legal descriptions, and the transactional aspects of financing methods involving trust indentures, mortgages, and contracts for deed, with closing and recording procedures.

U 189T Criminal Procedures 3 cr. Offered spring. Criminal prosecution and defense representation with an overview of criminal law principles. Training in criminal procedure involving felonies and misdemeanors in federal, Montana, and municipal courts.

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

U 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 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 six hours each week at an approved site and attend a weekly one-hour seminar.

**U 295T Special Topics** 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

### Medical Assisting (MED)

**U 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 troubleshoot 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; or consent of instr. Comprehensive foundation for utilizing the CPT coding system to increase compatibility and comparability of medical data among users and providers.

**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** 1 cr. Offered autumn and spring. Prereq., CRT 108; or consent of instr. 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 Internship 3 cr. Offered autumn and spring. Prereq., last semester in program.

Department of Health Professions

Special Degree and Certificate Requirements

Programs in Medical Assisting, Pharmacy Technology, Practical Nursing, Radiologic Technology, Respiratory Care, Surgical Technology, and the LPN to ASRN program are in high demand. Interested persons are encouraged to do placement testing at least one year prior to anticipated admittance into a health program. Students will enter as pre-health majors and select courses from the listed core courses after conferring with an advisor. Additional courses that support the Health Professions curriculum are listed with the core courses. Students may take these additional courses prior to entry and make their program course loads lighter. Assessment of writing for course placement follows UM guidelines and is done during orientations and at various times in the semester. Math placement will be determined by a placement test such as COMPASS. Placement testing assures that students are given the help they need to be successful in writing and math courses. Admission to the individual programs requires documented completion of the health core curriculum required by the desired program with a program approved GPA, three letters of application describing interest in the program and recommendation submitted to the Health Professions Admissions Committee. Application deadlines are April 1 and November 1. Admission may be granted in the semester prior to the completion of core courses with the understanding that it will be based on course grades.

The LPN to Associate of Science RN program requires: the health core general education courses, an unencumbered license as an LPN, two letters of recommendation, and possibly a personal interview. Ten applicants will be offered placement. If equally qualified applicants exceed available seats, date of application will be utilized. Entry is spring semester only.

Students must show program directors proof of the following health requirements prior to entry in the clinical portion of health programs: tuberculosis testing using the PPD (Purified Protein Derivative) or chest x-ray (positive results will require a physician's letter before a student can continue in clinical settings); and Hepatitis B vaccine (HBV) prior to beginning clinical experience with potential exposure to blood-borne pathogens (a three injection series is required and may be obtained at Curry Health Center and other health care providers). We recommend beginning this series as soon as notified of acceptance; CPR training for health care providers must be done before entering, clinical experiences; eye exams are required for surgical technology students because they will work with lasers in surgery; and respiratory care students must pass NRP (neonatal resuscitation) prior to their neonatal clinical experience.

Many licensing bodies/employing institutions in health care have increasingly stringent requirements and background checks as conditions for licensing or employment. If students have a concern about this, they should contact the licensing board for their specialty. Respiratory care students area required to have a physical exam, a ten panel drug screen, and a police background check prior to entering advanced clinical experiences.

Students in Health Professions programs must pass all program specific courses (those listed under NUR, PHA, MED, RES, SUR, or RAD) as well as SCN 201N and 202N or other foundational courses with a "B" in order to continue in the program. Students in the Pharmacy Technology and Medical Assisting may have a "C" in SCN 201N and 202N but will have to re-take the course if they desire to transfer into another health program. Students desiring to transfer an equivalent course from another institution must meet this same requirement. A failed course may be repeated as space is available. Because program admissions are highly sought and clinical spaces are limited, this may be impossible to accomplish in the next semester. Thus, failing a program-specific course may make timely program completion impossible. Students who reenter will be expected to comply with the most current requirements. For the current admissions criteria, contact specific program directors.

Course Fees and Supplies

Most programs in the Health Professions Department include courses with course fees and special supplies requirements. To obtain a complete listing of these additional items and costs, call the College of Technology Admissions Office at 406-243-7865.
Health Professions Core Curriculum

These courses as well as specific program courses may be offered in different semesters among the different programs. Consult the program advisor regarding which courses to take and when to take them.

-MAT 100 Intermediate Algebra
-SCN 201N-202N Anatomy and Physiology
-COM 160A Oral Communication or COM 150S.
-Interpersonal Communication
-CRT 100 Computer Literacy
-COM 101 English Composition or COM 115 Technical Writing (nursing students take COM 101)

Any general education courses within a program may be taken prior to acceptance into a program. There are other courses that are supportive of medical programs. Courses should be selected with the assistance of an approved Health Professions advisor as taking too many courses may adversely affect financial aid. The supportive courses include, but are not limited to, the following:

-MAT 117 Probability and Linear Math
-MED 154T Medical Terminology
-PSY 100S Introduction to Psychology or PSY 110S

Organizational Psychology (Medical Assisting, Nursing, Respiratory Care students take PSY 100)
-SCN 150N Nutrition (Nursing students)
-BIOL 106N Elementary Medical Microbiology
-PSY 185 Human Development (prereq., PSYC 100S)
-CHEM 151N General and Inorganic Chemistry
-CHEM 152N Organic and Biological Chemistry (required for RN students)
-SCN 175T Introduction to Physical Science (RAD)
-SCN 220 Human Physiology (RN)
-SOC 110S Introduction to Sociology

Medical Assisting-A.A.S. Degree

Students in Medical Assisting are trained in front office administrative skills and back office clinical skills to assist healthcare practitioners in administering to the needs of patients. Students are trained to assist with medical examinations and treatment and to work as a team member in the medical office environment. Students learn to take medical histories and obtain vital signs, give medications and injections (under supervision), draw blood, perform diagnostic tests and office laboratory procedures, sterilize instruments and maintain equipment. Additionally, medical assisting students are exposed to the principles of medical ethics and medical legal issues facing healthcare providers.

Students successfully completing the program are awarded the Associate of Applied Science degree. Students may enter the semester.

A course may be attempted a maximum of two times. Students take the Registered Medical Assistant (RMA) national certification exam administered by the American Medical Technologists upon completion of the program. Students are responsible for filing required forms, associated fees, and grade transcripts.

Core Courses are to be taken prior to entering the program:

- COM 115 Technical Writing 3 cr.
- COM 160A Oral Communication 3 cr.
- CRT 100 Computer Literacy 2 cr.
- MAT 100 Intermediate Algebra 3 cr.
- SCN 201N, 202N Anatomy and Physiology 8 cr.

Autumn Entry:

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<td>COM 150S Interpersonal Communications</td>
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<td>COM 210T Critical Thinking and Analysis</td>
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<td>CRT 108 Word Processing</td>
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<td>MED 154T Beginning Medical Terminology</td>
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<td>MED 161T Medical Administrative Procedures</td>
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<td>MED 270T Terminology for Health Professions II</td>
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<td>PSY 100S Introduction to Psychology</td>
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Second Year:

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<td>MED 153T Insurance Processing</td>
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<tr>
<td>MED 155T Medical Software Applications</td>
<td>1</td>
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<td>MED 201T Medical Assisting Clinical Procedures</td>
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<td>MED 202T Medical Assisting Internship I</td>
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<td>MED 203T Medical Assisting Procedures II</td>
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<td>MED 204T Medical Assisting Internship II</td>
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<td>MED 216T Terminology for Health Professions I</td>
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<tr>
<td>MED 256T Medical Transcription I</td>
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<td>PHA 195T Pharmacological Products</td>
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<td>PSY 185 Human Development</td>
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Pharmacy Technology-Certificate

Pharmacy technicians assist in the various activities of the pharmacy department not requiring the professional judgment of the pharmacist. They perform such duties as maintaining patient records, filling prescriptions, pricing, drug calculations, intravenous medication compounding, filing, dispensing routine orders for stock supplies and patient care areas, and maintaining inventory of drug supplies.

Students are prepared to function in hospital-based pharmacies and retail pharmacies. Graduates may be employed in hospitals, retail drug stores, drug manufacturers, and wholesale drug companies. Students are must rotate clinical sites and some may be outside the Missoula area.

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).

Core Courses

To be taken prior to entrance into the program:

- COM 115 Technical Writing 3 cr.
- CRT 100 Computer Literacy or challenge (2) cr.
- MAT 100 Intermediate Algebra 3 cr.
- MED 154T Beginning Medical Terminology 2 cr.
- SCN 201N-202N Anatomy and Physiology 8 cr.

Total 16-18 cr.

Keyboarding of speed of 35 WPM required for all Pharmacy Technician applicants.

Autumn Entry:

<table>
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<th>Course</th>
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<td>COM 150S Interpersonal Communications</td>
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<td>PHA 100T Introduction to Pharmacy Practice</td>
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<td>PHA 101T Pharmacy Calculations</td>
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<tr>
<td>PHA 102T Pharmacology</td>
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<tr>
<td>PHA 103T Hospital and Community Practice*</td>
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<tr>
<td>PHA 105T Internship</td>
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<tr>
<td>PSY 110S Organizational Psychology</td>
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</table>
Practical Nursing-Certificate

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 an acceptable placement test such as COMPASS, or ACT, have completed the requisite core semesters with a C or better, except in SCN 201N-202N which requires a B or higher grade, and have a cumulative GPA of at least 2.75. Assessment of writing for course placement follows UM guidelines and is done during orientations and at various times in the semester. Admission to the program required documented completion of the core courses, a letter of application describing interest in the program and three recommendation checklists submitted to the Health Professions Admissions Committee. Application deadlines are April 1 and November 1. Admission may be granted in the semester where the applicant is completing the core courses with the understanding that it will be based on course grades.

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. The PN program extends over two semesters. Students learn practical nursing skills through independent study, lectures, demonstrations, and practice in a nursing skills lab on campus. 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 show the program director proof of the following health requirements 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 can continue in clinical settings); and Hepatitis B vaccine (HBV) prior to beginning clinical experience with potential exposure to blood-borne pathogens (a three injection series is required and may be obtained at Curry health Center and other health care providers). This series is recommended beginning as soon as notified of acceptance; CPR training for health care providers must be done before entering clinical experiences.

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 dlibsdnur@mt.gov.

PN program graduates are eligible to take 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 Nurse Practice Act.

Core Courses

Prerequisite to entering the Practical Nursing Program:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
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<tr>
<td>CHEM 151N</td>
<td>General and Inorganic Chemistry and Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>MAT 117</td>
<td>Probability and Linear Mathematics</td>
<td>3</td>
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</tbody>
</table>

NUR Introduction to Nursing | 1 |
PSY 100S Introduction to Psychology | 4 |
SCN 150N Nutrition | 2 |
SCN 201N-202N Anatomy and Physiology | 8 |
WTS 101 English Composition (requires a placement test) | 3 |

Student who have started 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>
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<tr>
<td>NUR 220</td>
<td>Pharmacology</td>
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<tr>
<td>NUR 221</td>
<td>Fundamentals of Nursing</td>
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<td>NUR 222</td>
<td>Gerontology</td>
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<td>NUR 223</td>
<td>Core Concepts of Adult Nursing</td>
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<tr>
<td>NUR 224</td>
<td>Core Concepts of Maternal/Child Nursing</td>
<td>3</td>
</tr>
<tr>
<td>NUR 225</td>
<td>Nursing Care of Clients with Alterations in Psychosocial Integrity</td>
<td>2</td>
</tr>
</tbody>
</table>

Total | 14 |

Registered Nursing-A.S. Degree

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 and are eligible to take 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>
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<tr>
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<tbody>
<tr>
<td>BIOL 106N</td>
<td>Elementary Medical Microbiology</td>
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<tr>
<td>CHEM 152N-154N</td>
<td>Organic and Biological Chemistry and Laboratory</td>
<td>5</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>
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<td>NUR 250</td>
<td>Mental Health Nursing Needs</td>
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<td>NUR 260</td>
<td>Obstetrics and Pediatrics</td>
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<td>NUR 265</td>
<td>Advanced Adult Physiological Needs</td>
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<td>NUR 275</td>
<td>Management, Ethics and Internship</td>
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<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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Total | 17 |

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<td>A</td>
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</tbody>
</table>
Radiologic Technology-A.A.S. Degree

A Radiologic Technologist (Radiographer) used 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 core prerequisite classes prior to applying to the program. Admission to the core curriculum is open to all students who are accepted into The University of Montana-Missoula College of Technology. Students must pass SCN 201N-202N with a B or above and a cumulative GPA of core classes of 2.75 or better to be eligible to apply to the Radiologic Technology program. The program classes begin autumn semester each year with four semesters of both classroom and clinical education. A ten-week summer clinical rotation is required between the first and second years and consists of 40 hours per week of clinical instruction.

Once accepted in the program, all students are expected to complete the RAD classes with a B or higher to continue in the program. Students will be expected to participate in the clinical setting during the summer 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. When 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 session of the second year. These sites may include, but are not limited to, Ronan, Hamilton, and Polson, Montana.

Core Courses

To be taken prior to entrance into the program:

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<td>SCN 175T</td>
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<td>COM 160A</td>
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Summer Session

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Second Year

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Respiratory Care-A.A.S. Degree

Respiratory Care is an allied health specialty. It is an important part of modern medicine and health care. Respiratory Care encompasses the care of patients with respiratory problems in the hospital, clinic, and home.

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 disease;
- 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) exam.
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) 553-9355. Graduates receive the degree of Associate of Applied Science in Respiratory Care. Students entering the program are required to rotate to clinical sites outside the Missoula area on a periodic basis. These rotations take place during the 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.

### Core Courses
- COM 115 Technical Writing or COM 101 English Composition .................................................................................. 3
- CRT 100 or equivalent ........................................................................................................................................... 2
- MAT 100 Intermediate Algebra or MAT 117 Probability and Linear Math .............................................................. 3
- PSY 110S Organizational Psychology ......................................................................................................................... 3
- SCN 201N-202N Anatomy and Physiology .............................................................................................................. 8

### Autumn Entry:
- RES 120T Ethics and Health Care Communication ........................................................................................................... 2
- RES 129T Patient Care and Assessment ............................................................................................................................... 4
- RES 131T Respiratory Care Fundamentals ......................................................................................................................... 6
- RES 133T Respiratory Care Pharmacology ........................................................................................................................... 3
- RES 150T Respiratory Care Laboratory I ................................................................................................................................... 1
- RES 231T Respiratory Critical Care ...................................................................................................................................... 4
- RES 232T Respiratory Pathology and Disease ........................................................................................................................ 3
- RES 235T Cardiopulmonary Anatomy and Physiology ...................................................................................................... 3
- RES 250T Respiratory Care Laboratory II ............................................................................................................................ 2
- RES 255T Clinical Experience I ........................................................................................................................................ 5
- Total ........................................................................................................................................................................................................ 15

### Summer Session
- RES 260T Respiratory Care Laboratory III .......................................................................................................................... 1
- RES 265T Clinical Experience II .......................................................................................................................................... 6
- Total ........................................................................................................................................................................................................ 3

- RES 241T Perinatal and Pediatric Respiratory Care .................................................................................................................. 3
- RES 242T Respiratory Management ...................................................................................................................................... 1
- RES 252T Respiratory Care Review ....................................................................................................................................... 2
- RES 270T Respiratory Care Laboratory IV .............................................................................................................................. 7
- RES 275T Clinical Experience III ........................................................................................................................................ 7
- Total ........................................................................................................................................................................................................ 15

### Surgical Technology-A.A.S. Degree

Students in this program are educated to be surgical technologists who work closely with surgeons, anesthesiologists, and registered nurses in delivering patient care preoperatively, intra-operatively, and postoperatively. They function as a scrub technologist, the sterile member of the surgical team who passes instruments, sutures, and sponges during surgery. They follow strict adherence to aseptic techniques, as well as the care, cleaning, and maintenance of surgical supplies. In addition, surgical technologists function in assisting the R.N. circulator by assisting the anesthesiologist and anticipating additional needs of the surgical team. Students are required to rotate clinical sites. Some internships are outside the Missoula area.

Transportation and housing are the student's responsibility.

Students who successfully complete the program are awarded an A.A.S. degree in Surgical Technology and are encouraged to take the national examination to become certified. The program is accredited by the Committee on Accreditation of Allied Health Education Programs (CAAHEP). Students enter in the autumn semester. Students who enter the program are required to rotate clinical sites.

### Core Courses

Prerequisite to entering the Surgical Technology program:
- COM 115 Technical Writing or COM 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 ........................................................................................................................ 3
- PSY 100S Introduction to Psychology ..................................................................................................................................... 4
- SCN 201N Anatomy and Physiology ........................................................................................................................................ 4

### 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, 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, 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 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, 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 within the framework of the nursing process. A supervised clinical laboratory experience is provided to help the student identify and meet the needs of the childbearing family 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 1-6 cr. (R-6) Offered intermittently.

U 240 Current Issues in Professional Practice 2 cr. Offered spring. 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. 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. Prereq., NUR 240, 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 form 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 3 cr. Offered autumn. 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 summer. Prereq., all third semester courses and consent of instr. Capstone course that allows the student to work collaboratively with an identified LPN preceptor, performing the role expectations for care in that workplace setting.

U 269 Nursing Trends and Issues 3 cr. Offered summer. Prereq., PSYC 100S, all second 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 275 Management, Ethics and Internship 2 cr. Offered autumn. 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 Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196T Independent Study 1-6 cr. (R-6) Offered intermittently.

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 1-6 cr. (R-6) Offered intermittently.

U 211T Radiographic Procedures II 3 cr. Offered autumn. Knowledge and skills necessary to perform standard and specialty radiographic procedures. Emphasis on radiographic specialty procedures, pathology, and advanced imaging.

U 241T Radiographic Protection 2 cr. Offered autumn. Principles of radiation protection and radio biology. Topics include the effects of ionizing radiation on body tissues, protective measures for limiting exposure to the patient and personnel, and radiation monitoring devices.

U 245T Radiographic Analysis 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.

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 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 cardiopulmonary 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 NRP and PALS will be presented. Students participate in a neonatal assessment seminar.


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 235T are studied. Peer and instructor review included.


U 255T Clinical Experience I 5 cr. Offered summer. 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, pulmonary function and sleep 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 included. Successful students will be ACLS certified at the end of this course.

U 265T Clinical Experience II 6 cr. Offered summer. Prereq., RES 232T, 232T, 235T, 250T, 255T. Continuation of clinical skills learned in RES 255T. Introduction to adult critical areas, rural hospitals and cardiac diagnostics. Students also participate in physician rounds.

U 270T Respiratory Care Laboratory IV 2 cr. Offered spring. Prereq., RES 260T, 265T. A continuation of RES 260T. Students will be ACLS and PALS-certified at the completion of the class.

U 275T Clinical Experience III 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.
Department of Industrial Technology

James Lizotte, Chair

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 who take care of 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.

*Autumn and Spring Entry:

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<td>BME 127T Low Pressure Boilers</td>
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<td>BME 128T Maintenance</td>
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<tr>
<td>BME 130T Heating and Air Conditioning</td>
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<tr>
<td>MAT 110T Industrial Math</td>
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<tr>
<td>PSY 105T Work Attitudes</td>
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<tr>
<th>Course</th>
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<tr>
<td>BME 221T Blueprint Reading</td>
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<tr>
<td>BME 222T Building Construction</td>
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<tr>
<td>BME 223T Basic Motors and Controls</td>
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<tr>
<td>BME 224T Pumps and Piping</td>
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<tr>
<td>BME 227T HVAC Control Systems</td>
<td>3</td>
<td>-</td>
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<tr>
<td>BME 228T Machine and Equipment Installation</td>
<td>2</td>
<td>-</td>
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<tr>
<td>BME 229T Heating and Air Conditioning II</td>
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<tr>
<td>BME 230T Preventive Maintenance</td>
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<td>-</td>
</tr>
<tr>
<td>BUS 242T Supervision</td>
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</table>

Building Maintenance Engineering- A.A.S. Degree

Students in the Building Maintenance Engineering program train to be building maintenance personnel who take care of commercial buildings including plumbing, painting, electrical work, carpentry, heating and air conditioning, troubleshooting, welding and more. While in school, they study the physical and electrical theory that allows understanding of building systems. In addition, they study preventive maintenance, building cleaning, flooring repair, interior wall repair, lawn care and pruning techniques, and swimming pool and boiler system water treatment. Students learn how a building is constructed and how to maintain control systems. Heating and air conditioning systems are studied in-depth. They learn the rules and regulations of building codes and specifications and how to read blueprints. They gain related skills needed on the job such as familiarity with data processing and the use of computers, communication skills, and personnel supervision and management. Most courses are half-semester in length.

The Associate of Applied Science degree is awarded upon successful completion of the program.
College of Technology - Department of Industrial Technology - 239

COM 115 Technical Writing .......................... 3
CRT 100 Computer Literacy ......................... 2
*Spring entry allowed with program director’s consent.

Carpentry - Certificate and A.A.S. Degree

The Carpentry program provides an opportunity for students to learn carpentry skills in a competency-based environment based on national standards from the National Center for Construction Education and Research. This program is articulated with area schools and provides an opportunity for students attending secondary schools as well as traditional and non-traditional university students to work hand in hand with professionals at the College, construction trades business persons and the NCCER.

Students learn the various steps of becoming a carpenter including safe practices. They complete supporting general education courses as well as take advantage of internship opportunities and hands on projects. Student earn a national certification after each module and a one-year certificate or a two year associate of applied science degree from The University of Montana-Missoula.

Program courses are offered primarily during evening and weekend schedules though some courses may be offered during a regularly scheduled day. Contact the Building Maintenance Engineering program director for specific scheduling information.

First Year
CAR 110T Carpentry Core, 2 cr.
CAR 120T Carpentry Level 1, 4 cr.
CAR 130T Carpentry Level 2a, 2 cr.
CAR 131T Carpentry Level 2b, 3 cr.
CAR 150T Job Simulation, 3 cr.
BME 129T Heating and Air Conditioning, 4 cr.
BME 120T Electricity I, 3 cr.
BUS 242T Supervision, 3 cr.
CRT 100 Computer Literacy, 2 cr.
MAT 110T Industrial Math, 3 cr.
WEL 111T Welding, 2 cr.
Total 31 cr.

Second Year
CAR 210T Carpentry Level 3a, 3 cr.
CAR 211T Carpentry Level 3b, 4 cr.
CAR 220T Carpentry Level 4a, 3 cr.
CAR 221T Carpentry Level 4b, 3 cr.
CAR 250T Job Simulation, 3 cr.
BME 121T Electricity II, 3 cr.
BME 221T Blueprint Reading, 2 cr.
BME 228T Machine and Equipment Installation, 2 cr.
COM 115 Technical Writing, 3 cr.
SCN 118T General Physics, 3 cr.
WEL 184T OSHA Rules and Compliance, 1 cr.
Total 30 cr.

Successful completion of the courses listed above result in the award of a Certificate of Completion in Carpentry.

First Year
First Year
CAR 110T Carpentry Core, 2 cr.
CAR 120T Carpentry Level 1, 4 cr.
CAR 130T Carpentry Level 2a, 2 cr.
CAR 131T Carpentry Level 2b, 3 cr.
CAR 150T Job Simulation, 3 cr.
BME 129T Heating and Air Conditioning, 4 cr.
BME 120T Electricity I, 3 cr.
BUS 242T Supervision, 3 cr.
CRT 100 Computer Literacy, 2 cr.
MAT 110T Industrial Math, 3 cr.
WEL 111T Welding, 2 cr.
Total 31 cr.

Second Year
CAR 210T Carpentry Level 3a, 3 cr.
CAR 211T Carpentry Level 3b, 4 cr.
CAR 220T Carpentry Level 4a, 3 cr.
CAR 221T Carpentry Level 4b, 3 cr.
CAR 250T Job Simulation, 3 cr.
BME 121T Electricity II, 3 cr.
BME 221T Blueprint Reading, 2 cr.
BME 228T Machine and Equipment Installation, 2 cr.
COM 115 Technical Writing, 3 cr.
SCN 118T General Physics, 3 cr.
WEL 184T OSHA Rules and Compliance, 1 cr.
Total 30 cr.

Diesel Technology- A.A.S. Degree

Students in the Diesel Technology program train to be diesel mechanics who repair diesel-powered trucks and heavy equipment. Students study hydraulics, electrical systems, fuel systems, power trains, air conditioning, brakes and suspension, engine theory, and engine diagnosis, beginning with basic principles and proceeding to an advanced level of system technology. Along with these core courses, students take classes in welding, machining, computers, physics, communications, and math.

Students who complete the program successfully are awarded the Associate of Applied Science degree.

Credit for independent study is available to those desiring additional instruction in diesel mechanics. Contact the program director, Jim Headlee, at 406-243-7648 for more information.

*Autumn Entry:

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
PSY 110S Organizational Psychology ................ 2
tWEL 111T Welding .................................. 2
Total 17 15

Second Year
COM 115 Technical Writing .......................... 3
DET 221T Brakes, Suspension, and Undercarriage ..., 6
DET 225T Hydraulics .................................. 6
DET 229T Engine Service II ......................... 7
DET 230T Air Conditioning ........................... 3
DET 231T Fuel Systems .............................. 5
DET 235T Advanced Power Trains ................... 2
TRK 106T Commercial Driver’s License (CDL) .......
Training (not offered every semester) ................. 1
WEL 139T Welding Maintenance and Repair ........... 2
Total 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 generator 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
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—oxyacetylene, 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.cte.umt.edu/department/industrial/welding_technology.

Autumn Entry:

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
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<tbody>
<tr>
<td>HEO 140T Basic Surveying</td>
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<tr>
<td>HEO 142T Basic Surveying II</td>
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<tr>
<td>HEO 146T Safety and Basic Controls</td>
<td>5</td>
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<tr>
<td>HEO 148T Operational Skill Building</td>
<td>5</td>
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<tr>
<td>HEO 150T Job Simulation</td>
<td>6</td>
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<tr>
<td>HEO 151T Service and Maintenance</td>
<td>2</td>
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<tr>
<td>HEO 153T Construction Theory and</td>
<td>5</td>
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<tr>
<td>Specialized Equipment</td>
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<tr>
<td>MAT 110T Industrial Math</td>
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<tr>
<td>MPR 112T Related Metals Processes</td>
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<td>PSY 105T Work Attitudes</td>
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<tr>
<td>TRK 106T Commercial Truck Driving</td>
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<td>License Training (no offered every semester)</td>
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<tr>
<td>WEL 111T Welding</td>
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Spring Entry:

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<td>WEL 111T Welding</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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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BUS 242T Supervision</td>
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<tr>
<td>COM 115 Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>CRT 182T Computer Aided Design and Drafting</td>
<td>2</td>
</tr>
<tr>
<td>MPR 214T Advanced Related Metals Processes</td>
<td>3</td>
</tr>
<tr>
<td>WEL 280T Gas Tungsten Arc Welding</td>
<td>4</td>
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<tr>
<td>WEL 281T Metal Fabrication II</td>
<td>4</td>
</tr>
<tr>
<td>WEL 282T Pipe Welding-SMAW and GTA...</td>
<td>4</td>
</tr>
<tr>
<td>WEL 283T Gas Metal Arc Welding</td>
<td>4</td>
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<tr>
<td>WEL 285T Automation in Welding</td>
<td>3</td>
</tr>
<tr>
<td>WEL 286T Welding Certification and Codes</td>
<td>2</td>
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</table>

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 lists, class schedules, and course syllabi, visit: www.cte.umt.edu/departments/industrial/rec_power

Students are awarded a Certificate of Completion upon successful completion of the program. Spring entry allowed with program director consent.

Credit for independent study is available to those desiring additional instruction in recreational power equipment.

Contact the program director, Jim Lizotte, at 406-243-7642 or jim.lizotte@mso.umt.edu for more information.

Autumn Entry:

<table>
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<tr>
<th>Course</th>
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<tr>
<td>CRT 100 Computer Literacy</td>
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<tr>
<td>MAT 110T Industrial Math</td>
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<tr>
<td>MPR 115T Related Metals Processes</td>
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<td>PSY 105T Work Attitudes</td>
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<tr>
<td>SET 160T Basic Electricity</td>
<td>3</td>
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<tr>
<td>SET 176T Motorcycle/ATV Engines, Suspension, and Chassis</td>
<td>3</td>
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<tr>
<td>SET 177T Motorcycle/ATV Electrical and Fuel Systems</td>
<td>4</td>
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<tr>
<td>SET 178T Marine Electrical and Fuel Systems</td>
<td>4</td>
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<tr>
<td>SET 179T Marine Powerheads and Lower Units</td>
<td>6</td>
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<tr>
<td>SET 180T Snowmobile Maintenance and Repair I</td>
<td>2</td>
</tr>
<tr>
<td>SET 181T Snowmobile Maintenance and Repair II</td>
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<tr>
<td>SET 182T Computer Applications for Motor Sports</td>
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</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.

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, fuses, motors, and fuses. Introduction to wiring methods and materials in conformance with the National Electric 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 include framing, 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, fuel-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, refrigirators, system evacuation and charging, and components used in associated systems. Introduces the basic mechanical service procedures used in the industry.

U 221T Blueprint Reading 2 cr. Offered autumn. The fundamental working drawings used in the trades and crafts. Emphasizes recognition of various types of drawings and the development of interpretation skills. Introduction to drafting equipment, lettering techniques, sketching, basic dimensioning, scale reading, and geometric construction.


U 223T Basic Motors and Controls 3 cr. Offered autumn. Prereq., BME 122T, BME 130T. A survey of the various types of motors and protective devices. Included are single-phase capacitor start, capacitor start and run, shaded-pole tap-wound, permanent split-capacitor, and three-phase motors. Emphasis is placed on motor control problems and protective devices.

U 224T Pumps and Piping 2 cr. Offered spring. Prereq., BME 123T. Overview of the Uniform Plumbing Code. Discussion of plumbing installation tools, safety, materials, fittings, sizing, fixtures, and basic design. Covers centrifugal, rotary, reciprocating, and special service pumps. Includes single and multistage pumps, cavitation, balancing, bearings, packings, clearances, mechanical seals, and problem troubleshooting. The piping section covers hot water, cold water, gas, compressed air, fire protection, waste, drain, and specially piping.

U 227T HVAC Control Systems 3 cr. Offered autumn. Prereq., BME 130T. Introduction to bimetallic, bourdon tube, remote bulb, CAB, thermocouple, thermistor, RTD, and thermopile measuring devices. Temperature and pressure control devices are related to the operation of heating, ventilating, and air conditioning equipment. Two-position and proportional pneumatic control systems are presented, as well as pneumatic transmission. Computerized management systems for energy conservation are discussed.


U 230T Preventive Maintenance 1 cr. Offered spring. Concepts of equipment maintenance to prevent breakdowns and unscheduled downtime. Includes equipment inspection, maintenance scheduling, and nondestructive testing methods.

Carpentry (CAR)

U 127T Carpentry Core 2 cr. Introduction to basic safety, construction math, hand tools, power tools, blueprints, and basic rigging. Students are required to demonstrate their ability to safely use a variety of hand and power tools, read blueprints, demonstrate overhead crane hand signals, and rig loads in the laboratory.

U 129T Carpentry Level 1 4 cr. Introduction to the carpentry trade, including history, career opportunities, and requirements. Building materials, fasteners, adhesives, hand tools, and power tools are covered. Students build a small building with a floor, walls, ceiling, roof, and exterior door.

U 130T Carpentry Level 2a 2 cr. Advanced blueprint reading, material estimating, site layout, measurement, and differential leveling. Study of concrete and reinforcing materials including volume estimates, concrete testing, reinforcing bars, and welded wire fabrics. Concrete forms are constructed, including continuous, pier, grade beam, slabs, and footings.


U 150T Job Simulation 3 cr. Working internship on a construction site. Students apply skills and knowledge learned to an actual building project.

U 210T Carpentry Level 3a 3 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.

U 211T Carpentry Level 3b 4 cr. 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 the small building.

U 220T Carpentry Level 4a 3 cr. Trigonometric leveling to layout foundations and determine project elevations. Use of lasers, transits, theodolites, and electronic distance
measuring devices. 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 walls, curtail walls and fire-rated
commercial wall construction.

U 221T Carpentry Level 4b 3 cr. Advanced stair
systems and introduction to various construction equipment
such as fork lifts, generators, compressors, trenchers,
compactors, and loaders. Steel cutting, shielded metal arc
welding; metal building construction including structural
components, fastening methods, and assembly techniques;
project planning, scheduling, estimating, and management
skills included.

U 250T Job Simulation 3 cr. Working internship on a
construction site. Students apply skills and knowledge learned to
an actual building project.

Diesel Equipment Technology (DET)

U 120T Electrical Systems 8 cr. Offered spring. The
toory 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 computer
or electronic test equipment.

U 128T Engine Service I 4 cr. Offered autumn.
Introduction to the construction and operation of internal
combustion engines with the diesel engine being examined in
detail. The use of measuring tools and related special tools is
covered extensively along with common manufacture rebuild
procedures. Start-up and running practices are demonstrated on
various running diesel engines.

U 135T Power Trains 7 cr. Offered autumn. Chassis and
drive train components used in light and heavy-duty trucks and
other equipment. Clutches, manual transmissions, differentials,
and final drives are covered.

U 196T Independent Study Variable cr. (R-6) Offered
every term.

U 221T Brakes, Suspension, and Undercarriage 6 cr.
Offered autumn. Air brake design, construction, and operating
principles including an in-depth study of diagnostic procedures
for troubleshooting and repairing brake systems. Suspension
systems and undercarriage design and repair are covered along
with common axle alignment procedures found in industry.

U 225T Hydraulics 6 cr. Offered autumn. Theory and
application of hydraulics relative to mobile construction
equipment and industrial hydraulic systems. Includes valves,
pumps, motors, actuators, and related hydraulic components,
system maintenance, troubleshooting, and repair.

U 229T Engine Service II 7 cr. Offered spring. Prereq.,
DET 128T. A continuation of Engine Service I with a major
emphasis placed on the rebuilding of a diesel engine. Engine
components repair and failure analysis are reviewed along with
tune-up and running of diesel engines commonly found in the
heavy equipment trade. Shop flat-rate procedures, work order
procedures, and warranty requirements are covered.

U 230T Air Conditioning 3 cr. Offered spring. Prereq.,
DET 120T, DET 225T. Principles, theories, and the hazards of
working with R-12 and R-34, including laws governing these
refrigerants. An in-depth study of the components of an air
conditioning system including hands-on practice. Discharging
and charging principles are discussed, including leakage testing
and other general diagnostic principles found in the field.

U 231T Fuel Systems 5 cr. Offered spring. A
comprehensive study of diesel fuel injection systems to include:
Cummins, Roosa Master, Caterpillar, Detroit Diesel, and
Bosch. Disassembly and repair of these systems are covered
in-depth along with calibration practices. Installation, timing,
and on-engine adjustments are made on diesel engines.
On-engine diagnosis of the fuel systems using special diesel
engine diagnostic tools is reviewed.

U 235T Advanced Power Trains 2 cr. Offered spring.
Prereq., DET 135T. A continuation of DET 135T with an
emphasis on heavy automatic transmission, torque converters,
and poweshift 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 power 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 volt/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 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.

U 153T Construction Theory and Specialized Equipment
5 cr. Offered spring. Prereq., MAT 110T. Study of
construction principles, specialized equipment, production
estimates, and various related subjects.
Metals Processes (MPR)

U 112T Related Metals Processes 1 cr. Offered spring. Use of hand and machine tools 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 167T 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 167T 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 177T Marine Powerheads and Lower Units 6 cr. Offered spring. Prereq., SET 177T. Theory of design, function and components of outboard motor powerheads and lower units. Includes basic rigging, power trim and tilt, propelling, and personal watercraft design, function, and maintenance.

U 180T Snowmobile Maintenance and Repair I 2 cr. Offered autumn. Prereq., SET 177T. The repair and maintenance of air cooled and liquid cooled engines. Includes clutch, track, and rear suspension service and maintenance.

U 181T Snowmobile Maintenance and Repair II 2 cr. Offered spring. Prereq., SET 180T. Principles and theory of snowmobile electrical, fuel, front suspension, and brake systems.

U 182T Computer Applications for Motorsports Professionals 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., MPR115T, 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 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 1 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 in 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. 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 GTA 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 GTA 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 181T. Theory and safe operation of Gas Metal Arc Welding (GMAW). Theory for 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 are 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 fixture 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 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.

Faculty

Murray Catlin, B.S., Montana State University, 1975 (Industrial Technology)
Cathy Corr, M.Ed., Montana State University, 1989 (Applied Arts and Science)
Josef Crepeau, M.A., The University of Montana, 1994 (Applied Arts and Science)
Anne Delaney, M.B.A., The University of Montana, 2002 (Health Professions)
Deborah Fillmore, M.E. The University of Montana, 2000, R.N. (Health Professions)
Cheryl Galipeau, M.E., The University of Montana, 1999 (Business Technology)
Cec Gallagher, Ed.D., Montana State University, 1998 (Academic Support)
Tom Gallagher, M.S. Western Washington University, 1996 (Computing and Electronics, Chair)
William Gleason, M.S., Montana College of Mineral Science, 1989 (Welding Technology)
James Headlee, M.E., Northern Montana College, 1987 (Industrial Technology)
Colin Henderson, Ph.D., University of New Mexico, 1985 (Applied Arts and Sciences)
Carol Hinricher, M.S., Montana State University, 1983 (Business Technology)
Penny Jakes, M.E., The University of Montana, 1981 (Computing and Electronics)
Allen LaCasse, B.S., Liberty University, 1990 (Health Professions)
Brian Larson (Business Technology, Chair)
James Lizotte, M.S., University of Wisconsin Stout, 1967 (Industrial Technology; Chair)
Ross Lodahl, Certificate, Spokane Community College, 1967 (Business Technology)
Mark Medvetz, M.F.A., The University of Montana, 1989 (Applied Arts and Sciences)
Vicki Micheletto, M.E., The University of Montana, 1986 (Business Technology)
Ed Moore, M.E., The University of Montana, 1988 (Applied Arts and Sciences)
Mary Nielsen, M.S.N., Clarkson College, 2001, R.N. (Health Professions)
Sue Olson, M.E., The University of Montana, 1996 (Business Technology)
Steven Rice, M.E., Northern Montana College, 1991 (Computing and Electronics)
Niki Robinson, M.E., The University of Montana, 2000 (Business Technology)
Michele Sare, M.S.N., R.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., The University of Montana, 2001 (Computing and Electronics)
Lynn Stocking, M.E., The University of Montana, 1987 (Associate Dean; Director, Academic Computing; Business Technology)
Linda Strehlneck, B.S., The 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, The University of Montana, 1974 (Computing and Electronics)
Margaret Wafstet, M.N., Montana State University, 1980, R.N. (Health Professions)
Robert Wafstet, M.S., Eastern Washington University, 1974, R.R.T. (Health Professions)
Donald Warden, A.A., Kirkwood Community College, 1977 (Health Professions)
Lisa Wrobel, Pharm.D., The University of Montana, 2003, R.Ph. (Health Professions)

Adjunct Faculty
Candace Alberi, B.S.N., Montana State University, 1974 (Health Professions)
Kristi Bailey, C.S.T./C.F.A., College of Technology, 1994 (Health Professions)
Michael Bailey, L.L.B., University of Sydney Law School, 1985 (Business Technology)
Michelle Boller, M.A., George Washington University, 2004 (Business Technology)
Kathryn Brauer, B.S., The University of Montana, 1993, C.Ph.T., 1997 (Health Professions)
Megan Brophy, A.A., The 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., The University of Montana, 2002 (Business Technology)
Tom DiNoia, A.A.S., The University of Montana, 2003 (Industrial Technology)
Melinda Dorn, A.A.S., New Jersey Academy of Culinary Arts, 2005 (Business Technology)
Colleen Dowdall, J.D., The University of Montana, 1981 (Business Technology)
Jacki Elam, B.A., The University of Montana, 1997 (Health Professions)
Ethan Eyestone, A.A.S., The University of Montana, 2001 (Health Professions)
Beverly Freeman, A.A.S., The University of Montana, 1988 (Business Technology)
James Gray, B.A., Duquesne University, 1970 (Business Technology)
Laurie Gries, M.A., The 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)

Gail Haviland, J.D., The University of Montana, 1988 (Business Technology)
Colleen Holmquist, A.A., The University of Montana, 1994 (Health Professions)
Scott Johnson, B.S., The University of Montana, 1981 (Business Technology)
Donnie Laughlin, B.A., The 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., The University of Montana, 1992 (Business Technology)
Charles Miller, M.S., Indiana University, 1977 (Health Professions)
Charles Myers, M.E. (Applied Arts and Sciences)
LeAnn Ogilvie, B.S.N., Montana State University, 1993 (Health Professions)
Nicole Olson, M.S., R.D., Eastern Illinois University, 1998 (Applied Arts and Sciences)
Ashley Preston, Ph.D., The University of Montana, 2001 (Applied Arts and Sciences)
Brianna Randall, M.S., The University of Montana, 2004 (Applied Arts and Sciences)
Kim Reiser, M.A., The University of Montana, 2000 (Applied Arts and Sciences)
Caryl Richards, B.S.N., Montana State University, 1989, R.N. (Health Professions)
Linda Eagleheart Thomas, Ph.D., The University of Montana, 2002 (Applied Arts and Sciences)
Teresa Thompson, J.D., The University of Montana, 1986 (Business Technology)
Sarah Topp, C.S.T., The University of Montana, 2000 (Health Professions)
Laurie Trudeau, A.S., Spokane Falls Community College, 1998 (Health Professions)
Kristine Vessey, M.Ed., The University of Montana, 2002 (Business Technology)
Donnie Laughlin, B.A., The University of Montana, 1968 (Industrial Technology)
Lynnette Walker, Certificate, The University of Montana (Health Professions)
Thomas Williams, B.S., The University of Montana, 2003 (Applied Arts and Sciences)
graduate school
Graduate School

David A. Strobel, Dean

The College of Arts and Sciences and the professional schools offer graduate study at both the masters and doctoral level. Admission and graduation for these graduate programs are administered by the Graduate School. Information on specific programs should be directed to the appropriate college or school. Please refer to the Areas of Study section of this catalog for the specific degree programs offered.

The following courses are designed for doctoral students in the Individual Interdisciplinary Program who may not find appropriate course numbers available from an existing doctoral discipline.

Courses

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

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 childhood 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 every term. 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 mansfield center
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.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Faculty

Professors

Terry M. Weidner, Ph.D., University of California, Davis, 1980 (Mansfield Professor of Modern Chinese Affairs)

Philip West, Ph.D., Harvard University, 1971 (Mansfield Professor of Modern Asian Affairs)

Adjunct Professors

Ambassador Mark Johnson, M.A., George Washington University, 1971 (Adjunct Mansfield Professor)
mansfield library
The Maureen and Mike Mansfield Library

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 20,000 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 98 hours during the academic semester. Library resources in support of the College of Technology are located on the East Campus.

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.

U 295 Special Topics 1-6 cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study 1-6 cr. (R-6) Prereq., consent of instructor.

U 395 Special Topics 1-9 cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study 1-9 cr. (R-9) Prereq., consent of instructor.

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.

U 496 Independent Study 1-9 cr. (R-9) Prereq., consent of instructor.

G 595 Special Topics 1-9 cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study 1-9 cr. (R-9) Prereq., consent of instructor.

Faculty

Professors

Bonnie Allen, M.L.S., Indiana University, 1980 (Dean)

Erling R. Oelz, M.S., University of Illinois, 1968

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

Sebastian Derry, M.L.I.S., Dalhousie University, 2002

Samantha Hines, M.L.I.S., University of Illinois, 2003

Colleen Major, M.L.S., University of Buffalo, 2001

Steve McCann, M.L.I.S., University of Washington, 2003

Merinda McClure, M.L.I.S., University of British Columbia, 2002

Donna McCrea, M.L.S., University of Wisconsin-Milwaukee, 1999

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 Driessen, 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

Karen Hatcher, M.S., University of Wisconsin, 1964

Douglas E. Mills, M.A., University of California, 1950

Christopher Mullin, M.A., University of Washington, 1969

Robert G. Schipf, M.L.S., University of Oklahoma, 1961
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.Acct) at most universities are open to graduates of non-business undergraduate programs. Students in the arts and sciences or other professional schools who anticipate doing graduate work in business are encouraged to take as many of the foundation courses listed below as possible in their undergraduate programs. Completion of all of the foundation courses will reduce the time required for the M.B.A. or M.Acct at the University of Montana-Missoula by one year.

ACCT 201 Financial Accounting
ACCT 202 Managerial Accounting
BADM 257 Business Law
FIN 322 Business Finance
IS 270 Management Information Systems
IS 341 Operations Management
MGMT 340S Management and Organizational Behavior
MKTG 360 Marketing Principles
ECON 111S Introduction to Microeconomics
MATH 241 Statistics

For more information, check the UM School of Business Administration Graduate School website at www.mba-macct.umt.edu.

High School Preparation: High school students who are planning to major in business administration at The University of Montana-Missoula should take their school's college preparatory curriculum. Additional courses to improve reading, writing, and computer skills will be beneficial. Students should take as much mathematics as possible including two years of algebra.

Credit/No Credit Option: 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.

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.

Special Degree Requirements

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

To earn the B.S. in Business Administration degree, the student must:

1. Complete the following requirements with a grade of C (2.0) or better during the freshman-sophomore years:
   ENEX 101 Composition
   MATH 117 Probability and Linear Mathematics; Finance students must complete MATH 150, Applied Calculus
   ECON 111S, 112S Microeconomics, Macroeconomics
   COMM 111A Introduction to Public Speaking
   CS 172 Computer Modeling
   MATH 241 Statistics
   ACCT 201, 202 Financial Accounting, Managerial Accounting
   BADM 257 Business Law
   IS 270 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.

   Non-business majors must have the consent of the department chair to enroll in any undergraduate business course numbered 300 and above.
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 444, 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. Complete no fewer than 51 credits in courses in the School of Business Administration. All courses offered by the Department of Economics may count toward the 51-credit requirement. At least fifty percent (50%) of all business credits applied toward the requirements for the business degree must be earned at The University of Montana-Missoula; this includes all economics credits, if they are counted toward the business requirements.
8. Complete no fewer than 60 credits (exclusive of health and human performance activity credits) of work in departments and schools other than the School of Business Administration.
9. Complete at least a total of 120 credits of which at least 39 are at the 300- or 400-level.
10. 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.

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: 

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 310 Accounting Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 311 Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 312 Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 421 Cost Management I</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 431 Income Tax</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 441 Auditing</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 451 Non-Profit Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

Plus three (3) credits from the following:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 313 Advanced Accounting Topics</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 422 Cost Management II</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 495 Special Topics</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: Students should select, in consultation with their faculty advisor, the 400-level accounting courses from the above list that best fit their individual career goals. Some of these courses may be taught once a year—see advisor for the schedule each academic year.

Basic Accounting Prerequisites for the Master of Accountancy

Required—All courses must be completed with a C or better:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 310 Accounting Information Systems</td>
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<td>ACCT 441 Auditing</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 451 Non-Profit Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

Note: One 400-level class listed in the Masters requirements above can be taken in the Masters program for graduate credit if it was not taken at the undergraduate level and if taken after admission to the Masters program. In order to complete the Masters program in a timely fashion, it is strongly recommended that only ACCT 451 be taken at the graduate level.

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 fill out a plan of study during their sophomore year or the first semester of their junior year. The plan of study is available from a finance faculty advisor and must be completed and signed by the faculty advisor. Failure to implement and adhere to a program of study may delay graduation.

Required: 

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIN 420 Investments</td>
<td>3</td>
</tr>
<tr>
<td>FIN 424 Financial Markets</td>
<td>3</td>
</tr>
</tbody>
</table>
FIN 429 Financial Management I Theory and Analysis 3
FIN 439 Financial Management II Analysis and Problems 3
MATH 150 Applied Calculus (instead of MATH 117) 4
Plus one (1) of the following courses*:
ACCT 311 Intermediate Accounting I 3
ACCT 421 Cost Management I 3
FIN 301 Financial Statement Analysis 3
FIN 495 Financial Analysis of Business 3
ECON 311 Intermediate Microeconomics 3
ECON 460 Econometrics 3
*Any substitution must be approved by the advisor and the department chair. From time to time other finance courses may be offered that may be substituted when appropriate. In addition to the above required courses, finance students must take three (3) additional courses at the 300- or 400-level from a career track selected in consultation with their advisor and incorporated into their program of study. Suggested career tracks include Banking/Investment, Financial Planning/Services, Accounting/Corporate, Economics, Information Sciences, and International Finance. Details are available from advisors.
FIN 228 (Personal Financial Planning and Investment) is a recommended course and will normally be taken before FIN 322. It may be taken concurrently with FIN 322. No student may receive University credit for FIN 228 after FIN 322 is taken. Students who transfer to the University with credit for FIN 322 will not take FIN 228.

Department of Information Systems and Technology

Belva L. Jones, Chair
The Department of Information Systems and Technology offers 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:
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 491 Information Systems Practicum or IS 498 Information Systems Internship 3
Choose two courses (6 credits) from the following: IS 471 Fundamentals of Network Management IS 472 Advanced Network Management IS 474 Quality Management Systems IS 475 Advanced Technology Support IS 477 Multimedia Development for Business IS 478 Development of E-Commerce Systems IS 495 Special Topics (up to 6 credits) IS 496 Independent Study (up to 6 credits) MKTG 460 Marketing of High-Technology Products and Innovations
ACCT 310 Accounting Information Systems
Upper-division computer science (up to 6 credits) C&I 341 Information Management and Design C&I 444 Advanced Technology and Supervision CS 181 Electronic Publishing on the World Wide Web MATH 381 Discrete Optimization MATH 382 Linear Optimization
NOTE: Students completing their IS major with lower-division classes still must earn a total of 39 upper-division credits to fulfill University requirements.

Department of Management and Marketing

Nader H. Shooshtari, Chair
The Department of Management and Marketing offers three 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:
MGMT 368 International Business 3
MGMT 480 Cross-Cultural Management 3
FIN 473 Multinational Financial Management and Accounting 3
And one of the following:
MGMT 465 World Trade and Commerce 3
MGMT 485 Seminar in Contemporary International Issues 3
Plus the completion of all of the requirement for at least one other functional major area within the School of Business
Administration (Accounting, Finance, Information Systems, Management, or Marketing).

Plus 6 credits, approved by the business school's international faculty advisor, and selected from internationally-focused courses, an international exchange, an international internship, or a study abroad program. Students should consider an area/cultural focus, such as Japan, China, Western Europe, Central Europe, Eastern Europe.

Plus four semesters or the equivalent (as determined by the Department of Modern and Classical Languages and Literatures) of any one foreign language is required. It is recommended that students complete the foreign language by the end of their junior year.

Management 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: Credits
MGMT 344 Human Resource Management 3
MGMT 348 Entrepreneurship 3
MGMT 368 International Business 3
MGMT 420 Leadership and Motivation 3
MGMT 444 Management Communication 3

Plus three (3) courses from the following:
MGMT 430 Business Negotiations 3
MGMT 440 Business Ethics 3
MGMT 449 Business Plan Implementation 3
MGMT 480 Cross-Cultural Management 3
MGMT 495 Special Topics 3
MGMT 498 Management Internship 3 only

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 concept 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: Credits
MGMT 368 International Business 3
MKTG 362** Consumer Behavior 3
MKTG 363** Marketing Communication 3
MKTG 366** Marketing Research 3
MKTG 461 Marketing Management 3

Nine (9) credits from the following:
MKTG 369 Advertising Competition 3-6
MKTG 419 Marketing Channels 3
MKTG 421 Services and Relationship Marketing 3
MKTG 422 Nonprofit Marketing 3
MKTG 460 Marketing of High-Technology Products and Innovations 3
MKTG 495 Special Topics 3
MKTG 498 Marketing Internship 3 only

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BADM 100S Introduction to Business</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td></td>
</tr>
<tr>
<td>CS 172 Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111 Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ECON 112 Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
</tr>
<tr>
<td>OR for Finance majors, MATH 150, Applied Calculus</td>
<td>4</td>
</tr>
<tr>
<td>Electives or General Education</td>
<td>3-6</td>
</tr>
<tr>
<td></td>
<td>15-16</td>
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</tbody>
</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201 Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 202 Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
</tr>
<tr>
<td>BADM 257 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>IS 270 Management Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>8-9</td>
</tr>
<tr>
<td></td>
<td>15-15</td>
</tr>
</tbody>
</table>

Individual programs may differ from the suggested course of study to better accomplish the needs of the particular student.

Courses

U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R. Credits 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 with a grade of C or better or consent of instr. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.

U 202 Managerial Accounting 3 cr. Offered every term. Prereq., ACCT 201 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., ACCT 202 and CS 172 with grades of C or better and junior standing in Business. Focus on manual and computer accounting systems, including understanding internal control and security issues. Topics include database and spreadsheet applications, using Internet resources, and current technology advances.

U 311 Intermediate Accounting I 3 cr. Offered autumn and spring. Prereq., junior standing in Business, ACCT 201 and 202 with grades 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 accounting.

U 312 Intermediate Accounting II 3 cr. Offered autumn and spring. Prereq., junior standing in Business, ACCT 311 or consent of instr. Continuation of ACCT 311. Topics include
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concepts in financial accounting, coverage of the liability and equity side of the balance sheet, the cash flow statement, and several special financial accounting topics.

U 313 Advanced Accounting Topics 3 cr. Offered autumn or spring. Prereq., junior standing in Business; ACCT 311 or consent of instr. Application of accounting principles to partnerships, foreign currency transactions and translations, accounting for income taxes, post-retirement benefits, accounting changes and other accounting topics.

U 394 Undergraduate Seminar Variable cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

UG 421 Cost Management I 3 cr. Offered autumn. Prereq., senior standing in Business or consent of instr. The study of cost management for business and other organizations. Emphasis on how information about costs helps managers make better decisions. Current readings in cost management and related topics.

UG 422 Cost Management II 3 cr. Offered spring. Prereq., senior standing in Business and ACCT 421 or consent of instr. Advanced cost management with emphasis on how financial and non-financial information helps managers in a wide variety of business and not-for-profit organizations make better decisions. Current readings in cost management and related topics.

UG 431 Income Tax 3 cr. Offered autumn or spring. Prereq., junior standing in Business, ACCT 312 or consent of instr. The application of the federal income tax law to determine income, deductions and losses. Special topics include property transactions.

UG 441 Auditing 3 cr. Offered autumn or spring. Prereq., junior standing in Business, ACCT 312 or consent of instr. Introduction to auditing with emphasis on the independent audit of financial statements. Coverage includes professional standards, ethics, audit risk, evidence, internal controls, procedures, opinions, operational and compliance auditing.

UG 451 Government/Non-Profit Accounting 3 cr. Offered autumn or spring. Prereq., junior standing in Business and ACCT 312 or consent of instr. Principles of accounting and financial reporting for governmental units, hospitals, the federal government, and other non-profit organizations.

UG 461 Accounting Leadership 1-6 cr. (R-6) Offered autumn or spring. Prereq., junior standing in Business and consent of instr. Leadership training for students holding positions of responsibility in professional accounting organizations, to include conducting meetings, delegation, committees, motivating others, following through on assignments and evaluating performance.

UG 494 Seminar Variable cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

UG 495 Special Topics Variable cr. (R-9) Offered autumn and spring. Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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.

G 509 Financial Reporting and Control 3 cr. Offered autumn. Prereq., admission or application to M.B.A. or M.Acct. programs. Reporting and using financial information of an enterprise, with a focus on internal and external decision-making. Topics include analysis and recording financial transactions, understanding how these events affect financial statements, and using quantitative tools for internal decision-making.

G 611 Consolidated Financial Statements 2 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, Business core, accounting core, and graduate student in Business or consent of accounting graduate director. The equity method of accounting for investments, accounting for acquisitions, non-controlling interest, intercompany transfers, intercompany debt and other consolidation issues.

G 615 Accounting Theory 3 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, Business core, accounting core, and graduate student in Business or consent of accounting graduate director. A critical analysis of the concepts underlying the development and application of financial accounting in the United States. Coverage of current accounting standards as well as other current topics in financial accounting.

G 631 Advanced Tax 3 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, ACCT 431, graduate student in business or consent of accounting graduate director. The application of the federal income tax law to corporations and partnerships, and special problems associated with taxation of trusts, estates and gifts.

G 641 Advanced Auditing 3 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, ACCT 441, graduate student in business or consent of auditing 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 autumn or spring. Prereq., graduate student in business. Selected topics addressing information systems issues as they relate to accounting. Selected topics may include systems auditing, expert systems, databases, specific accounting applications, report design, electronic transactions, and internal controls.

G 661 Accounting Law and Ethics 3 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, Business core and graduate student in Business or consent of accounting graduate director. Legal issues from the common law and appropriate statutes applicable to the public practice of accounting. The professional responsibilities and ethics of a practicing CPA.

G 675 Contemporary Accounting Problems 4 cr. Offered spring or summer. 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 every term. Prereq., graduate student in business or consent of business graduate director. Selected topics in accounting.
G 696 Independent Study Variable cr. (R-9) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Directed study of individual or small groups of students in topics not available in scheduled classes.

G 698 Internship Variable cr. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Placements with private or governmental organizations for practical training. Written reports required. Grade option pass/not pass only.

G 699 Thesis Variable cr. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director.

Business Administration (BADM)

U 100S Introduction to Business 3 cr. Offered every term. Nature of business enterprise; role of business in society; problems confronting business management; career opportunities in business. Open to non-business majors and business majors of freshman or sophomore standing only. Business majors are advised to register for the course their freshman year. Credit not allowed for both BADM 100S and BUS 103S.

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

U 196 Independent Study Variable cr. (R-6) Offered intermittently.

U 257 Business Law 3 cr. Offered every term. An analysis of the legal and ethical implications of domestic and international commercial transactions. Credit not allowed for both BUS 135T and BADM 257.

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.

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.

Finance (FIN)

U 228 Personal Financial Planning and Investment 3 cr. Offered spring. Concepts, strategies and techniques in analyzing financial situations and investment opportunities from the individual's perspective. Cannot be taken for credit after completing FIN 322 or equiv.

U 298 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 or consent of instr. Introduction to the principles and practices of real estate. Includes the study of real estate law, financing, valuation, brokerage and land use.

U 322 Business Finance 3 cr. Offered every term. Prereq., junior standing in Business; ACCT 201, ACCT 202, ECON 111S, and ECON 112S or consent of instr. The methodology and practice of business financial decisions.

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 intermittently. Prereq., junior standing in Business and consent of instr.

UG 410 $50,000 Portfolio 3 cr. Offered autumn. Prereq., junior standing in Business, FIN 322, and consent of department chair. Under the guidance of a broker, students manage a diversified investment portfolio for a semester. Students analyze and discuss investment opportunities and implement their decisions.

UG 420 Investments 3 cr. Offered autumn. Prereq., junior standing in Business, FIN 322 or consent of instr. Principles, practices and methodology in investment analysis and portfolio management.

UG 424 Financial Markets 3 cr. Offered spring. Prereq., junior standing in Business, FIN 322 and ECON 112S or consent of instr. Operations and analysis of the national and international money and capital markets, and financial institutions.

UG 429 Financial Management I: Theory and Analysis 3 cr. Offered autumn. Prereq., junior standing in Business, FIN 322 or consent of instr. Understanding the practice of business investment and working capital decisions. Computer models and cases used to demonstrate the management process.

UG 439 Financial Management II: Analysis and Problems 3 cr. Offered spring. Prereq., junior standing in Business, FIN 322 or consent of instr. Raising capital, capital structure issues and debt and equity markets.

UG 450 Banking 3 cr. Offered spring. Prereq., junior standing in Business, FIN 322 or consent of instr. The financial management of banking institutions including financial analysis, interest rate risk and loan portfolio management. Students manage a bank within a simulated bank community.

UG 473 Multinational Financial Management and Accounting 3 cr. Offered spring. Prereq., junior standing in Business, FIN 322, ACCT 202, MGMT 368. Financial skills required of corporate executives in international business. Topics may include differences in global accounting 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 (IS)**

- **U 195 Special Topics 1-6 cr. (R-6)** Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- **U 196 Independent Study 1-3 cr. (R-3)** Offered every term. Prereq., consent of instr.
- **U 270 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 autumn. Prereq., junior standing in Business and IS 270. Information systems design and implementation within a database management system environment. Topics include data models, structured and object design, relational, hierarchical, network and object-oriented models.
- **UG 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.
- **UG 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 spring. Prereq., junior standing in Business and IS 270. Provides an understanding of the systems development and modification process including requirements determination, logical design, physical design, test planning, implementation planning and performance evaluation.
- **UG 394 Undergraduate Seminar Variable cr. (R-3)** Offered intermittently. Prereq., junior standing in Business and consent of instr.
- **UG 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.
- **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 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.

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.

UG 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 340S, MKTG 360. Focuses on starting and managing a growing business. Topics include recognizing business opportunities, setting strategy for the firm, raising capital, marketing new products, and organizing a management team. Students write a business plan for themselves or for a local entrepreneur.

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.

UG 394 Undergraduate Seminar Variable cr. (R-3) Offered intermittently. Prereq., junior standing in Business and consent of instr.

UG 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.

UG 396 Independent Study Variable cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

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 ethics and stakeholder challenges. Focuses on business ethics and the 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 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 instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study Variable cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

U 498 Management Internship Variable cr. 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.

UG 362 Consumer Behavior 3 cr. Offered autumn and spring. Prereq., junior standing in Business and MKTG 360; PSYC 100S and 240S recommended. A behavioral analysis of consumer decision making and of the factors influencing consumer decisions, i.e., those decisions directly involved with the obtaining of economic goods and services.

UG 363 Marketing Communications 3 cr. Offered autumn and spring. Prereq., junior standing in Business, MKTG 360. An integrated course in promotion strategy. Topics include advertising message design, media selection, promotions, public relations, personal selling, and other selected topics.

UG 366 Marketing Research 3 cr. Offered autumn and spring. Prereq., junior standing in Business, MATH 241, MKTG 360. Emphasis on data acquisition and analysis for improved decision making in marketing. Topics include problem definition, secondary data, primary data via observation, interrogation and experimentation; data analysis; written and oral reports. May include field project.

U 369 Advertising Competition 3 cr. (R-6) Offered every term. 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.

UG 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.

UG 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.

UG 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.

UG 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.


UG 494 Seminar 1-6 cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

UG 495 Special Topics 1-9 cr. (R-9) Offered autumn and spring. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-6 cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.
U 498 Marketing Internship 1-6 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., enrollment in 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 605 Administrative Controls 2 cr. Offered spring. Prereq., admission to the program. The application of accounting information to managerial and/or financial decision-making.


G 645 Interpersonal Perspective Seminar Variable cr. (R-12) Offered every term. Prereq., admission to the M.B.A. or M.Acct. program. Selected topics covering leadership theory and practice, ethics in the workplace, and managerial processes such as motivation, communication, conflict resolution, negotiations, team building, critical thinking, goal setting, and building workforce commitment.

G 650 Quantitative Analysis 2 cr. Offered spring. Prereq., admission to the M.B.A. or M.Acct. programs. Quantitative methods supporting managerial decision-making. Theory and logic underlying such methods as linear programming and simulation. Solution of complex problems and practice of interpersonal skills in team projects.

G 655 Technology Perspective Seminar Variable cr. (R-12) Offered every term. Prereq., admission to the M.B.A. or M.Acct. programs. Contemporary issues in information technology with emphasis on how technology is used in business organizations. Topics vary each term and may include electronic commerce on the Internet, decision support technology, electronic media support, advanced spreadsheet applications, accounting applications and quality control systems.

G 660 Marketing Management 2 cr. Offered autumn. Prereq., admission to the M.B.A. or M.Acct. programs. Marketing decisions faced 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

Maureen J. Fleming, Ph.D., Southern Illinois University, 1969

Jerry L. Furniss, J.D., University of Idaho, 1980

Larry D. Gianchetta, Ph.D., Texas A & M, 1974 (Dean)

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)


Stephen F. Seninger, Ph.D., Washington University, 1971 (Bureau of Business and Economic Research)

Nader H. Shooshatri, Ph.D., Arizona State University, 1983 (Chair, Department of Management and Marketing)
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Lee N. Tangedahl, Ph.D., University of Colorado, 1976
Joseph A. Weber, Ph.D., University of Minnesota, 1983; C.P.A., Montana, 1975

Associate Professors
Carol L. Bruneau, Ph.D., University of Arizona, 1997
Barbara Chaney, Ph.D., University of Georgia, 1997
Anthony J. Crawford, Ph.D., Pennsylvania State University, 1993
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)
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, A.B.D., University of Massachusetts, Amherst
Bruce Costa, Ph.D., Florida State University, 2000
Bambi M. Douma, Ph.D., University of Arizona, 2003
David R. Firth, Ph.D., University of California, Los Angeles, 2003
Michael V. Harrington, J.D., The University of Montana, 1990 (Associate Dean)
Joshua Herbold, Ph.D., University of Illinois, Champaign-Urbana, C.P.A., Illinois, 2005
Keith J. Jakob, Ph.D., University of Utah, 2000
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 Associate Professor
Charles E. Keegan, M.S., The University of Montana, 1976
(Bureau of Business and Economic Research)

Emeritus Professors
Paul B. Blomgren, D.B.A., Indiana University, 1952 (Dean Emeritus)
Bernard J. Bowlen, Ph.D., Iowa State University, 1954 (Malmstrom Air Force Base)
Bruce P. Budge, Ph.D., University of Minnesota, 1968; C.P.A., Idaho, 1973
Gary L. Cleveland, Ph.D., University of Minnesota, 1986
Robert J. Conole, Ph.D., University of Iowa, 1968
Richard T. Dailey, Ph.D., Pennsylvania State University, 1968
Robert W. Hollman, 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
School of Education

Paul M. Rowland, Dean
Sharon Dinkel Uhlig, Associate Dean

The School of Education is comprised of three academic departments—Curriculum and Instruction, Educational Leadership and Counseling, and Health and Human Performance—and The Division of Educational Research and Service (DERS). Its mission is as follows:

The School of Education shapes professional practices that contribute to the development of human potential. We are individuals in a community of lifelong learners, guided by respect for knowledge, human dignity, and ethical behavior. We work together producing and disseminating knowledge to advance the physical, emotional, and intellectual health of a diverse society.

The School of Education 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 PK-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

Audrey L. Peterson, Chair

The Department of Curriculum and Instruction offers the Bachelor of Arts in Education degree and licensure in elementary education. As well, it offers licensure in a wide range of secondary programs for students who are earning or already have completed the baccalaureate degree in their chosen field(s) of interest. At the graduate level, the department offers the masters and doctoral degrees in Curriculum and Instruction. Programmatic themes across all levels include integration of instruction, collaborative learning, and respect for the individual. The Web address for the Department of Curriculum and Instruction is http://www.soe.umt.edu/cni/default.php

Graduate Programs

The department offers the Master of Education (Ed.D.) in curriculum and instruction. Information about these programs is available from the department office, UM Graduate Programs and Admissions Catalog, and online: www.soe.umt.edu/cni/graduate.php.

Teacher Preparation

Students preparing to teach in elementary school complete a major in elementary education. Prior to admission to the Teacher Education Program, usually at the end of the sophomore year, students are considered pre-education majors and are advised by the pre-education advisor in the C&I Department. Upon admission to the program, students are considered elementary education majors and are advised within the department. Students preparing to teach any other subject at the middle or high school level will major in the subject area(s) they wish to teach, e.g., English or mathematics. They are advised within their major department and, upon admission to the Teacher Education Program, they also are advised within the Department of Curriculum and Instruction. All secondary 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 their chosen field(s). Applicants for state licensure must: (1) satisfy all degree and licensure requirements as outlined below; and (2) be at least 18 years of age. Information about the program is available in the department office and online: http://www.soe.umt.edu/

**Masters Degree and Initial Licensure**

Degree-holding students 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. This option is available to elementary and secondary teacher candidates.

At the secondary level, the program may be completed in a summer-autumn-spring-summer sequence provided the student has completed previously most of the content courses listed on the following pages by subject area. At the elementary level, the program typically takes two years.

**Admission to the Undergraduate Teacher Education Program**

All students seeking licensure to teach apply for admission to the 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. Students are eligible for consideration for admission if they have:
- been admitted to The University of Montana;
- completed at least 30 semester credits;
- a minimum cumulative GPA (including all transfer credits) of 2.75;
- evidence of writing ability as provided in an application essay;
- appropriate experience working with children or youth;
- supportive recommendations from two faculty members; and
- 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, students must maintain a minimum GPA of 2.75 each semester to continue in the program. Students who interrupt their studies for more than two years are placed on inactive status and must request to resume their studies.

Students 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 students are invited to submit transcripts for review to determine how previous course work applies. They may earn a second baccalaureate degree 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 members of racial, ethnic and other minorities, and students with disabilities as for other candidates; however, exceptions may be made to those admission requirements. Candidates who do not meet one or more of the criteria for admission are encouraged to describe in their applications any special circumstances and/or special talents that may compensate for unmet criteria. The physical, social, economic, and cultural circumstances that may have influenced the candidate’s ability to achieve minimum eligibility for admission will be considered. A special effort will be made to determine the candidate’s abilities and potential to overcome disadvantage or discrimination and become a successful beginning teacher. Upon entry to the program, the student will be assigned an advisor as a mentor. The student and mentor will design an appropriate course of study to achieve progress toward the degree and/or certification/licensure.

**Application for Student Teaching**

Students begin planning for student teaching by the end of the junior year. Students 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);
- passing score on the Writing Proficiency Assessment;
- for elementary education majors, all methods courses and approval by advisor;
- for secondary students, all methods courses, two-thirds of content course work, and approval by departments in the major/minor fields;

Internships and practicums in library-media, literacy, and special education do not substitute for the student teaching semester required for licensure in a subject field.

**Native American Studies Course Requirement**

Students preparing for licensure in all programs are required to complete a minimum of one course in Native American Studies. Students also may choose ANTH 323H, Indians of Montana, to meet this requirement.

**Elementary Education Degree and Licensure Requirements (Grades K-8)**

To qualify for the Montana elementary teaching license, candidates must earn a baccalaureate degree from the University or other approved institution of higher education. The degree in elementary education requires a minimum of 128 credits as specified below. Students 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 students 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.

Students 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>
</tbody>
</table>
PSYC 100S Introduction to Psychology ................. 4
PSC 100S Introduction to American Government .......... 3
HIST 269 Montana and the West .................. 3
GEOG 101S Introduction to Human Geography OR GEOG 103S World Regional Geography ................. 3
MATH 130-131 Math for Elementary Teachers .......... 9
SCI 350 Environmental Perspectives ................. 2
Selected history course (HIST 151 or 152 recommended) 3
Selected literature course ................................ 3-4
Native American Studies course ...................... 3
Current Standard First Aid and CPR certificates OR HHP 288/289 ........................................ 0-3
Area of concentration .................................. 12
Writing course ......................................... 3

Third and Fourth Years

*Block I:
C&I 200 Exploring Teaching Through Field Experiences 1
C&I 303 Educational Psychology and Measurements .... 3
C&I 306 Instructional Media and Computer Applications 3
C&I 410 Exceptionality and Classroom Management .... 3
**Block II:
C&I 300 or 301 Field Experience ........................ 1
C&I 316 Children's Literature and Critical Reading .... 3
C&I 318 Teaching Language Arts K-8 ................. 3
**Block III:
C&I 400 or 401 Field Experience ........................ 1
C&I 402 Teaching Mathematics K-8 ................. 3
C&I 403 Teaching Social Studies K-8 ............. 3
C&I 404 Teaching Science K-8 ...................... 3
C&I 405 Teaching Reading K-8 ...................... 3

ART 314A Elementary School Art .................... 3
DAN 327 Dance in Elementary Education ............... 2
DRAM 327 Drama in Elementary Education ............... 2
HHP 339 Instructional Strategies in Elementary Health and Physical Education ........................ 3
MUS 335 Music Education in the Elementary School ... 3
C&I 427 Ethics and Policy Issues ..................... 3
C&I 481 Student Teaching: Elementary .............. 14
C&I 494 Professional Portfolio ........................ 1
Electives, General Education and/or Courses in Major and/or Minor Teaching Field(s) ............. 0-3

*Students are encouraged to enroll concurrently in the required courses listed in Block I.
**Students 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.

Students 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.

Secondary Teaching Licensure Requirements (Grades 5-12)

To qualify for the Montana secondary teaching license, candidates must earn a baccalaureate degree from the University or other approved institution of higher education. They usually complete an undergraduate degree in the field(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 candidate’s major does not qualify as a single-filed endorsement, he or she must also meet the requirements for a teaching minor. Students must complete all requirements listed below 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.

Students should seek advising from both the degree-granting departments and the Department of Curriculum and Instruction. Students are encouraged to complete licensure in more than one teaching field, even if the chosen field qualifies for a single-field endorsement.

See the Teacher Education Policy handbook for additional information regarding the secondary licensure program.

Curriculum for Secondary Licensure

First and Second Years

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENEX 101</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 100S</td>
<td>4</td>
</tr>
<tr>
<td>HHP 233</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 303</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 306</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 410</td>
<td>3</td>
</tr>
<tr>
<td>Area of concentration</td>
<td>12</td>
</tr>
<tr>
<td>Writing course</td>
<td>3</td>
</tr>
</tbody>
</table>

Third and Fourth Years

*Block I:
C&I 200 Exploring Teaching through Field Experiences 1
C&I 303 Educational Psychology and Measurements .... 3
C&I 306 Instructional Media and Computer Applications 3
C&I 410 Exceptionality and Classroom Management .... 3

**Block II:
C&I 301 Field Experience .......................... 1
C&I 316 Children's Literature and Critical Reading .... 3
C&I 318 Teaching Language Arts K-8 ................. 3

**Block III:
C&I 400 or 401 Field Experience ........................ 1
C&I 402 Teaching Mathematics K-8 ................. 3
C&I 403 Teaching Social Studies K-8 ............. 3
C&I 404 Teaching Science K-8 ...................... 3
C&I 405 Teaching Reading K-8 ...................... 3

ART 314A Elementary School Art .................... 3
DAN 327 Dance in Elementary Education ............... 2
DRAM 327 Drama in Elementary Education ............... 2
HHP 339 Instructional Strategies in Elementary Health and Physical Education ........................ 3
MUS 335 Music Education in the Elementary School ... 3
C&I 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

C&I 407E Ethics and Policy Issues .................... 3
C&I 482 Student Teaching: Secondary .................. 14
C&I 494 Professional Portfolio ........................ 1
Electives, General Education and/or Courses in Major and/or Minor Teaching Field(s) ............. 0-3

*Students are encouraged to enroll concurrently in the courses listed as "blocked" in each of two professional semesters. They add other courses as desired or necessary to complete a full semester course load. This blocked format allows for integration of curriculum, modeling of cooperative learning and collaborative teaching, and corresponding developmental field experiences.

Licensure in Library-Media: The library-media program is designed to prepare library-media specialists for K-12 settings. This program is combined with that of UM-Western. To be eligible for library-media licensure, students must meet the teacher licensure requirements as well as complete a minimum of 25 credits in the following required courses: C&I 316, 470, 479, 480, 483, 484, 485, and LIB 461 offered through UM-Western. 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, students accepted into the program must complete the following courses: C&I 420 or elective, 433, 453, 457, 459, 463, 469.
**Library-Media Services**

To complete a non-teaching minor in library-media services, the student must complete the following courses:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 479 Reference Resources</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 480 Collection Development and the Curriculum</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 483 Library Media Technical Processes</td>
<td>2</td>
</tr>
<tr>
<td>C&amp;I 484 Administration and Assessment of Library-Media Programs</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 485 Library-Media Practicum</td>
<td>2</td>
</tr>
<tr>
<td>C&amp;I 486 Libraries and Technology</td>
<td>3</td>
</tr>
<tr>
<td>LIB 461 Information Literacy</td>
<td>3</td>
</tr>
<tr>
<td>Electives chosen in consultation with advisor</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>25</strong></td>
</tr>
</tbody>
</table>

**Office Systems Management**

To earn a non-teaching minor in office systems management the student must complete the following courses:

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201 Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BADM 257 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 287 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 341 Information Systems and Design</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 444 Advanced Technology and Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CS 172 Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111S Introduction to Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
</tr>
<tr>
<td>MGMT 340S Management and Organizational Behavior</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>27</strong></td>
</tr>
</tbody>
</table>

**Course Requirements for Major and Minor Teaching Fields**

Students 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.

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Maj.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 123A Drawing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ART 125A Color and Design</td>
<td>3</td>
</tr>
<tr>
<td>ART 135A Three-Dimensional Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ART 150L-151L Art of Western Civilization</td>
<td>6</td>
</tr>
<tr>
<td>ART 203 Introduction to Art Criticism</td>
<td>3</td>
</tr>
<tr>
<td>ART 215A Photography I</td>
<td>3</td>
</tr>
<tr>
<td>ART 223 Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART 229A Ceramics I</td>
<td>3</td>
</tr>
<tr>
<td>ART 231A, 232A, 233A, 234A Printmaking (choose one)</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>ART 323 Drawing II</td>
<td>3</td>
</tr>
<tr>
<td>ART 407-408 Teaching K-12 Art</td>
<td>6</td>
</tr>
<tr>
<td>DAN 427 Teaching Creative Movement</td>
<td>3</td>
</tr>
<tr>
<td>ART upper-division courses</td>
<td>9</td>
</tr>
<tr>
<td>ART upper-division art history courses</td>
<td>6</td>
</tr>
<tr>
<td>ART upper-division art criticism</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td><strong>66</strong></td>
</tr>
</tbody>
</table>

**Biology**

Grades 5-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major teaching field of Biology a student must complete the requirements for the B.A. with a major in Biology, option in Biological Education (see the Biology section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For endorsements in the minor teaching field of Biology, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Maj.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 108N-109N Diversity of Life</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 110N Principles of Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 223 Genetics and Evolution</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 301 Developmental Biology or BIOL 345 Principles of Physiology</td>
<td>3</td>
</tr>
<tr>
<td>BIOL 340-341 Ecology and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 444 Plant Physiology</td>
<td>4</td>
</tr>
<tr>
<td>MICB 300-301 General Microbiology and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>C&amp;I 426 Teaching Science in Middle and Secondary Schools</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150 Applied Calculus or 152</td>
<td>3</td>
</tr>
<tr>
<td>Calculus I</td>
<td>3</td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 151N-152N, 154N General and Inorganic and Organic and Biological Chemistry and Laboratory (major only)</td>
<td>8</td>
</tr>
<tr>
<td>CHEM 485 Laboratory Safety</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 121N General Physics I</td>
<td>5</td>
</tr>
<tr>
<td>GEOL 109N Environmental Geoscience or 301 Environmental Geology</td>
<td>2-3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td>61-62 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 a B.S. in Business Administration with a major 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 Description</th>
<th>Maj.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201 Financial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 202 Managerial Accounting</td>
<td>3</td>
</tr>
<tr>
<td>BADM 257 Business Law</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 287 Business Communications</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 341 Information Management &amp; Design</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 429 Teaching Business Subjects</td>
<td>4</td>
</tr>
<tr>
<td>C&amp;I 444 Advanced Technology and Supervision</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total Credits</strong></td>
<td>3</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 Education Option (see the Department of Drama/Dance section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAN 327 Dance in Elementary Education</td>
<td>2</td>
</tr>
<tr>
<td>DRAM 103A Introduction to Theatre Design</td>
<td>3</td>
</tr>
<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 203 Stagecraft II</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 210 Voice and Speech I</td>
<td>2</td>
</tr>
<tr>
<td>DRAM 214-215 Acting I, II</td>
<td>6</td>
</tr>
<tr>
<td>DRAM 220L Dramatic Literature I (Script Analysis)</td>
<td>40</td>
</tr>
</tbody>
</table>

The demand for teaching in this field is limited. The required second endorsement (either a teaching major or teaching minor) should be in a field in high demand.

**Earth Science**

Grades 5-12. Major only. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Earth Science, a student must complete the requirements for the B.S. with a major in Geology, Earth Science Education option (see the Department of 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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOL 100N-101N General Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 105N Oceanography</td>
<td>2</td>
</tr>
<tr>
<td>GEOL 130 Introductory Field Geology and Maps</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 226 Mineralogy and Petrology</td>
<td>4</td>
</tr>
<tr>
<td>GEOL 301 Environmental Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 310 Invertebrate Paleontology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 330 Structural Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-any course numbered 100 or above</td>
<td>3</td>
</tr>
<tr>
<td>GEOL-any course numbered 300 or above</td>
<td>12</td>
</tr>
<tr>
<td>GEOG 330N Meteorology</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 131N-132N Elementary Astronomy</td>
<td>6</td>
</tr>
<tr>
<td>MATH 121 Precalculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 341 Introduction to Probability and Statistics</td>
<td>3</td>
</tr>
<tr>
<td>CS 172 Introduction to Computer Modeling or equivalent</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>BIOL 121N-122N Introductory Ecology and Laboratory or CHEM 151N-152N General Chemistry or Phys 121N-122N General Physics</td>
<td>4-10</td>
</tr>
<tr>
<td>CHEM 485 Laboratory Safety</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Credits: 63-69

The demand for teaching in this field is limited. The
required second endorsement (either a teaching major or teaching minor) should be in a field in high demand.

**Economics**

Grades 5-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Economics, a student must complete the requirements for the B.A. with a major in Economics (see the Department of Economics section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Economics, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 111S-112S</td>
<td>Introduction to Micro- and Macroeconomics</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>ECON 304</td>
<td>Public Finance: Expenditures</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ECON 311 Intermediate Microeconomics</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECON 313 Intermediate Macroeconomics</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECON 317 Money and Banking</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECON 323 Labor Economics</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECON 460 Econometrics</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Economics electives</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECON 487-489 Senior Thesis sequence</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C&amp;I 428 Teaching Social Studies in Middle and Secondary Schools</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits: 51

The demand for teaching in this field is limited. The second endorsement (either 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>Course Title</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENL 223L</td>
<td>British Literature</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ENL 224L and 225L American Literature</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>ENL 301 Applied Literary Criticism</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENL 320 Shakespeare</td>
<td>3</td>
<td>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>
<td></td>
</tr>
<tr>
<td>One 300-level ENLT course emphasizing American literature</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>One 300-level ENLT course</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENLT 465 Structure and History of English for Teachers</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENT 439 Studies in Young Adult Literature</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENT 440 Teaching Writing</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENT 441 Teaching Reading and Literature</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ENT 442 Teaching Oral Language and Media Literacy</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

An English major qualifies for a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.

**English as a Second Language**

Grades K-12. Minor only.

For an endorsement in the minor teaching field of English as a Second Language, a student must complete the courses in the minor teaching field as listed in the Linguistics section of this catalog and listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LING 470 Introduction to Linguistic Analysis</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 471 Phonology and Morphology</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 472 Syntax and Semantics</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 477 Bilingualism or 478 Second Language Acquisition</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

At least two courses from the following:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LING 466 Pedagogical Grammar</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 473S Language and Culture</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 475 Linguistics Field-methods</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 476 Child Language Acquisition</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 489 Languages of the World</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 480 Teaching English as a Foreign Language</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 491 ESL Senior Seminar</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Credits: 24

*Students must have the equivalent of two years of a foreign language. Non-native speakers of English must take an English competency examination administered by the chair of the Linguistics Program. Courses required for the teaching minor cannot be taken on a pass/not pass basis.

**French**

Grades K-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major teaching field of French, a student must complete 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 Code</th>
<th>Course Title</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREN 101-102 Elementary French</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>FREN 201-202 Intermediate French</td>
<td>8</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>FREN 301 Oral and Written Expression</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FREN 302 French Civilization and Culture</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FREN 311-313 Survey of French Literature</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FREN 401 Applied Linguistics</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FREN 408 Advanced Composition and Conversation</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FREN literature at the 400-level</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FREN upper-division electives</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIST - one course from 306, 307, 310, 311H, 312H, 314, 315</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 270 Introduction to Linguistics</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MCLG 410 Methods of Teaching Foreign Languages (prereq. to student teaching)</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

Total Credits: 57

*The Department of Modern and Classical Languages and Literatures requires a recommendation of the student’s language proficiency and an overall minimum grade point average of 3.00 in upper-division course work in both the teaching major and minor as a prerequisite to student teaching. Study in a French language country, provided either through UM’s Study Abroad Program or an experience considered to be equivalent also is required.
A French major qualifies as a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.

**General Science Broadfield Major**

Grades 5-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major field of General Science, a student must complete the requirements for the B.A. with a major in Biology, Ecology option (see the Biology section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of General Science, a student must complete the courses for a minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEOG 101S Introduction to Human Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 102N Introduction to Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 103S Geography of World Regions or GEOG 201S Montana and the West</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 105 Geography Laboratory</td>
<td>1</td>
</tr>
<tr>
<td>GEOG 385 Field Techniques or 471 Workshop in Teaching Geography</td>
<td>2-3</td>
</tr>
<tr>
<td>GEOG 387/9 Principles of Digital Cartography and Laboratory</td>
<td>4</td>
</tr>
</tbody>
</table>

Three upper-division systematic geography courses are required, one from each of the fields of physical geography, human-environmental interaction, and geography and society (two for minor).

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 428 Teaching of Social Studies in Middle and Secondary School</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives: 7-8

Total Credits: 36-21-23

The demand for teaching in this field is limited. The required second endorsement (either a teaching major or teaching minor) should be a field in high demand.

**German**

Grades K-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major teaching field of German, a student must complete the requirements for the B.A. with a major in German including MCLG 410 (see the Department of Modern and Classical Languages and Literatures section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of German, a student must complete the courses for a minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GERM 101-102 Elementary German</td>
<td>10</td>
</tr>
<tr>
<td>GERM 201-202 Intermediate German</td>
<td>8</td>
</tr>
<tr>
<td>GERM 301-302 Oral and Written Expression I</td>
<td>6</td>
</tr>
<tr>
<td>GERM 311-312 Intro to German Literature</td>
<td>6</td>
</tr>
<tr>
<td>GERM 403 Applied Linguistics</td>
<td>3</td>
</tr>
<tr>
<td>GERM literature at 400-level</td>
<td>6</td>
</tr>
</tbody>
</table>

Two courses from the following: GERM 303H, 304H, 355, 361L or 362H.

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>GERM 303H, 304H, 355, 361L or 362H</td>
<td>6</td>
</tr>
<tr>
<td>LING 270 Introduction to Linguistics</td>
<td>3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCLG 410 Methods of Teaching Foreign Languages (prereq. student teaching)</td>
<td>54</td>
</tr>
</tbody>
</table>

*The Department of Modern and Classical Languages and Literatures requires a recommendation of the student’s language proficiency and an overall minimum grade point average of 3.00 in upper-division course work in both the teaching major and minor as a prerequisite to student teaching. Study in a German language country, provided either through UM’s Study Abroad Program or an experience considered to be equivalent also is required.

A German major qualifies as a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.

**Government**

Grades 5-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Government, a student must complete the requirements for the B.A. degree with a major in Political Science (see the Department of Political Science section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Government, a student must complete the courses for a minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSC 1005 Introduction to American Government</td>
<td>3</td>
</tr>
<tr>
<td>PSC 1205 Introduction to Comparative Government</td>
<td>3</td>
</tr>
<tr>
<td>PSC 130E International Relations</td>
<td>3</td>
</tr>
<tr>
<td>PSC 150E Political Theory</td>
<td>3</td>
</tr>
<tr>
<td>PSC one 300-400 level course in four of the five fields: 1) American Government 2) Public Administration 3) Political Theory 4) Comparative Government 5) International Relations</td>
<td>12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSC one 300-400 level course in three of the five fields: 1) American Government 2) Public Administration 3) Political Theory</td>
<td>3</td>
</tr>
</tbody>
</table>
A Health and Human Performance major qualifies as a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.

**History**

Grades 5-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of History, a student must complete the requirements for the B.A. with a major in History with an option in History Education (see the Department of History section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalence.

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 equivalence.

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 104H-105H European Civilization</td>
<td>4</td>
</tr>
<tr>
<td>HIST 151H-152H The Americans</td>
<td>4</td>
</tr>
<tr>
<td>HIST 269 Montana and the West</td>
<td>3</td>
</tr>
<tr>
<td>HIST 300 The Historians' Craft</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division electives in Asian, Islamic, African, and Latin American</td>
<td>6</td>
</tr>
<tr>
<td>Upper-division courses in American history</td>
<td>9</td>
</tr>
<tr>
<td>Upper-division courses in European history</td>
<td>9</td>
</tr>
<tr>
<td>History electives upper-division courses in history</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 428 Teaching Social Studies in Middle and Secondary Schools</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 equivalence.

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 equivalence.

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAT 101-102 Elementary Latin or equivalent</td>
<td>10</td>
</tr>
<tr>
<td>LAT 211 Latin Readings and Grammar Review</td>
<td>4</td>
</tr>
<tr>
<td>LAT 212 Latin Readings: Vergil</td>
<td>3</td>
</tr>
<tr>
<td>LAT 300 Major Latin Writers</td>
<td>15</td>
</tr>
<tr>
<td>LAT 402 Composition</td>
<td>3</td>
</tr>
<tr>
<td>MCLG 160L Classical Mythology</td>
<td>3</td>
</tr>
<tr>
<td>MCLG 361L Roman, Early Christian, and Byzantine Art</td>
<td>3</td>
</tr>
<tr>
<td>MCLG 410 Methods of Teaching Foreign Languages (prereq. to student teaching)</td>
<td>3</td>
</tr>
<tr>
<td>HIST 303H Classical Rome</td>
<td>3</td>
</tr>
</tbody>
</table>

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
C&I 316 Children's Literature and Critical Reading 3
C&I 470 Young Adult Literature and Critical Reading 3
C&I 479 Reference Resources 3
C&I 480 Collection Development and the Curriculum 3
C&I 483 Library Media Technical Processes 2
C&I 484 Administration and Assessment of Library/Media Program 3
C&I 485 Library-Media Practicum 3
C&I 488 Libraries and Technology 3
LIB 461 Information Literacy 1
Total Credits 25

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 C&I 316, 470, 479 and 485 from UM-Western may substitute for C&I classes. C&I graduate courses also may substitute for 316, 470, and 479.

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>Major</th>
<th>Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 152-153 Calculus I, II</td>
<td>Maj. Min.</td>
</tr>
<tr>
<td>MATH 221 Linear Algebra</td>
<td>4 4</td>
</tr>
<tr>
<td>MATH 301 Mathematics with Technology for Teachers</td>
<td>3 3</td>
</tr>
<tr>
<td>MATH 305 Introduction to Abstract Mathematics</td>
<td>3 3</td>
</tr>
<tr>
<td>MATH 326 Elementary Number Theory</td>
<td>3 3</td>
</tr>
<tr>
<td>MATH 341 Introduction to Probability &amp; Statistics</td>
<td>3 3</td>
</tr>
<tr>
<td>MATH 406 History of Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>MATH 421 Abstract Algebra</td>
<td>3</td>
</tr>
<tr>
<td>MATH 431 Euclidean &amp; Non-Euclidean Geometry</td>
<td>3 3</td>
</tr>
<tr>
<td>MATH 251 or additional 300-400-level course</td>
<td>3 4</td>
</tr>
<tr>
<td>C&amp;I 430 Teaching Math in Middle and Secondary Schools</td>
<td>4 4</td>
</tr>
<tr>
<td>Total Credits</td>
<td>41-42 31</td>
</tr>
</tbody>
</table>

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>Major</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 100A Performance Study</td>
</tr>
<tr>
<td>MUS 151-251-351 Principal Performance</td>
</tr>
<tr>
<td>MUS 111-112 Theory I, II</td>
</tr>
<tr>
<td>MUS 115A-116A Piano in Class I, II</td>
</tr>
<tr>
<td>MUS 117A Voice in Class</td>
</tr>
<tr>
<td>MUS 124-131 Strings, Woodwinds, Brass, Percussion Class</td>
</tr>
<tr>
<td>MUS 135L Introduction to Music Literature</td>
</tr>
<tr>
<td>MUS 137-138 Aural Perception I, II</td>
</tr>
<tr>
<td>MUS 211-212 Theory III, IV</td>
</tr>
<tr>
<td>MUS 215-216 Intermediate Piano in Class I, II</td>
</tr>
<tr>
<td>MUS 219 Piano Proficiency Assessment</td>
</tr>
<tr>
<td>MUS 270 Upper-Division Required Performance</td>
</tr>
<tr>
<td>MUS 237-238 Aural Perception III, IV</td>
</tr>
<tr>
<td>MUS 302 Instrumental Conducting</td>
</tr>
<tr>
<td>MUS 303 Choral Conducting</td>
</tr>
<tr>
<td>MUS 305 Instrumental Methods and Materials</td>
</tr>
<tr>
<td>MUS 306 Choral Methods and Materials</td>
</tr>
<tr>
<td>MUS 322-323 General Music Methods and Materials I, II</td>
</tr>
<tr>
<td>MUS 324H-325H History of Music I, II</td>
</tr>
<tr>
<td>MUS 328 Orchestration I</td>
</tr>
<tr>
<td>MUS 386 Concert Attendance</td>
</tr>
<tr>
<td>MUS upper-division electives</td>
</tr>
<tr>
<td>Total Credits</td>
</tr>
</tbody>
</table>

Music students should refer to the Department of Music section of this catalog for requirements concerning upper-division music course work.

Physics
Grades 5-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Physics, a student must complete the requirements for the B.A. with a major in Physics (see the Department of Physics and Astronomy section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Physics, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Major</th>
<th>Minor</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 121N-122N or 221N-222N Fundamentals of Physics (coreq. of Calculus for 221N)</td>
<td>Maj. Min.</td>
</tr>
<tr>
<td>PHYS 301 Mathematical Methods for Physical Scientists</td>
<td>10 10</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 in physics</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 131N-132N Elementary Astronomy</td>
<td>6 3</td>
</tr>
<tr>
<td>MATH 152-153 Calculus I and II</td>
<td>8 8</td>
</tr>
<tr>
<td>MATH 241 Statistics or MATH 341 Introduction to Probability and Statistics</td>
<td>3-4 3-4</td>
</tr>
<tr>
<td>MATH 251 Calculus III</td>
<td>4 4</td>
</tr>
<tr>
<td>MATH 311 Ordinary Differential Equations</td>
<td>3 3</td>
</tr>
<tr>
<td>CS 131 Fundamentals of Computer Science or CS 201 Programming Languages or CS 204 C Programming</td>
<td>3 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 3</td>
</tr>
<tr>
<td>CHEM 485 Laboratory Safety</td>
<td>1 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 3</td>
</tr>
<tr>
<td>GEOL 100N-101N General Geology</td>
<td>3</td>
</tr>
<tr>
<td>GEOL 301 Environmental Geology</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>77-78 53-54</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.

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>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 120 Introduction to Psychological Research</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 220 Psychological Statistics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>At least two of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 260S Fundamentals of Learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 265S Cognition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 270N Fundamentals of Biological Psychology</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>At least three of the following for the major:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 240S Child and Adolescent Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 330S Abnormal Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 350S Social Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 351S Psychology of Personality</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>At least one of the following for the minor:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 240S Child and Adolescent Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 350S Social Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 351S Psychology of Personality</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>At least one of the following for the major:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 117 Probability, Linear Mathematics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 150 Calculus I</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Math 152 Calculus II</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>At least one of the following for the minor:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 335S Fundamentals of Clinical Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 330S Abnormal Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 336S Child and Adolescent Psychological Disorders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 337 Principles of Cognitive Behavior Modification</td>
<td>3</td>
<td></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>
<td></td>
</tr>
<tr>
<td>Two of the following for the minor:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 260S Fundamentals of Learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 270N Fundamentals of Biological Psychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 371 Fundamentals of Human Neuropsychology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PSYC 372 Intermediate Behavioral Biology</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 428 Teaching Social Studies in Middle Schools</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td>40</td>
<td>1</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>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 316 Children’s Literature and Critical Reading</td>
<td></td>
<td></td>
</tr>
<tr>
<td>C&amp;I 470 Young Adult Literature and Critical Reading</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 318 Teaching Language P-8</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 405 Teaching Reading K-8</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 427 Literacy Strategies in Content Areas</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 433 Basic Diagnosis and</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Correction of Reading and Writing                        | 3    |      |
C&I 435 Organizing Classroom Reading and Writing Programs | 3    |      |
C&I 437 Application of Literacy Models                    | 6    |      |
Total Credits                                            | 24   |      |

**Russian**

Grades K-12. Does not qualify as a single field endorsement.

For an endorsement in the major teaching field of Russian, a student must complete the requirements for the B.A. with a major in Russian including Russ 301-302 and MCLG 410 (see the Department of Modern and Classical Languages and Literatures section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Russian, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUSS 101-102 Elementary Russian</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>RUSS 201-202 Intermediate Russian</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>RUSS 301 Oral and Written Expression</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>RUSS 302 Russian Culture and Civilization</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>RUSS 305L-306L Introduction to Russian Literature (minors take 306L)</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>RUSS upper-division electives</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>MCLG 410 Methods of Teaching Foreign Languages (prereq. to student teaching)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>HIST one course chosen from 344, 345, 348</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td>45</td>
<td>30</td>
</tr>
</tbody>
</table>

*The Department of Modern and Classical Languages and Literatures requires a recommendation of the student’s language proficiency and an overall minimum grade point average of 3.00 in upper-division course work in both the teaching major and minor as a prerequisite to student teaching.

The demand for teaching in the field is limited. The required second endorsement (either a teaching major or a teaching minor) should be in a field in high demand.

**Comprehensive Social Science**

Grades 5-12. Qualifies as a single-field endorsement.

Students seeking teaching certification in Comprehensive Social Science must complete special degree requirements for the combined major in history and political science (see the Department of History or the Department of Political Science sections of this catalog). Individuals holding a baccalaureate degree must show evidence of completing the courses listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 104H or 105H European Civilization</td>
<td>4</td>
<td></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></td>
</tr>
<tr>
<td>HIST 300 The Historians’ Craft</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HIST elective in Asian, Islamic, African, or Latin American</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HIST upper-division American history</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HIST upper-division European history</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>HIST upper-division elective</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSC 100S Introduction to American Government</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSC 120S Introduction to Comparative Government</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSC 130E International Relations</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSC 150E Political Theory</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSC upper-division American government and politics</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Upper-division credits in the following fields: comparative government International relations, organization and law</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>
Credits in one of the following fields: economics, geography, psychology, or sociology .......................... 12  
C&I 428 Teaching Social Studies in Middle and Secondary Schools ..................................................... 3  
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.

*Required course

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 171 Communicating via Computers or CS 172</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Computer Modeling or a higher-level CS course</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SOC 110S Principles of Sociology</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SOC 201 Social Science Methods</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SOC 202 Social Statistics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SOC 220S Race, Gender and Class</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SOC 230S Criminology or 330S</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Juvenile Delinquency</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SOC 455S Classical Social Theory</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Two of the following:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC 270S Introduction to Rural and Environmental Change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC 300S Sociology of the Family</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC 306S Sociology of Work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC 320S Complex Organizations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC 325S Social Stratification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC 355S Population Problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SOC 485S Political Sociology</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Sociology electives</td>
<td>9</td>
<td>6</td>
</tr>
<tr>
<td>C&amp;I 428 Teaching Social Studies in Middle and Secondary Schools</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>*Total Credits</td>
<td>36</td>
<td>27</td>
</tr>
</tbody>
</table>

*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.

*Required course

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAN 101-102 Elementary Spanish</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>SPAN 201-202 Intermediate Spanish</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>SPAN 301 Written Expression in Cultural Contexts</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 302 Phonetics and Oral Expression</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 311L/312L Introduction to Contemporary Spanish Literature (minors take one)</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 405 Applied Linguistics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>SPAN 408 Advanced Composition and Conversation</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>SPAN two literature courses at 400-level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LING 270 Introduction to Linguistics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MCLG 315L Major Hispanic Authors</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MCLG 410 Methods of Teaching Foreign Languages (prereq. to student teaching)</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td>51</td>
<td>36</td>
</tr>
</tbody>
</table>

*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.

<table>
<thead>
<tr>
<th>Course</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 420 Assessment &amp; Curriculum</td>
<td></td>
</tr>
<tr>
<td>In Early Childhood Special Education OR elective*</td>
<td>2-3</td>
</tr>
<tr>
<td>C&amp;I 453 Basic Diagnosis and Correction of Reading and Writing</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 453 Introduction to Special Education</td>
<td></td>
</tr>
<tr>
<td>Law &amp; Policy</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 457 Assessment and Instruction for Exceptional Learners</td>
<td>5</td>
</tr>
<tr>
<td>C&amp;I 459 Consulting/Resource Teacher (prereq. C&amp;I 453)</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 463 Advanced Classroom Management for Exceptional Learners/Practicum (prereq. C&amp;I 453)</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 469 Student Teaching: Special Education</td>
<td>10</td>
</tr>
<tr>
<td>Total Credits</td>
<td>29-30</td>
</tr>
</tbody>
</table>

*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 notetaking, 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 concurrent 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.
School of Education - Department of Curriculum and Instruction - 277

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 Field Experience/Mid-Level 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 students whose C&I 200 experience was in a high school classroom.

U 302 Field Experience/Secondary 1 cr. (R-4) Offered autumn and spring. Prereq., C&I 200; coreq., a secondary methods course. Arranged field experience in a high school classroom. For students whose C&I 200 experience was in a middle school setting.

U 303 Educational Psychology and Measurements 3 cr. Offered every term. Prereq., admission to Teacher Education program; prereq. or coreq., C&I 200. Analysis of fundamental psychological concepts underlying classroom teaching and management, learning and evaluation including educational measurement. Emphasis on cognition, developmental, and motivational aspects of learning.

U 306 Instructional Media and Computer Applications 3 cr. Offered every term. Prereq., admission to the Teacher Education Program and general computer literacy skills; prereq. or coreq., C&I 200. Integration and use of computer and other technologies in education.

UG 316 Children's Literature and Critical Reading 3 cr. Offered autumn and spring. Prereq., C&I 303; coreq., C&I 318, 300 and UM writing exam passed. Genre survey including multi-ethnic literature. Focus is on extensive reading and responding to quality children's literature through listening, speaking, writing, drama, and media activities which emphasize criteria for selection, critical thinking skills, the "whole language" approach, and effective integration of literature into the elementary curriculum.

U 318 Teaching Language Arts K-8 3 cr. Offered autumn and spring. Prereq., C&I 303; coreq., C&I 300, 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 summer 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 summer 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 K-3.

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/speciality classes. Coreq., 400/401, 402, 404 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/speciality 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/speciality classes. Coreq., C&I 400/401, 402, 403 and 404. Preparation to 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. Technological considerations included.

UG 420 Curriculum and Methods in Early Childhood Special Education 3 cr. Offered autumn even-numbered years. Principles in selecting and adapting early childhood curriculum materials for young children with handicaps development, implementation and evaluation of individualized education plans and appropriate teaching strategies for the early childhood special education classroom. Includes 45 hours of practicum work in campus-based CO-TEACH Preschool.

UG 421 Issues in Early Intervention 3 cr. Offered autumn odd-numbered years. For case managers, school psychologists and special educators involved in P.L. 99-457. Issues in parent and child advocacy, least restrictive placements in pre-school and school environments, transitions concerning service providers and plans, case management in rural communities, interdisciplinary 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 429 Teaching Business Subjects 4 cr. Offered autumn. Prereq., C&I 303, business teaching experience. Methods of unit and lesson planning methods of instruction and presentation learning theory computer applications student assessment microteaching test design and evaluation of business courses and students.


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 quality reading/writing program.

UG 437 Application of Literacy Models 6 cr. Offered summer intermittently. Prereq., C&I 433 or C&I 533. Provides students classroom teaching experience under direct supervision. Students teach reading and writing and apply knowledge of assessing and correcting reading and writing difficulties in grades K-12.

UG 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 summer. Prereq., admission to the special education endorsement program. Introduction to the processes involved in the identification and instructional planning for students requiring special education services. Considers the prereferral, referral, multidisciplinary evaluation and individual educational programming required under state and federal mandates.

UG 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; offered summer in even-numbered years. 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; offered summer odd-numbered years. 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; offered summer odd-numbered years. 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, auditing, and viewing of literature and media addressed to students age 13-18. Emphasizes effective teaching strategies for using quality literature with middle school and secondary students. Not a substitute for C&I 316.

UG 479 Reference, Media Skills, and Technology 3 cr. Offered intermittently. Evaluation, selection, and use of basic reference resources. Teaching of media skills, information negotiation, search strategies, database use, and information services.
UG 480 Collection Development 3 cr. Offered autumn. Focus on building and maintaining a foundation print and non-print media collection; devising a selection policy; demonstrating media use in support of the curriculum; and compiling annotated bibliographies.

U 481 Student Teaching: P-8 Elementary Variable cr. (R-14) Offered autumn and spring. Prereq., passing score on Writing Proficiency Assessment; all elementary education degree and licensure requirements, excluding C&I 407 and 494; and consent of Director of Field Experiences and Student Teaching. Coreq., C&I 494.

U 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.

UG 483 Library-Media Technical Processes 2 cr. Offered spring odd-numbered years and summer even-numbered years. Coreq., C&I 488. Focus on acquisition, processing, descriptive cataloging, application of AACR2, and the Dewey Decimal Classification for the print and non-print media collections.

UG 484 Administration and Assessment of the Library-Media Program 3 cr. Offered spring. Administrative and management procedures; assessment in terms of state, regional, and national guidelines for library-media programs and services.

UG 485 Authentic Assessment in Library Media 3 cr. Offered summer. Prereq., all coursework 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 and spring. Same as HHP 486. Introduction to basic concepts and procedures characterizing both descriptive and inferential statistics. Awareness of ways in which statistical procedures are commonly misused.

UG 488 Libraries and Technology 2 cr. Offered spring odd-numbered years and summers even-numbered years. Coreq., C&I 483. Uses of computers in automation of library services and in administration of the library media program.

U 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 intermittently. Prereq., consent of instr.

U 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 spring odd-numbered years online. 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.

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 "whole language" 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 elementary 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 quality works, evaluation, and curricular utilization in grades 8 through 12.


G 553 Information Searching, Retrieval and the Curriculum 3 cr. Offered summer even-numbered years. Search strategy, informed selection, and curricular utilization of general and subject reference and information sources integration of research and media skills into the K-12 curriculum.

G 555 Workshop Variable cr. (R-6) Offered intermittently. Special courses experimental in nature dealing with a relatively narrow, specialized topic of particular current interest. Credit not allowed toward a graduate degree.

G 557 Advanced Application of Literacy Models 6 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 integration of educational technology. Emphasis on role of technology in contemporary teaching/learning/assessing theory and practice, including learning styles and multiple intelligences.

G 572 Evaluation of the School Media Program 3 cr. Offered intermittently. Prereq., completion of 15 semester credits in the library media program or consent of instr. Study and application of measures used to evaluate school media program and services including district, state, regional, and national instruments. Required for M.Ed. with a library-media concentration.

G 580 Distance Learning Theory and Implementation 3 cr. Offered 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., SPSS-X) for research applications.
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 development and growth, 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 spring. Prereq., PSYC 100S. 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., COUN 511, 512 and consent of instr. Review and application of counseling theories and techniques to client issues. Intensive supervision including ethics, professional practice and diagnostic considerations. Lecture and class presentation with a focus on professional counseling development.

G 540 Individual Appraisal 3 cr. Offered spring. Prereq., C&I 517 or consent of instr. Overview of appraisal techniques utilized in counseling, including interviewing, observation, and psychological/educational testing. The processes of selection, administration, scoring, interpretation, and reporting information from appraisal techniques are examined in relation to practical, legal, and ethical considerations.

G 550 Introduction to Family Counseling 3 cr. Offered spring. Prereq., admission to Counselor Education program or consent of instr. An introduction to the major theories, techniques, and diagnostic tools of family counseling. Course includes a family systems emphasis.

G 560 Lifespan Developmental Counseling 3 cr. Offered spring. Overview of counseling from the framework of lifespan developmental theory. Normal and abnormal development in the environmental context of family, school, society and culture emphasized.

G 565 School Counseling, Program Development and Supervision 3 cr. Offered spring. Prereq., graduate standing or consent of instr. Examination of counseling techniques and approaches relevant to prevention and remediation of behavioral, social, emotional and academic problems for students P-12. Overview of school counseling program development and administration.

G 566 Counseling Children and Adolescents 3 cr. Offered every spring. Prereq., COUN 511, 512, 565 or consent of instr. Review and application of counseling concerns and approaches with children and adolescents in school and related educational settings, including classroom and psychoeducational strategies.

G 570 Career Counseling Theory and Techniques 3 cr. Offered spring. Examination of theories of career choice and development; information sources for career counseling; techniques and approaches of career counseling with clients at different stages of career and life development and from diverse populations.

G 575 Multicultural Counseling 3 cr. Offered autumn. Prereq., graduate standing or consent of instr. An introduction to the field of multicultural counseling. Issues and practical considerations in counseling five population groups; definition of terms and concepts.


G 585 Counseling Methods: School and Agency 2-9 cr. Offered every term. Prereq., COUN 511, 512. Supervised counseling methods and theories as applied to 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 education.

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

G 596 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 597 Research Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

G 610 Professional Ethics and Orientation 3 cr. Offered autumn. Prereq., COUN 530 or consent of instr. The public and institutional roles and responsibilities of counseling professionals including ethical and legal responsibilities.

G 615 Diagnosis and Treatment Planning in Counseling 3 cr. Offered autumn. Prereq., COUN 512. Overview of diagnosis, treatment planning and case documentation in counseling.

G 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 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 level affecting 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 552 The Supervision and Evaluation of School Leaders 3 cr. Offered every term. Prereq., C&I 546 or consent of instr. The historical and theoretical bases of current K-12 curriculum and instructional leadership.

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 court 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. Prereq., EDLD 550. The changing role of the principal in 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 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 spring and 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 UM 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 486 or equiv. and coreq., EDLD 618. Same as C&I 625. Principles and technique of quantitative research in educational settings. Students prepare a draft of a research proposal and experience an abbreviated dissertation proposal defense.

G 653 School Personnel Administration 3 cr. Offered 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 remodeled facilities; the school business official's responsibilities regarding buildings and grounds, maintenance and custodial services, transportation, food services, and the administration of classified personnel.

G 658 School Public Relations-Superintendents 3 cr. Offered spring and summer even-numbered years. Enhancing school 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 667 The American College Professor 3 cr. Offered autumn odd-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.
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 National Athletic Trainer’s Association 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 to facilitate their adoption in the school or community. Students successfully completing the Health Enhancement emphasis should meet state certification standards for teaching Health Enhancement in K-12 environments.

The graduate curriculum in Health and Human Performance at The University of Montana prepares post-graduates to become effective health and human performance professionals or competitive candidates for advanced study in related disciplines through a comprehensive program of study and guided research. Development of the following is considered essential in achieving a graduate degree: 1) oral and written communication, 2) understanding of current research 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/program/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 a 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 a C (2.00) on any required courses will be placed on program suspension and will not be allowed to continue any sequential courses until they retake the course and receive at least a C. If a student receives less than a C (2.00) after repeating a course, the student will be dismissed from the program.

**Admission Policies for Health Enhancement 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). 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 1008, ENEX 101, and C&I 427 or ENTR 440. None of these courses may be taken as pass/not pass except where that is the only grade available.

**Admission Policies for the Athletic Training Option**

**Athletic Training Education Program (ATEP)**

The University of Montana offers a Bachelor of Science in Health and Human Performance (HHP) with an option in Athletic Training. The Athletic Training Education Program (ATEP) is the only undergraduate curriculum in the State of Montana accredited by the Commission on Accreditation of 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.

Follow 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
   - past experience in athletic training
   - any other areas or comments considered appropriate
3. Three professional letters of recommendation.
4. Completion of 140 hours of clinical observation in athletic training and Level 1 modules and clinical proficiencies. See the Pre-ATEP Policy & Procedure Manual (http://www.soe.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).

**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 practicum within a two year period. No more than one-half (500) of this minimum (1,000) can be credited per academic year; the hours must be equally distributed each semester (250 per semester).
4. Demonstrate progressive improvement as an athletic training student throughout the practicum, per 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.soee.unl.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 athletic training option)
American Red Cross (Professional Rescuer is required for the athletic training option)

Or Certification as an Emergency Medical Technician
Health and Human Performance students may use available elective credits to take HHP 288/289, Advanced First Aid, Emergency Care and CPR, to meet this competency, or they may elect to fulfill the competency through another agency. Credit for HHP 288/289 will not be awarded for certifications earned at agencies other than the Health and Human Performance Department at The University of Montana-Missoula.

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 a minimum of 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.


Exercise Science Option (required courses). Within Department (44 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; 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 (38 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; BIOL 312, BIOL 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, 416, 485, 486; ACCT 201; ANTH 388, 444; BIOL 265N; CHEM 152N; EVST 225; MATH 241; MKTO 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 (49-53 crs.): 181, 184, 224, 225, 226, 233, 236N, 288 or appropriate certification, 289 or appropriate certification, 301, 339, 361, 365, 368, 369, 377, 378, 384, 450, 466, 475E. Out of Department (68-69 crs.): COMM 111A; SCN 201N-202N; BIOL 106N; BIOL 121N or SCI 350; PSYC 100S, PSYC 240S; C&I 200, 301 or 302, 303, 306, 407E, 410, 481, 482; C&I 427; CHEM 151N; MATH 241; CS 171; NAS requirement.

Suggested Course of Study

Athletic Training Option:

First Year
BIOL 106N Elementary Medical Microbiology ....... 3
CHEM 151N-152N General and Inorganic Chemistry and Organic and Biological Chemistry ....... 3
COMM 111A Introduction to Public Speaking ....... 3
CS 171 Communication Via Computers ....... 3
ENEX 101 Composition ....... 3
HHP 181 Foundations of Health and Human Performance ....... 3
HHP 184 Personal Health and Wellness ....... 3
MATH 117 Probability and Linear Math ....... 3
HHP 226 Basic Exercise Prescription ....... 2
General Education ....... 3
Total ....... 17 15

Second Year
BIOL312-313 Anatomy and Physiology I, II ....... 4 4
FOR 220 Technical Writing ....... 2
PSYC 100S Introduction to Psychology ....... 4
HHP 240 Prevention and Care of Athletic Injuries ....... 2
HHP 241 Prevention and Care of Athletic Injuries Laboratory ....... 1
HHP 242 Directed Clinical Observations ....... 1
HHP 288-289 First Aid and CPR (or in department elective if competency is met) ....... 3
PHAR 110N Use and Abuse of Drugs ....... 3
General Education ....... 3 6
Total ....... 17 16
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<td>HHP 342</td>
<td>Advanced Techniques of Athletic Training</td>
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<tr>
<td>HHP 343</td>
<td>Advanced Techniques of Athletic Training</td>
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<tr>
<td>HHP 346</td>
<td>Measurement in Physical Education and Health</td>
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<td>HHP 366</td>
<td>Measurement and Modalities</td>
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<td>HHP 367</td>
<td>Measurement and Modalities Laboratory</td>
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<td>HHP 389</td>
<td>Applied Anatomy and Kinesiology</td>
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<tr>
<td>HHP 401</td>
<td>Evaluation of Athletic Injuries</td>
<td>2</td>
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<tr>
<td>HHP 402</td>
<td>Evaluation of Athletic Injuries</td>
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<tr>
<td>HHP 411-412</td>
<td>Advanced Practicum in Athletic Training I, II</td>
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<td>HHP 446</td>
<td>Nutrition for Sport</td>
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<tr>
<td>HHP 475E</td>
<td>Legal and Ethical Issues in Exercise Professions</td>
<td>3</td>
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<tr>
<td>HHP 479</td>
<td>Sports Medicine</td>
<td>2</td>
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<td>HHP 485</td>
<td>Theories of Health Behavior and Counseling</td>
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**Exercise Science Option:**

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<td>BIOL 106N</td>
<td>Elementary Medical Microbiology</td>
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<td>CHEM 151N</td>
<td>General and Inorganic Chemistry</td>
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<td>COMM 111A</td>
<td>Introduction to Public Speaking</td>
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<td>ENEX 101</td>
<td>Composition</td>
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<td>HHP 365</td>
<td>Measurement in HHP Professions</td>
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<td>HHP 377</td>
<td>Physiology of Exercise</td>
<td>3</td>
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<td>HHP 378</td>
<td>Physiology of Exercise Laboratory</td>
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<td>HHP 401</td>
<td>Evaluation of Athletic Injuries</td>
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<td>Evaluation of Athletic Injuries</td>
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<td>Advanced Practicum in Athletic Training I, II</td>
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**Fourth Year**

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<td>Motor Control and Learning</td>
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<td>HHP 399</td>
<td>Senior Project and Research Design</td>
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<td>Nutrition for Sport</td>
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<td>HHP 475E</td>
<td>Legal and Ethical Issues in Exercise Professions</td>
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<td>HHP 483</td>
<td>Exercise and Disease</td>
<td>3</td>
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<tr>
<td>HHP 484</td>
<td>Exercise and Disease Laboratory</td>
<td>1</td>
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<tr>
<td>HHP 450</td>
<td>Analytical and Communication Techniques</td>
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<td>HHP 499</td>
<td>Internship</td>
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**Applied Health Science Option:**

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<td>BIOL 106N</td>
<td>Elementary Medical Microbiology</td>
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<tr>
<td>CHEM 151N</td>
<td>General and Inorganic Chemistry</td>
<td>3</td>
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<td>COMM 111A</td>
<td>Introduction to Public Speaking</td>
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<td>ENEX 101</td>
<td>Composition</td>
<td>3</td>
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<td>HHP 181</td>
<td>Foundations of Health and Human Performance</td>
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<td>HHP 184</td>
<td>Personal Health and Wellness</td>
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<td>Basic Exercise Prescription</td>
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<td>MATH 117</td>
<td>Probability and Linear Math</td>
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<td>PSYC 1000</td>
<td>Introduction to Psychology</td>
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**Second Year**

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<td>Anatomy and Physiology I, II</td>
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<td>CHEM 152N</td>
<td>Organic and Biological Chemistry</td>
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<td>CS 171</td>
<td>Communication Via Computers</td>
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<td>FOR 220</td>
<td>Technical Writing</td>
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<td>HHP 236N</td>
<td>Nutrition</td>
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<td>MATH 241</td>
<td>Statistics</td>
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**Third Year**

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<td>CHEM 154N</td>
<td>Organic and Biological Chemistry</td>
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<td>Physiology of Exercise</td>
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<td>Physiology of Exercise Laboratory</td>
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<td>Motor Control and Learning</td>
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<td>Applied Anatomy and Kinesiology and Laboratory</td>
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**Fourth Year**

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<td>BIOL 121</td>
<td>Introductory Ecology or Environmental Perspectives</td>
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<td>HHP 228</td>
<td>First Aid/Emergency Care/CPR</td>
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<td>HHP 483</td>
<td>Prevention, Detection, Rehabilitation for Coronary Heart Disease</td>
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<td>HHP 484</td>
<td>Prevention, Detection, Rehabilitation for Coronary Heart Disease Laboratory</td>
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### Health Enhancement Option:

**First Year**
- BIOL 106N Elementary Medical Microbiology: A 3
- BIOL 121N Introductory Ecology: A 3
- SCI 350 Environmental Perspectives: 2-3
- CHEM 151N General and Organic Chemistry: 3
- COMM 111A Introduction to Public Speaking: 3
- CS 171 Communicating Via Computers: 3
- ENEX 101 Composition: 3
- HHP 181 Foundations of Health and Human Performance: 3
- HHP 184 Personal Health and Wellness: 3
- MATH 117 Probability and Linear Math: 3
- PSYC 100S Introduction to Psychology: 4
- General Education: 2
- **Total 16**

**Second Year**
- C&I 200 Exploring Teaching/Field Experience: 2
- C&I 301 or 302 Field Experience-mid-level or secondary: 1
- HHP 224 Professional Activities: 2
- Outdoor Recreation: 2
- HHP 225 Professional Activities: Individual: 2
- Dual/Team Sports: 3
- HHP 226 Basic Exercise Prescription: 2
- HHP 233 Health Issues/Child and Adolescents: 3
- HHP 361 Assessment in P.E. and Health: 3
- PSYC 240S Child and Adolescent Development: 3
- SCN 201N-202N Anatomy & Physiology: 4
- General Education: 6
- **Total 17**

**Third Year**
- C&I 306 Instructional Media/Computer Applications: 3
- ENT 440 Teaching Reading and Writing Across the Curriculum or C&I 427 Literacy Strategies in Content Areas: 3
- HHP 236N Nutrition: 3
- HHP 301 Instructional Strategies in Secondary School Physical Education: 3
- HHP 339 Instructional Strategies in Elementary Physical Education: 3
- HHP 377 Physiology of Exercise: 3
- HHP 378 Physiology of Exercise Laboratory: 1
- HHP 384 Motor Control and Learning: 3
- HHP 368-369 Applied Anatomy and Kinesiology and Laboratory: 4
- HHP 466 Strategies in K-12 Health Education: 3
- HHP 475E Legal and Ethical Issues in Exercise Professions: 3
- MATH 241 Statistics: 3
- NAS see special requirements: 3
- **Total 19**

**Fourth Year**
- C&I 303 Education Psychology and Measurement: 3
- C&I 407E Ethics and Policy Issues: 3
- C&I 410 Exceptionality/Classroom Management: 3
- C&I 481 Student Teaching Elementary: 6
- C&I 482 Student Teaching Secondary: 6
- C&I 494 Professional Portfolio: 1
- HHP 288 First Aid/Emergency Care/CPR: 2
- HHP 289 First Aid/Emergency Care/CPR: 1
- HHP 365 Management in Health and Human Performance Professions: 3
- HHP 450 Analytical and Communication Techniques: 3
- **Total 18**

### 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/h2pac/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 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 I cr.** Offered every term. All students required to meet proficiency entrance standards set by instructor. (200) Swim Skills/Aquatic Fitness, (209) Soccer, (215) Tennis, (223) Special Activities.

**U 224 Professional Activities: Outdoor Recreation 2 cr.** Offered autumn. The instruction of basic skills for selected outdoor and recreational type activities. Technical procedures, drills, and approaches to the teaching. Demonstration and instruction skills developed. HHP majors and minors only. Active participation required.

**U 225 Professional Activities: Traditional Individual/Dual/Team Sports 2 cr.** Offered spring. The instruction of basic skills for selected individual, dual, and team sports and activities Technical procedures, drills, and approaches to the teaching. Demonstration and instruction skills developed. HHP majors and minors only. Active participation required.

**U 226 Theory and Practice of Basic Exercise Prescription for Aerobic and Resistance Training 2 cr.** Offered autumn and spring. Theory, principles, and practice of exercise prescription for aerobic and resistance exercise programs for health, fitness and performance.

**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 242 Clinical Observation in Athletic Training 1 cr. Offered autumn and spring. Prereq. or coreq., HHP 240, 241. Clinical observation in the high school, university, clinical, and non-traditional athletic training settings under the supervision of a Certified Athletic Trainer.

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.

U 250 Ski Instructor's Qualification Program 2 cr. Offered spring. Prereq., consent of instr. Offered alternate years. Open to all students with above average skiing ability. Techniques of teaching skiing including finished technical forms, teaching methods, ski school progression, and ski mechanics. Prerequisites: prior ski instructor 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.

UG 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.

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.

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 369 Applied Anatomy and Kinesiology Laboratory 1 cr. Offered autumn. Prereq., BIOL 312, 313 or equiv.; coreq., HHP 368. Anatomy and kinesiology of the neuromusculoskeletal system and body cavities in relation to movement, function.

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 autumn and spring. Prereq., BIOL 313N; 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 exam ining 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 383 Instructor First Aid CPR/First Aid Certification 1 cr. Offered summer. Provides the knowledge and skills of teacher certification for First Aid/CPR. Upon successful completion, students receive a certification to teach American Heart Association First Aid and CPR courses.

U 384 Motor Control and Learning 3 cr. Offered spring. Prereq., BIOL 213. Application of research in motor learning with emphasis on developmental and psychological factors related to motor skill acquisition and autonomous motor performance.

U 386 Applied Anatomy, Kinesiology and Biomechanics 3 cr. Offered spring. Prereq., BIOL 312. Neuromusculoskeletal system as it relates to motion and function. Basic kinesiological and biomechanical principles with specific applications to physical activity. Use of applied anatomical, kinesiological and biomechanical principles to analysis of motion.

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 233, 339, 301. In-depth exploration of curriculum trends, instructional methods, and research related to teaching health education in grades K-12. Emphasis on prevention and educational strategies in the areas of emotional and mental health, human sexuality, disease prevention, consumer health, nutrition and weight control, community and environmental health, and alcohol and other drug abuse.

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 of care for older persons.

U 440 Instructor First Aid and CPR 1 cr. Offered summer. 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 BIOL 213 and junior standing. Nutritional parameters of athletic performance including intervention planning, energy production, the energy nutrients, vitamins and minerals, principles of balanced diets, timing and composition of intakes, hydration, weight management strategies, and nutritional needs for special situations.

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 focused on individual and team motivation, team cohesion and leadership, youth sport applications, and health and wellness applications.

U 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 Sports Medicine 2 cr.** Offered spring. Prereq., HHP 377 and HHP 368. The etiology and management of sports related injuries/illnesses. Includes: therapeutic use of drugs, pre-participation screening techniques, ergogenic aids, the aging athlete, the sports medicine team concept and current orthopedic treatments for sports injuries.

**UG 482 Electrocardiogram Assessment 1 cr.** Offered autumn. Laboratory sessions combined with class sessions to understand electrocardiography and the assessment of electrocardiograms, both at rest and during exercise.

**UG 483 Exercise, Disease and Aging 3 cr.** Offered spring. 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 clinical certification exam when combined with HHP 226, 377, 378, 482 and 484.

**UG 484 Exercise, Disease and Aging Laboratory 1 cr.** Offered spring. 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 and spring. Prereq., MATH 117 or equiv. or consent of instr. Same as C&I 486. Concepts and procedures characterizing both descriptive and inferential statistics. Awareness of common statistical errors.

**U 493 Omnibus 1-3 cr. (R-6)** Offered every term. Prereq., consent of instr. Independent work under the University omnibus option. See index.

**U 494 Seminar 1-3 cr. (R-6)** Prereq., consent of instr. Offered intermittently.

**UG 495 Special Topics Variable cr. (R-6)** Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**U 496 Independent Study 1-3 cr. (R-6)** Offered every term. Prereq., consent of instr.

**U 497 Research 1-3 cr. (R-6)** Offered every term. Prereq., consent of instr.

**U 498 Internship 1-4 cr. (R-4)** Offered every term. Prereq., 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.

**U 499 Senior Project 3 cr.** Offered spring. Prereq., HHP senior standing. Theory and practical experience in research design, data collection, results analysis and report writing. Students will generally assist with ongoing research as well as attend formal classroom presentations and discussions. Students with a well developed research idea may be allowed to undertake independent research in addition to the formal classroom sessions.

**G 509 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
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
Laura Dybdal, Ph.D., University of New Mexico, 1996
Steven Gaskill, Ph.D., University of Minnesota, 1998
Scott Richter, Ed.M., Oregon State University, 1982 (Program Director, Athletic Training)

Assistant Professors
Blakely Brown, Ph.D., R.D., University of Minnesota, 2000

Carla Cox, Ph.D., The University of Montana, 2003 (Adjunct)
Dennis T. Murphy, M.S., University of Arizona, 1976 (Head Athletic Trainer)

Instructors
Adrienne M. Corti, M.S., The University of Montana, 1989
Linda Green, B.S., Florida State University, 1976
Karla Judge, M.S., Idaho State University 1991
Ellen Parchen, B.S., West Chester University, 1994
J. C. Weida, M.S., 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

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 to:

- 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 and Drawing, and Art History (M.A. only). Courses in art criticism are included in the program. The curriculum also includes courses that prepare students for certification in teaching art K-12.

Advanced Placement Policy

Undergraduate students wishing to challenge foundations courses for advanced placement must adhere to the following.

Students may try to challenge only the foundations courses (Art 123A, Drawing; 125A, 2-D Foundations; 135A, 3-D Foundations).

Students who have taken AP exams still must submit a portfolio to challenge art classes.

Portfolios are reviewed the two weeks prior to registration for each semester by a committee of representative faculty from the 2-D and 3-D areas.

Two weeks prior to the semester students may submit a portfolio of eight to ten slides or pieces of actual work to the department office. If challenging more than one course, students need eight to ten works in each area, for example: 8-10 drawing samples for 123A, 8-10 color works for 125A, and 8-10 3-D pieces for 135A.

Submission of work does not guarantee advanced placement.

Students with transfer credits from another institution must contact the chair of the department for review of transfer transcripts to make an advanced placement assessment.

Special Degree Requirements

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

Students pursuing Bachelor of Fine Arts or Bachelor of Arts degrees with options in the Art Department must earn a "C" (2.00) grade or better in all Art courses fulfilling requirements in order to graduate.

Bachelor of Fine Arts Review Process

Initially, all students enter as Bachelor of Arts (B.A.) candidates. To qualify to apply for the Bachelor of Fine Arts (B.F.A.) program, a student must have and maintain a 3.0 grade point average in Art and a 2.4 overall GPA, having earned 33 credits in Art including the following: ART 150H, 151H, 123A, 125A, 135A, four courses out of of six studio areas, and two 300-level studio courses. Should a student not be admitted to the B.F.A. program with his or her first application, a second application may be made before the senior (90 total credits). A student may apply only twice.

Applications must include: the application form with the area faculty signature, statement of purpose, and portfolio. Applications are reviewed each semester prior to preregistration.

Bachelor of Fine Arts with a major in Fine Arts, options in Ceramics, Painting and Drawing, Photography, Printmaking or Sculpture

The Bachelor of Fine Arts, major in Fine Arts, options in Ceramics, Painting and Drawing, Photography, Printmaking, or Sculpture is a professional degree requiring 75 credits in art distributed as follows: art fundamentals, 9; beginning art history, 6; photography, 3; ceramics, 3; printmaking, 3; sculpture, 3; painting, 3; drawing, 3; introductory art criticism, 3; upper-division art history, 6; upper-division art criticism, 3; upper-division studio courses outside your area of concentration (to include Drawing II), 12; upper-division studio courses in the area of concentration, 12; professional practices/senior thesis, 6. The Upper-division Writing
Expectation must be met by taking an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. University General Education requirements must be fulfilled as listed previously in the catalog. See index.

ART 123A is a prerequisite for all 200-level two-dimensional studio art courses. ART 125A is a prerequisite for all 200-level painting and drawing courses. ART 135A is a prerequisite for all 200-level ceramic and sculpture courses.

**Bachelor of Arts with a major in Fine Arts, option in Art**

Fine Arts majors seeking the Bachelor of Arts degree with an Art option must complete 63 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 art studio courses (300- and 400-level) (to include 4 of the 6 studio areas counting Drawing II), 12; upper-division art criticism, 3; upper-division (300- and 400-level) electives in art, 6. The Upper-division Writing Expectation must be met by taking an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

University general requirements must be fulfilled as listed previously in the catalog.

**Bachelor of Arts with a major in Fine Arts, option in Art Education**

The art education option is designed for the student seeking an endorsement (K-12) in the extended major teaching field of art.


For an endorsement to teach Art K-12, a student must gain admission to Teacher Education and Student Teaching and meet the requirements for teacher certification (see the School of Education section the this catalog).

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

University general requirements must be fulfilled as listed previously in the catalog.

**Suggested Course of Study**

**Programs for the B.A./B.F.A. Degree.**

Credits in parentheses are additional requirements for the B.F.A.

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</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>
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<tr>
<td>Other General Education courses</td>
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**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
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<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>
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**Fourth Year**

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<th>Course</th>
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<tr>
<td>ART 240A Painting I</td>
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<td>General Education</td>
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<td>Third Year</td>
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<tr>
<td>Art History (300-level)</td>
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<tr>
<td>Studio II courses</td>
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<tr>
<td>Studio courses (B.F.A. option courses)</td>
<td>(3)</td>
</tr>
<tr>
<td>Art 305L or 403L Art Criticism</td>
<td>3</td>
</tr>
<tr>
<td>Art 323 Drawing II</td>
<td>3</td>
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<tr>
<td>General Education</td>
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<tr>
<td>Fourth Year</td>
<td></td>
</tr>
<tr>
<td>Studio courses (B.F.A., courses in option)</td>
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<tr>
<td>Studio art courses (300-400-level)</td>
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<tr>
<td>ART 494 Professional Practices (B.F.A.)</td>
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<tr>
<td>ART 499 Senior Thesis (B.F.A.)</td>
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<tr>
<td>Elective &amp; General Education</td>
<td>6-126-12</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.

**Art Studio**

To earn a minor in art studio the student must complete at least 27 credits to include the following: ART 123A, 125A, 135A; ART 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, pictorial depth, and figure/ground relationships. Research in historical and contemporary approaches to drawing.

U 125A Color and Design 3 cr. Offered autumn and spring. Prereq. or coreq., ART 123A. An introduction to the formal elements and principles of design, color theory, and predominant western and non-western historical styles. Emphasis on solving specific design problems.

U 129A Ceramics for Non-Majors 3 cr. Offered intermittently. A general introduction to art using ceramics. Less specialized than Ceramics I for fine arts majors. Credit not allowed toward a B.A., B.F.A., or minor in art.

U 135A Three-Dimensional Fundamentals 3 cr. Offered autumn and spring. Basic three-dimensional course for both general education and beginning art students. Prerequisite to beginning sculpture and beginning ceramics. Emphasis 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, and print finishing techniques. Focus on technical expertise and issues of content and personal expression.

U 223 Drawing I: Figure Drawing 3 cr. Offered autumn and spring. Prereq., ART 123, 125. Study of human anatomy with an emphasis on rendering and interpreting the figure. Research in historical and contemporary figuration as a basis for developing a portfolio.

U 229A Ceramics I 3 cr. Offered autumn and spring. Prereq., ART 135A. Introduction to clay as a historical and contemporary art-making medium. Basic methods of building with clay, with emphasis on handbuilding: elementary solutions to problems of glazing and surface treatment.

U 233A Printmaking I: Lithography 3 cr. (R-9) Offered autumn and spring. Introduction to various printmaking media.

U 235 Sculpture I 3 cr. Offered autumn and spring. Prereq., ART 135A. Introduction to basic technical skills in the areas of woodworking, welding, and casting. Problem-solving in the areas of concept, aesthetics, materials and process; studio safety. Issues of content and formal criticism as it relates to personal expression.

U 240A Painting I 3 cr. Offered autumn and spring. Prereq., ART 123A, 125A and 223A. Acrylic and oil painting emphasizing composition and application of color theory. Research in historical and contemporary strategies.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

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


U 316 Photography III cr. (R-9) Offered autumn or spring. Prereq., ART 123A, 215A, 315. Further exploration of theory, criticism, and practical experience. Students work independently and assist with beginning courses; serve as lab monitors.

U 322 Drawing II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A and 223A. Exploration and production of drawings with emphasis on individual expression. Studio practicum, lectures, critiques, reading and writing.

UG 329 Ceramics II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 135A and 229. Further exploration of the ceramic process introducing more complex ways of handbuilding and developing the art of throwing. Examination of the technology and chemistry of clay, glazes, and high temperature oxidation and reduction firing.

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.

UG 333 Printmaking II 3 cr. (R-12) Offered autumn and spring. Prereq., 3 credits from ART 233A. Continued work in various printmaking media.

UG 335 Sculpture II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 135A and 235. Focus on contemporary issues and techniques of sculpture.

UG 340 Painting II: The Figure 3 cr. Offered autumn and spring. Prereq., ART 240A. Exploration of painting with emphasis on the human figure and classical compositions and techniques, studio practicum, lectures, critiques, reading and writing.

UG 341 Painting II 3 cr. (R-9) Offered autumn and spring. Prereq., ART 340. Exploration and production of paintings with emphasis on individual expression. Studio practicum, lectures, critiques, reading and writing.

UG 390 Supervised Internship Variable cr. (R-12) Offered every term. Special internships under direction of department faculty allowing students practical experience in a chosen area.

UG 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

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

UG 415 Independent Study in Photography 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 215A, 315, consent of instr. Advanced photographic techniques.

UG 416 Advanced Research in Photography 3 cr. (R-9) Offered intermittently. Investigation of photography with emphasis on student proposals, including specific technical and conceptual aspects.

UG 423 Independent Study in Drawing 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A, 223, 323, and consent of instructor. Advanced drawing techniques.

UG 424 Advanced Research in Drawing 3 cr. (R-9) Offered intermittently. Investigation of drawing with emphasis on student proposals, including specific technical and conceptual aspects.

UG 429 Independent Study in Ceramics 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 135A, 229A, 6 credits of ART 329, 330 and consent of instructor. Continued exploration of ceramic art. Individualized approach with student initiative in determining projects.

UG 430 Advanced Research in Ceramics 3 cr. (R-9) Offered intermittently. Investigation of ceramics with emphasis on student proposals, including specific technical and conceptual aspects.

UG 433 Independent Study in Printmaking 2-6 cr. (R-12) Offered autumn and spring. Prereq., 6 credits in ART 333, consent of instructor. Independent projects in printmaking.

UG 434 Advanced Research in Printmaking 3 cr. (R-9) Offered intermittently. Investigation of printmaking with emphasis on student proposals, including specific technical and conceptual aspects.

UG 435 Independent Study in Sculpture 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 135A, 235, 335, consent of instructor. Advanced techniques in sculpture.

UG 436 Advanced Research in Sculpture 3 cr. (R-9) Offered intermittently. Investigation of sculpture with emphasis on student proposals, including specific technical and conceptual aspects.

UG 440 Independent Study in Painting 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A, 240A, 340 and consent of instructor. Independent projects in painting.

UG 442 Advanced Research in Painting 3 cr. (R-9) Offered intermittently. Investigation of painting with emphasis on student proposals, including specific technical and conceptual aspects.
UG 490 Supervised Internship Variable cr. (R-12) Offered intermittently. Prereq., consent of instructor. Special internships under direction of department faculty allowing students practical experience in a chosen area.

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. Professional practices and exhibition preparation, includes portfolio and resume preparation, career and grant opportunities, establishment of gallery affiliation. Required of all graduating B.F.A. students.

UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.


G 515 Graduate Studio in Photography 2-6 cr. (R-18) Offered autumn and spring. Students work on projects of specific interest in the field with a faculty member.

G 523 Graduate Studio/Drawing 2-12 cr. (R-24) Offered autumn and spring. Prereq., consent of instructor. Advanced research in drawing.

G 525 Graduate Studio/Design 2-6 cr. (R-12) Offered autumn and spring. Prereq., consent of instructor. Advanced research in design.

G 529 Graduate Studio/Ceramics 3-6 cr. (R-18) Offered autumn and spring. Prereq. consent of instructor. Advanced research in ceramics.

G 533 Graduate Studio/Printmaking 2-12 cr. (R-24) Offered autumn and spring. Prereq., consent of instr. Advanced research in printmaking.

G 535 Graduate Studio/Sculpture 2-6 cr. (R-18) Offered autumn and spring. Prereq., consent of instructor. Advanced research in sculpture.

G 540 Graduate Studio/Painting 3-6 cr. (R-18) Offered autumn and spring. Prereq., consent of instructor. Advanced research in painting.

G 580 Graduate Teaching Assistant Practicum 2 cr. Offered autumn. Prereq., graduate standing. Preparation to teach ART 123A.

G 594 Seminar Variable cr. (R-6) Offered intermittently.

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

G 596 Independent Study 2-6 cr. (R-18) Prereq., consent of instr. Offered intermittently.

G 598 Internship 2-6 cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 699 Thesis and Terminal Project Variable cr. (R-12) Offered autumn and spring.

Art History

U 100L Art Appreciation 3 cr. Offered autumn. An introduction to the visual arts exploring various approaches to understanding art, art history and terminology, techniques and media, motivating factors behind the creative act.

U 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.

U 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.

U 368H Latin American Art 3 cr. Offered autumn. Prereq., ART 150L or 151L 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 Academicism, Modernism, Social Realism, Magic Realism and Post-Modernism.

U 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. 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 384H Art of the Renaissance 3 cr. Offered spring. Prereq., ART 150L or 151L or consent of instr. Exploration of the arts of 1450-1600 in western Europe. Focus on themes such as the recovery of the classical past, development of scientific naturalism and linear perspective, and the evolution of major art forms architecture, urbanism, religious altarpieces and devotional images, fresco and oil paintings, monumental sculpture, etc.

U 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.

U 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.

U 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.

U 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.

U 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 even-numbered years. 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 150H or 151H or consent of instr. Exploration of major themes in the development of art of the 20th century. Focus on major cultural and intellectual trends of the Modern and Post-Modern age.

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 autumn. 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 autumn and 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

Mary Ann Bonjorni, M.F.A., University of California, Santa Barbara, 1986

Valerie Hedquist, Ph.D., University of Kansas, Lawrence, 1990

Associate Professors

Mary Ann Bonjorni, M.F.A., University of California, Santa Barbara, 1986

Thomas Rippon, M.F.A., School of the Art Institute of Chicago, 1979

Barbara Tilton, M.F.A., Vermont College of Norwich, 1996

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.

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G 589 Arts Education Field Project 1 cr. (R-4) Same as DRAM, MUS 589, creative/research activities.

Faculty

Professors

James Bailey, M.F.A., University of Wisconsin-Madison, 1989

Marilyn Bruya, M.F.A., Bard College, 1986

Hippolito Rafael Chacon, Ph.D., University of Chicago, 1995

Martin Fromm, M.F.A., University of Idaho, 1992

David James, M.F.A., University of Arizona, 1984

Elizabeth Lo, M.F.A., The University of Montana, 1974

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
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 Arts with a major in Fine Arts and an option in Dance allows the student who plans to enter a dance career to select another major to complement that objective. The Bachelor of Arts with a major in Fine Arts and an option in Drama provides the student with a broad liberal arts education and a general focus in drama. The degree allows the student to complete an additional major and may form the basis for further training on the graduate level. The Bachelor of Arts with a major in Fine Arts and an option in Drama Education is designed for the student seeking teaching endorsement in the field of drama. The Bachelor of Fine Arts with a major in Fine Arts and an option in Acting, Design/Technology, Choreography and Performance, or Studio Teaching is a professionally oriented degree designed for the student who plans to pursue a career in theatre, dance or a related field. Graduate programs lead to the Master of Arts and the Master of Fine Arts with options in Acting, Design/Technology, Directing, Integrated Arts and Education, or Media Arts.

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

Advisement
Each fine arts major must have a faculty advisor who is assigned by the department and who is usually from the student’s option. The department, through its advisement program, often recommends non-drama electives and specific General Education courses to the student depending on the student’s option. Majors may not take core or area required courses on a 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 Fine Arts, option in Dance
The following courses constitute the complete Dance requirements for the Bachelor of Arts degree:

Dance Credits
201A Beginning Composition (offered spring) .................. 2
202 Rehearsal and Performance .................................. 2
300 Modern III ............................................... 6
301 Intermediate Composition (offered autumn, odd-numbered years) .................. 2
304 Ballet III (or higher level) .................................. 8
307A Jazz Dance III (or appropriate level) ........................ 2
334H 20th Century Dance (offered spring, even-numbered years) ................. 3
397 Junior Creative or Research Project (students must complete projects for graduation) ............. 3
400 Modern IV ............................................... 6
425 Dance Pedagogy (offered autumn, even-numbered years) ......................... 3
426 Internship in Children’s Dance ................................ 2
429 Advanced Techniques of Modern Dance ...................... 3
434L World Dance ............................................ 3
494 Junior/Senior Dance Seminar (offered autumn, even-numbered years) ......... 3
497 Senior Creative or Research Project ................................ 3
427 Teaching Movement in the Schools (offered autumn odd-numbered years) .... 3
OR
320 Improvisation and ........................................ 2
420 Contact Improvisation ..................................... 2

Drama
107 Theatre Production: Dance (either Costume Construction or Lighting) .................. 3
378 Stage Management Practicum ................................ 1
Total ...................................................... 57-58

There is an Admission Audition which a prospective major must pass at the end of the first year to continue in the program.

Bachelor of Arts with a major in Fine Arts, option in Drama
The following courses constitute the complete Drama requirements for the Bachelor of Arts degree:

Drama Credits
103A Introduction to Theatre Design ......................... 3
107A Theatre Production I: Construction Crew .............. 3
202 Stagecraft I ............................................. 3
203 Stagecraft II ............................................ 3
207 Theatre Production II: Construction Crew ............. 3
214 Acting I (or DRAM 111A) ......................... 3
220L Dramatic Literature I (Script Analysis) ........ 3
320 Theatre History I ................................ 3
321 Theatre History II ................................ 3
379 Introduction to Directing .......................... 3
Drama/Dance/Arts electives (by advisement) ......... 9
Senior project
Total 39

**Bachelor of Arts with a major in Fine Arts, option in Drama Education**

The Drama Education option is designed for the student seeking an endorsement in the major teaching field of Drama.

- **Dance**
  - 327 Dance in Elementary Education .............. 2

- **Drama**
  - 103A Introduction to Theatre Design ............ 3
  - 106A-107A Theatre Production (Running and Production Crews) ............... 4
  - 203 Stagecraft II .................................. 3
  - 210 Voice and Speech ................................ 2
  - 214-215 Acting I, II ................................ 6
  - 220L Dramatic Literature I (Script Analysis) .... 3
  - 244 Stage Makeup .................................... 2
  - 320-321 Theatre History I, II ....................... 6
  - 327 Drama in Elementary Education ............... 2
  - 371 Stage Management I .............................. 2
  - 379 Introduction to Directing ........................ 3
  - 402 Methods of Teaching Theatre .................... 2

**Senior Project**
Total 40

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 a second endorsement in a field other than Economics, Geography, Journalism, Psychology or Sociology.

**Bachelor of Fine Arts with a major in Fine Arts, option in Acting or Design/Technology**

Normally, a student should declare intent to pursue the B.F.A. degree no later than the beginning of the second year of a four-year program. The student must declare an option, either acting or design/technology. Requirements for these areas are specified below.

A student may elect a special concentration in directing, music theatre, or another discipline in addition to the B.F.A. core and area-option requirements. The program is designed in consultation with the student’s advisor and must be approved by the faculty. The special concentration may require five years to complete.

The following courses are required of all B.F.A. Fine Arts students with options in Acting or Design/Technology:

**Core Courses**

- **Drama**
  - 103A Introduction to Theatre Design ............ 3
  - 106A Theatre Production I: Running Crew ........ 1
  - 107A Theatre Production I: Construction Crew .... 3
  - 108 Introduction to House Management .......... 1
  - 202 Stagecraft I .................................... 3
  - 203 Stagecraft II .................................... 3
  - 206 Theatre Production II: Running Crew ........ 1
  - 214 Acting I (or DRAM 111A if Design/Technology option) ...... 3
  - 220L Dramatic Literature I (Script Analysis) ... 3
  - 320-321 Theatre History I, II ....................... 6
  - 379 Introduction to Directing ........................ 2

**Total** 30

**Acting Option**
To be taken in addition to core requirement:

- **Drama**
  - 210 Voice and Speech I ................................ 2
  - 211 Voice and Speech II ................................ 2
  - 215 Acting II ......................................... 3
  - 216A Production Acting I ............................. 1
  - 244 Stage Makeup ..................................... 2
  - 310 Voice and Speech III .............................. 2
  - 311 Voice and Speech IV ................................ 2
  - 312 Physical Performance Skills I .................. 2
  - 313 Physical Performance Skills II .................. 2
  - 314 Acting III ......................................... 3
  - 315 Acting IV ......................................... 3
  - 316A Production Acting II ............................ 1
  - 410 Singing for the Actor (by audition) ............ 2
  - 412 Physical Performance Skills III ................ 2
  - 413 Physical Performance Skills IV ................... 2
  - 414 Acting V (repeat once) ............................ 6
  - 415 Acting VI (repeat once) ........................... 6
  - 416 Senior Project Acting ............................. 1

6 credits from the following:
- 435 Advanced Acting: Personal Performance ........ 4
- 437 Advanced Acting: Acting for the Camera I .... 4
- 439 Advanced Acting: Professional Skills .......... 6

**Sub-Total** 50

Core Courses ............................................. 30

**Total** 80

**Design/Technology Option**

Students wishing to pursue a B.F.A. with an option in design/technology must:
1. Complete a one year residency at the UM-Missoula campus which includes a minimum of 12 credits in design/technology.
2. Attain a cumulative 2.5 overall GPA and a 3.0 GPA in design/technology coursework.
3. Present a theatre resume and portfolio consisting of class and production work.
4. Prepare a written statement explaining their educational and professional goals.

Students who intend to pursue the design/technology option will normally enter the University as Bachelor of Arts students with an option in Drama.

To be taken in addition to core requirement:

- **Drama**
  - 106A Theatre Production I: Running Crew .......... 1
  - 206 Theatre Production II: Running Crew .......... 1
  - 207 Theatre Production II: Construction Crew .... 3
  - 231 Drafting for the Theatre I ....................... 3
  - Choose one from: ..................................... 3
  - 331 Drafting for the Theatre II ..................... 3
  - 332 CAD for the Theatre .............................. 3
  - 341 Flat Pattern Design and Drafting .......... 6
  - 307 Production Construction I ....................... 6
  - 371 Stage Management I ................................ 2
  - Choose one from (Junior Project): ................. 2
  - 308 Production Team I .................................. 3
  - 309 Production Design I ............................... 3
  - Choose one from (Senior Project): .................. 3
  - 408 Production Team II ................................ 3
  - 409 Production Design II .............................. 3
  - Electives (minimum of 12 upper-division) ........ 18

**Sub-Total** 42

Core Courses ............................................. 30

**Total** 72
Junior Projects

A junior project is required of all B.F.A. design/technology option students. The junior project is usually production-related and has both practical and written components. Requirements for the project are outlined in the Department of Drama/Dance Handbook.

Senior Projects

A senior project is required of all B.A. and B.F.A. students completing the acting or design/technology options. The senior project is usually production-related and has both practical and written components. Degree and area requirements for the project vary and are outlined in the Department of Drama/Dance Handbook.

Bachelor of Fine Arts with a major in Fine Arts, options in Choreography and Performance or Studio Teaching

The department offers two options, one in studio teaching and the other in choreography and performance. Each requires the same sixty-eight credits in core courses, plus additional specified credits in an option. All majors are required to do a junior project 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>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>201A</td>
<td>Beginning Composition (offered spring)</td>
<td>2</td>
</tr>
<tr>
<td>202A</td>
<td>Rehearsal and Performance</td>
<td>2</td>
</tr>
<tr>
<td>300</td>
<td>Modern III</td>
<td>6</td>
</tr>
<tr>
<td>304</td>
<td>Ballet III (or a higher level)</td>
<td>12</td>
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<tr>
<td>320</td>
<td>Improvisation (offered autumn, even-numbered years)</td>
<td>1</td>
</tr>
<tr>
<td>334H</td>
<td>20th Century Dance (offered spring, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>340</td>
<td>The Science of Dance Movement (offered autumn, odd-numbered years)</td>
<td>1</td>
</tr>
<tr>
<td>397</td>
<td>Junior Creative or Research Project (students must complete project for graduation)</td>
<td>3</td>
</tr>
<tr>
<td>400</td>
<td>Modern IV</td>
<td>6</td>
</tr>
<tr>
<td>420</td>
<td>Contact Improvisation (offered autumn, odd-numbered years)</td>
<td>1</td>
</tr>
<tr>
<td>425</td>
<td>Dance Pedagogy (offered autumn, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>426</td>
<td>Dance as a Healing Art (offered spring)</td>
<td>2</td>
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<tr>
<td>428</td>
<td>Internship in Children’s Dance</td>
<td>2</td>
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<tr>
<td>429</td>
<td>Advanced Techniques of Modern Dance</td>
<td>6</td>
</tr>
<tr>
<td>434L</td>
<td>World Dance (offered spring, odd-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>494</td>
<td>Jr/Sr Dance Seminar (offered autumn, odd-numbered years)</td>
<td>3</td>
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<tr>
<td>497</td>
<td>Senior Creative or Research Project (students must complete project for graduation)</td>
<td>3</td>
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Dance

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>103A</td>
<td>Introduction to Theatre Design (offered autumn)</td>
<td>3</td>
</tr>
<tr>
<td>106A</td>
<td>Theatre Production: Running Crew</td>
<td>1</td>
</tr>
<tr>
<td>107A</td>
<td>Theatre Production (Sec. 5, Costume Construction)</td>
<td>1</td>
</tr>
<tr>
<td>(autumn)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>107A</td>
<td>Theatre Production (Sec. 6, Lighting) (spring)</td>
<td>3</td>
</tr>
<tr>
<td>378</td>
<td>Stage Management Practicum</td>
<td>1</td>
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<td>Total</td>
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Studio Teaching Option

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<tr>
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<th>Credits</th>
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<tr>
<td>328</td>
<td>Teaching Creative Movement for People with Disabilities</td>
<td>1</td>
</tr>
<tr>
<td>427</td>
<td>Teaching Movement in the Schools (offered autumn odd-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>491</td>
<td>Teaching Projects (assisting in a technique class for one semester)</td>
<td>2</td>
</tr>
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</table>

Sub-Total Credits: 70

Choreography and Performance Option

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>202A</td>
<td>Rehearsal and Performance (performing in one piece equals one credit)</td>
<td>2</td>
</tr>
<tr>
<td>301I</td>
<td>Intermediate Composition (offered autumn, odd-numbered years)</td>
<td>2</td>
</tr>
<tr>
<td>329</td>
<td>Dance Conditioning (two semesters)</td>
<td>2</td>
</tr>
<tr>
<td>Choose two:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>HHP 101</td>
<td>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.</td>
<td>26</td>
</tr>
<tr>
<td>Sub-Total</td>
<td></td>
<td>78</td>
</tr>
</tbody>
</table>

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.

Suggested Course of Study

The recommended curriculum for the B.A., option in Dance is:

First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DAN 204A</td>
<td>Ballet II</td>
<td>8</td>
</tr>
<tr>
<td>DAN 207A</td>
<td>Jazz Dance II</td>
<td>2</td>
</tr>
<tr>
<td>DAN 200A</td>
<td>Modern II (or DAN 100A, if needed)</td>
<td>6</td>
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<tr>
<td>DAN 201A</td>
<td>Beginning Composition</td>
<td>2</td>
</tr>
<tr>
<td>Electives</td>
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<td>Total</td>
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Second Year

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<tr>
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<th>Credits</th>
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<tr>
<td>DAN 204A</td>
<td>Ballet II</td>
<td>4</td>
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<tr>
<td>DAN 207A</td>
<td>Jazz Dance III</td>
<td>2</td>
</tr>
<tr>
<td>DAN 300</td>
<td>Modern III (or 200A, if needed)</td>
<td>6</td>
</tr>
<tr>
<td>DAN 301I</td>
<td>Intermediate Composition</td>
<td>2</td>
</tr>
<tr>
<td>DAN 434L</td>
<td>World Dance</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 378</td>
<td>Stage Management Practicum</td>
<td>1</td>
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<tr>
<td>Electives</td>
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<td>12</td>
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<tr>
<td>Total</td>
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The recommended curriculum for the B.A., option in Drama is:

First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<tbody>
<tr>
<td>DRAM 103A</td>
<td>Introduction to Theatre Design</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 107A</td>
<td>Theatre Production I: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 202</td>
<td>Stagecraft I</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 203</td>
<td>Stagecraft II</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 214</td>
<td>Acting I (or 111A)</td>
<td>3</td>
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<td>Electives</td>
<td></td>
<td>17</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>32</td>
</tr>
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Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DRAM 207</td>
<td>Theater Production II: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>DRAM 220L</td>
<td>Dramatic Literature I (Script Analysis)</td>
<td>3</td>
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<tr>
<td>Electives</td>
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<td>26</td>
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<tr>
<td>Total</td>
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<td>32</td>
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</table>
The recommended curriculum for the B.F.A., Acting Option, is:

**First Year**
- DRAM 103A Introduction to Theatre Design .......... 3
- DRAM 106A Theatre Production I: Running Crew (two semesters) .......... 2
- DRAM 107A Theatre Production I: Construction Crew .......... 3
- DRAM 108 Introduction to House Management .......... 1
- DRAM 202 Stagecraft I .......... 3
- DRAM 203 Stagecraft II .......... 3
- DRAM 214-215 Acting I, II .......... 6
- DRAM 220L Dramatic Literature I .......... 3
- Electives and General Education .......... 13
- Total 36

**Second Year**
- DRAM 206 Theatre Production II: Running Crew .......... 1
- DRAM 244 Stage Makeup .......... 2
- DRAM 314-315 Acting III, IV .......... 6
- Electives and General Education .......... 21
- Total 30

The recommended curriculum for the B.F.A., Design/Technology Option is:

**First Year**
- DRAM 103A Introduction to Theatre Design .......... 3
- DRAM 106A Theatre Production I: Running Crew (two semesters) .......... 2
- DRAM 107A Theatre Production I: Construction Crew .......... 3
- DRAM 108 Introduction to House Management .......... 1
- DRAM 202 Stagecraft I .......... 3
- DRAM 203 Stagecraft II .......... 3
- DRAM 207 Theatre Production II: Construction Crew .......... 3
- DRAM 231 Drafting for the Theatre I .......... 3
- 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 B.F.A., option in Studio Teaching or Choreography and Performance is:

**First Year**
- DAN 204A or DAN 304 Ballet II or III .......... 4
- DAN 300 Modern III (or DAN 200A) .......... 6
- DRAM 103A Introduction to Theatre Design .......... 3
- DRAM 106A Theatre Production: Running Crew .......... 1
- DRAM 107A Theatre Production: Sec. 5, Costume Construction .......... 3
- DRAM 107A Theatre Production: Sec. 6, Lighting .......... 3
- Electives and General Education .......... 10
- Total 30

**Second Year**
- DAN 201A Beginning Composition .......... 2
- DAN 202A Rehearsal and Performance .......... 2
- DAN 300 Modern III (or DAN 200A) .......... 6
- DAN 304 Ballet III (or DAN 204A) .......... 2
- DAN 320 Improvisation .......... 1
- DAN 329 Dance Conditioning .......... 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.

**Drama Credits**
- 103A Introduction to Theatre Design .......... 3
- 106A Theatre Production I: Running Crew .......... 1
- 107A Theatre Production I: Construction Crew .......... 3
- 202 or 203 Stagecraft I or II .......... 3
- 220L Dramatic Literature I .......... 3
- 320 or 321 Theatre History I or II .......... 3
- Focused area .......... 11
- Total 27

**Minor in Dance**

Twenty-eight credits are required.

**Dance Credits**
- 100A Modern Dance I .......... 4
- 104A Ballet I (or appropriate level) .......... 4
- 107A Jazz Dance I (or appropriate level) .......... 2
- 200A Modern II .......... 4
- 201A Beginning Composition .......... 2
- 202A Rehearsal and Performance .......... 2
- 204A Ballet II (or appropriate level) .......... 2
- 300 Modern III .......... 3
- 334H 20th Century Dance .......... 3
- 320 Improvisation and 420 Contact Improvisation .......... 2
- OR
- 329 Pilates and 340 Science of Dance .......... 2
- OR
- 426 Dance as a Healing Art .......... 2
- OR
- 428 Internship in Children’s Dance .......... 2
- Total 28

**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)**

- U 100A Modern Dance I 2 cr. (R-4) Offered autumn and spring. Introduction to basic modern dance vocabulary through exercises for alignment, strength and flexibility and combinations across the floor.
- U 104A Ballet I 2 cr. (R-4) Offered autumn and spring. Introduction to basic ballet positions and steps.
- U 107A Jazz Dance I 2 cr. (R-4) Offered autumn and spring. Introduction to basic strengthening and stretching exercises and stylistic characteristics of jazz.
- U 194 Dance Seminar 1 cr. Offered autumn and spring.
- U 195 Special Topics Variable cr. (R-6) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- U 200A Modern II 2 cr. (R-12) Offered autumn and spring. Prereq., DAN 100A. Continuation of the modern dance vocabulary at an advanced-beginner level.
School of Fine Arts - Department of Drama/Dance - 305

U 201A Beginning Composition 2 cr. (R-4) Offered spring. Prereq., DAN 200A. Basic use of space, time and energy in dance. Movement composition studies assigned each week.

U 202A Rehearsal and Performance 1-4 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Open to students who are choreographing a dance for a concert or to those who have been selected through audition to perform.

U 204A Ballet II 2 cr. (R-12) Offered autumn and spring. Prereq., DAN 104A. Continuation of the ballet vocabulary at an advanced-beginner level.

U 207A Jazz Dance II 2 cr. (R-12) Offered autumn. Prereq., DAN 107A. Continuation of the jazz vocabulary at an advanced-beginner level.

U 294 Dance Seminar 1 cr. Offered autumn and spring. One-time offerings of current topics.

UG 300 Modern III 3 cr. (R-12) Offered autumn and spring. Prereq., DAN 200A. Extension of the modern dance vocabulary through lengthier combinations of movements.

UG 301 Intermediate Composition 2 cr. (R-6) Offered autumn odd-numbered years. Prereq., DAN 201A and 6 credits of dance technique. Explores ways to manipulate several dancers in space, through repetition of shapes, through related rhythms. May include choreography for videotape.

U 302 Dance Touring 1-4 cr. (R-24) Offered autumn and spring. Prereq., audition. Rehearsal and touring to the community.

UG 304 Ballet III 2 cr. (R-8) Offered autumn and spring. Prereq., consent of instr. Development of ability to combine steps; carriage of head and arms.

U 307A Jazz II 2 cr. (R-12) Offered autumn. Prereq., DAN 204 or equiv. skill and consent of instr. Continuation of 307A.

U 320 Improvisation 1 cr. (R-3) Offered autumn even-numbered years. Exploration of stimulus, structure and performance of improvised movement. Elements such as space, shape, motion, time, quality, form and awareness emphasized. Instructor-designed structures, transitioning to student-designed scores, culminating in improvised performance.

U 327A Dance in Elementary Education 2 cr. (R-4) Offered autumn and spring. Open to majors in elementary education. Techniques and applications for using movement in the public school setting. Focus on movement elements, lesson design and planning, standards for dance, multiple intelligence theory, assessment, classroom management, educational and multi-culturalism.

U 328 Teaching Creative Movement for People with Disabilities 1 cr. (R-4) Offered autumn and spring. Students interact with adults with developmental disabilities in an adaptive dance class where movement is used as a therapeutic modality for people with cognitive and physical impairments. Students interact with the participants, engage as role models and gain beginning teaching experience.

UG 329 Conditioning: Pilates Mat 1 cr. (R-8) Offered autumn and spring. Pilates mat (floor) exercises to build core control, strength and flexibility.

UG 334H 20th Century Dance 3 cr. Offered spring even-numbered years. Discussion of primary movements and major figures in American modern dance, including multi-cultural influences and some parallel movements in the visual art world.

U 340 The Science of Dance Movement 1 cr. Offered autumn odd-numbered years. Study of the skeletal system and how it relates to dance movement. Basic kinesthetic principles, conditioning for dancers, and injury recognition and prevention.

U 394 Dance Seminar 1 cr. (R-2) Offered autumn and spring. One-time offerings of current topics.

U 395 Special Topics Variable cr. (R-24) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study: Dance Projects 1-3 cr. (R-24) Offered autumn and spring. Prereq., consent of instr.

U 397 Junior Creative or Research Projects 1-6 cr. (R-6) Offered autumn and spring. Prereq., fine arts major, in one of the dance options (choreography and performance or studio teaching). 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.

UG 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.

UG 404 Ballet IV 2 cr. (R-8) Offered autumn and spring. Prereq., DAN 304, 4 cr., or equiv. skill and consent of instr. Develops petite and grand allegro.

UG 420 Contact Improvisation 1 cr. (R-3) Offered autumn odd-numbered years. The art of moving with one or more partners while using a shifting point of contact and supporting each other’s weight. Skills such as rolling, suspending, falling and recovering together explored through physical sensations that use weight, counter-balance and yielding.

UG 425 Dance Pedagogy 3 cr. (R-9) Offered autumn even-numbered years. Methods and experiences in teaching modern dance, ballet and jazz.

UG 426 Dance as a Healing Art 2 cr. (R-6) Offered spring. Study of body movement as a reflection of inner emotional states. How changes in movement lead to changes in the psyche, promoting health and growth. Exploration of techniques for experiencing the inter-connection between movement and emotional expression.

UG 427 Teaching Movement in the Schools 3 cr. Offered autumn odd-numbered years. Prereq., consent of instr. Experience in planning, observing and directing creative movement as a teaching tool in K-5.

UG 428 Internship in Children’s Dance 2 cr. (R-8) Offered autumn and spring. Students participate and gain beginning level teaching experience in two of four dance classes for children ranging in ages from 3 1/2 to 12 years old.

UG 429 Advanced Techniques of Modern Dance 3 cr. (R-12) Offered autumn and spring. Prereq., DAN 400, 6 cr., or equiv. skill, and consent of instr. Continuation of DAN 400.

UG 434L World Dance 3 cr. (R-6) Offered spring odd-numbered years. Investigation of dances of diverse cultures. Study of dance as: an emblem of cultural identity, social order, power and gender-specific behavior; an expression of religion and/or ritual; a classical art form; and as a medium for personal expression in western and non-western world cultures.

UG 491 Teaching Projects 1-6 cr. (R-24) Offered autumn and spring. Prereq., consent of instr. Independent study that may involve either assisting in the teaching of a dance technique class or actually planning and teaching it.

UG 494 Junior/Senior Dance Seminar 3 cr. (R-6) Offered autumn even-numbered years. Seminar to discuss both practical and philosophical issues confronting dance students about to enter the "real" world.
UG 495 Special Topics Variable cr. (R-24) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study: Dance Projects 1-6 cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

U 497 Senior Creative or Research Projects 3 cr. (R-6) Offered autumn and spring. Prereq., fine arts major, option in dance (B.A.); choreography and performance; or studio teaching (B.F.A.). Independent study in choreography or teaching. If the student is a B.F.A. candidate the project must take place off-campus in the Missoula community. The student is responsible for setting up the project. An initial proposal, a journal, and a paper are required.

**Drama (DRAM)**

U 101L Theatre Appreciation 3 cr. Offered autumn and spring. The various elements of play production and dance. The basic artistic principles underlying dance, theatre and all of the arts.

U 103A Introduction to Theatre Design 3 cr. Offered autumn. Basic understanding of the principles of design for the theatre and television, including the production elements of scenery, costumes and lighting.

U 106A Theatre Production I: Running Crew 1 cr. (R-4) Offered autumn and spring. Operation and running a show backstage on 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 departmental 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, stage properties and dyeing/painting.

U 203 Stagecraft II 3 cr. Offered spring. Fundamental theories and hands-on application in the areas of scenery, lighting, sound and rigging.

U 206 Theatre Production II: Running Crew 1 cr. (R-4) Offered autumn and spring. Prereq., DRAM 106A. Operation and running a show backstage, 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 2 cr. Offered autumn. Prereq., DRAM 211. Dialects, accents, and continued development of good voice and speech skills.

U 311 Voice and Speech IV 2 cr. Offered spring. Prereq., DRAM 310. Integration of voice and speech skills, vocal character.
UG 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.

UG 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.


UG 315 Acting IV 3 cr. Offered spring. Prereq., DRAM 314. Selected scenes and projects from European and American realistic texts such as Chekhov, Ibsen, Strindberg, Shaw, and O'Neill.

UG 316A Production Acting II 1 cr. (R-4) Offered autumn and spring. Prereq., DRAM 216A. Credit for acting in approved Drama/Dance productions

UG 320 Theatre History I 1 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.

UG 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.

UG 327A Drama in Elementary Education 2 cr. (R-4) Offered autumn and spring. Exploration, implementation and experience in teaching strategies for using drama in elementary education. Focus on techniques and applications for teaching drama and for utilizing drama as a tool for teaching other subject matter.

UG 331 Drafting for the Theatre 3 cr. Offered autumn. Prereq., DRAM 231 or consent of instr. Scene design including elevations, drop-point perspective, measured drawings for furniture, and other techniques used by scene designers.

UG 332 Computer-Aided Drafting and Computer Applications for the Theatre 3 cr. Offered autumn. Prereq., DRAM 231. Computer drafting for scenery, costumes, lighting, and sound design drawings, including 2-D and 3-D plans, layouts and renderings. Work with CAD, photo manipulation, spreadsheet, database, and word processing programs.

UG 333 Scenic Painting I-3 cr. (R-6) Offered spring. Introduction to the basic skills needed as a scenic artist. Emphasis on the varied materials and techniques used in the scenic studio, color mixing, and interpretation of the designer's work.

UG 334 Scene Design I 3 cr. Offered autumn. Prereq., DRAM 103A, 202, 203. Introduction to the problems encountered in designing scenery, analyzing of script, research and practical demands of theatre conventions. Projects include those for theatre, musicals, opera, dance and television.

UG 335 Scene Design II 3 cr. Offered spring. Prereq., DRAM 334. A continuation of the techniques and projects in DRAM 334.

UG 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 choices of the built environment from prehistoric megalithic architecture to the start of the modern age.

UG 340 Intermediate Costume Construction 3 cr. Offered spring. Intermediate costume construction focusing on the development of skills needed to function as a stitcher.

UG 341 Flat Pattern Design and Drafting 3 cr. Offered autumn. Prereq., DRAM 202. Pattern design using the flat pattern method, pattern drafting of various garment parts, advanced principles of fitting.

UG 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.

UG 344 Costume History 3 cr. Offered intermittently. History of Western costume from ancient Egypt to the present day.

UG 346 Costume Design I 3 cr. Offered autumn. Prereq., DRAM 103A, 202, 203. Introduction to principles and practices of stage costume design.

UG 351 Theatre Lighting I 3 cr. Offered autumn. Prereq., DRAM 103A, 202, 203. Introduction to principles and practices of theatre lighting design. Training for position of lighting designer for theatre. Design requirements and decisions, color, development of stage picture; concentration on proscenium theatre design concepts.

UG 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.


UG 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.

UG 376 Stage Management Practicum I 1-3 cr. (R-6) Offered autumn and spring. Prereq., DRAM 71 or consent of instr. Stage management practicum involving stage managing a showcase production or assistant stage managing a major show. Involves evening work.

UG 379 Introduction to Directing 3 cr. Offered spring. Prereq., DRAM 103A, 214 or 111A, 220L. Introduction to the analytical skills, staging and conceptual techniques of the director; includes some practical application in scene work.

UG 385 Dance Team 2 cr. (R-4) Offered autumn and spring. UM cheer and dance team selected during audition process each spring; students perform routines at the intermediate jazz level. Development of current dance performance, leadership, communication and organizational skills. (Only four credits of DRAM 385, HHP 100-179, MS 203 and MS 315 may count toward a degree.)

UG 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

UG 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 396 Independent Study: Theatre Projects Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.
UG 398 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.

UG 400 Professional Theatre 9 cr. (R-18) Offered spring. Prereq., consent of instr. Laboratory experience in total play production through participation in state, regional, national, and international touring production programs.

UG 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.

UG 402 Methods of Teaching Theatre 2 cr. (R-6) Offered autumn. Prereq., consent of instr. Building and addressing specific curriculum in theatre arts.

UG 407 Production Construction II Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Students serve as construction crew in one of the shops for productions.

UG 408 Production Team II Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Students serve as a member of the production team in a role of responsibility (i.e., master electrician, sound board operator, cutter, first hand, etc.) for major productions. These assignments and duties may serve also as part of the required senior project.

UG 409 Production Design II Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Students serve as a member of the production team in a role of designer (i.e., set designer, costume designer, light designer, etc.) for major productions. These assignments and duties may serve also as part of the required senior project.

UG 410 Singing for Actors 2 cr. (R-4) Offered autumn. Prereq., audition, BFA acting option, or consent of instr. Development and presentation of musical numbers in a dramatic context. A broad-based acquaintance with music theatre literature is acquired, and techniques for approaching songs are explored with an eye toward developing competency in music theatre forms.


UG 413 Physical Performance Skills IV 2 cr. Offered spring. Prereq., DRAM 412. Advanced specialized physical skills such as period sytles, advanced combat/choreography, and commedia.

UG 414 Acting V 3 cr. (R-6) Offered autumn. Prereq., DRAM 315. Selected speeches, scenes and projects from verse drama, especially Shakespeare.

UG 415 Acting VI 3 cr. (R-6) Offered spring. Prereq., DRAM 414. Selected scenes and projects from various historical and stylistic periods.

UG 417 Senior Project Acting 1 cr. Offered autumn and spring. Performance of an approved role in a departmental production accompanied by written self-assessment.

UG 435 Advanced Acting: Personal Performance 3 cr. Offered autumn. Prereq., DRAM 415 or 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, prosthesis, wigs, masks and special problems. Students will work on makeup for major productions.

UG 446 Costume Design II 3 cr. (R-9) Offered spring. Prereq., DRAM 346. Advanced techniques in costume design; possible topics include design for dance, opera, large scale drama and musicals.

UG 451 Theatre Lighting II 3 cr. Offered spring. Prereq., DRAM 351 or consent of instr. Advanced study of principles and practices of theatre lighting design. Training for position of light designer for theatre. Design requirements and decisions, color, development of stage picture; thrust and arena theatre.

UG 461 Theatre Sound II 3 cr. Offered spring. Prereq., DRAM 361 or consent of instr. Advanced study of principles and practices of theatre sound design. Training for position of theatre sound designer. Principles, practices and equipment used to create sound and music designs for the theatre, dance and related areas.

UG 471 Stage Management II 2 cr. Offered intermittently. Prereq., DRAM 371 or consent of instr. Additional study of stage management concentrating on pre-rehearsal duties, aspects of maintaining a show’s integrity as established by the director, inter-production relationships, supervision of crews and union contracts. Understanding a stage manager’s need for paperwork and writing skills. Students encouraged to enroll in DRAM 470 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 Practice Theatre 9 cr. (R-18) Offered spring. Prereq., consent of instr. Laboratory experience in total play production through participation in state, regional, national and international touring production programs.

G 501 Problems in Playwriting 1-3 cr. (R-12) Offered intermittently.

G 507 Technical Production Assignment 2-4 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Production assignment made by the faculty. Student assigned a responsible technical position such as technical director, master electrician, sound engineer, cutter/driver or scenic artist. Credit variable and will be assigned by faculty.

G 508 Design Production Assignment 2-4 cr. (R-24) Offered autumn and spring. Prereq., consent of instr. Production design assignment made by the faculty. Student designs an element of a Drama/Dance production with the supervision of a faculty designer.

G 510 Problems in Voice/Speech 1-2 cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 512 Problems in Movement/Dance 1-2 cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 514 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 I 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.

G 521 Performance Theory and Criticism 3 cr. Offered spring. Survey of the theories, elements and ingredients of multi-cultural live performance forms, including theatre, popular entertainment, ceremonies, and other public events. Includes instruction in and application of various approaches to the criticism of live performance.

G 522 Graduate Seminar in Theatre History 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Selected topics and issues with individual research projects presented in seminar concerning various genres, periods, themes, and cultural contexts in theatre history.

G 523 Graduate Seminar in Dramatic Literature 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Selected topics with individual research projects presented in seminar concerning various genres, periods, and themes in dramatic literature.

G 530 Graduate Scene Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific design skills in scenery.

G 535 Problems in Scene Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in scene design.

G 540 Graduate Costume Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific design skills in costumeing.

G 545 Problems in Costume Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific design skills in costume design.

G 550 Graduate Lighting Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in costume design.

G 555 Problems in Lighting Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in costume 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 design 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 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.
Media Arts

Michael R. Murphy, Director

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 Art and Design:
MAR 221 Digital Image Design I
MAR 222 Fundamentals of Compositing
MAR 312 Digital Image Design II
MAR 315 2D Motion Design
MAR 317 Principles of Web Design
MAR 321 Fundamentals of Digital Animation I
MAR 325 Principles of Sound Design
MAR 412 3D Motion Design
MAR 431 Techniques of Digital Animation
MAR 420 Web Design Techniques

Track in Video Production:
MAR 231 Digital Video Production Techniques
MAR 230 Visions of Film
MAR 301 Digital Media Practicum
MAR 333 Production Management
MAR 335 Directing the Fiction Movie
MAR 337 Digital Video Editing
MAR 430 Contemporary Trends in Digital Media
MAR 435 Experimental Documentary
MAR 445 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 Arts advisor must approve these supplemental classes. See the Media Arts office for a current list of electives.

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 graduate and upper level undergraduate projects, either as a crew member, production manager, designer, editor, director of photography or actor.
U 316 Final Media Project 3 cr. Offered autumn and spring. Prereq., completion of MAR 111A, 210 with a 3.0 grade average. Creation of a project which integrates principles of narrative structure and media writing covered in MAR 101L and 210 with the audio/visual principles of design and composition covered in MAR 111A and 113. A paper proposal will be submitted before the project begins.
U 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 projects 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-6) 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 multi-layered x y z plane actualizations.

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.

U 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.

U 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-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, and one-time offerings of current topics.

G 596 Independent Study 1-6 cr. (R-6) Offered 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, focus with emphasis on genre and question of narrative voice. Students analyze and articulate creation of story in foreign film, areas of narrative deconstruction, 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.

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The Music Department welcomes the opportunity for prospective students and parents to consult with faculty and administration by paper and electronic correspondence and/or by appointment interviews on the campus. Every student wishing to become a music major or minor must take the Music Theory Assessment Examination and a Piano Proficiency Assessment during orientation and also must audition and be accepted officially into the applied studio of a music faculty member prior to confirmation as a fully-admitted major or minor in music.

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Department of Music

**Stephen Kalm, Chair**

The Department of Music offers students who have demonstrated talent in music the opportunity to continue further study either for a profession or an avocation and to acquire at the same time a broad general education. Complete sequences of courses are given to prepare a student for a career as a teacher or supervisor of music in the elementary/secondary schools; for a career directed toward composition, the music technology industry, private teaching, or concert work; or, for a thorough training in music within the structure of a broad liberal arts curriculum.

Degree programs at the undergraduate level include the Bachelor of Music Education; Bachelor of Music with majors in performance or composition and music technology; and Bachelor of Arts with a major in fine arts and an option in music. Graduate degree programs are Master of Music with a major in music and options in music education, performance, or composition/technology; and musical theater.

The University of Montana-Missoula is an accredited institutional member of the National Association of Schools of Music.

In general, admission as a major in the Music Department is by certificate from the high school from which the student graduates. The faculty of the Music Department is more concerned with evidence of talent, conspicuous achievement in music, promise of development, and scholarship in general than it is in the precise content of the program which the prospective music student has followed prior to admission to the University.

The Music Department welcomes the opportunity for prospective students and parents to consult with faculty and administration by paper and electronic correspondence and/or by appointment interviews on the campus. Every student wishing to become a music major or minor must take the Music Theory Assessment Examination and a Piano Proficiency Assessment during orientation and also must audition and be accepted officially into the applied studio of a music faculty member prior to confirmation as a fully-admitted major or minor in music.

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**Faculty**

**Associate Professors**

Richard Paul Hughes, M.F.A., The University of Montana, 1999

Michael R. Murphy, M.F.A., The University of Montana, 1994 (Director)

**Assistant Professor**

Erick Green, M.F.A., The University of Montana, 2001

Andrew J. Smith, M.F.A., University of Iowa, 1997


**Emeritus Professor**

James D. Kriley, Ph.D., University of Utah, 1971 (Dean Emeritus)

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**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 (Jubies)
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.E. 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.M. 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 credits transferred from
    other four-year institutions will count toward the 39-credit
    requirement. Upper-division large and chamber ensembles
    and non-required applied study may not count as
    upper-division music electives within the minimum degree
    requirements except as designated for a particular degree
    program.
12. Upon successful completion of the Upper-Division
    Writing Proficiency Assessment, students will complete the
    Upper-Division Writing 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
    Music 420-425 series.
13. All lower-division music courses, as well as MUS
    324L-325L, counted toward the major must be passed with a
    grade of C (2.0) or better.

Requests for exceptions to any published music degree
requirements require written approval by the music faculty
executive committee and in the case of general university
requirements, the Graduation Appeals Subcommittee.

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**Curriculum A- Bachelor of Music Education Degree**

For students who feel the challenge and vital service
opportunity in the teaching profession and whose high school
background includes experience in musical organizations, the
University offers the Bachelor of Music Education degree.
Included in this curriculum are state requirements for
certification for public school teaching (see School of
Education for special certification requirements) and training
and background for instructing instrumental and choral groups
and teaching general music (K-12).

Music course requirements total 68 credits:
- 151 (Major Performance Area I), 2 crs.
- 251 (Major Performance Area II), 2 crs.
- 351 (Major Performance Area III), 1 cr.
- 100A (Performance Study), 2 crs.;
- 107A/307A, section 1 (University Choir), 108A/308A
  (Orchestras), 104A (Marching Band), 110A/310A (Concert
  Bands), 150A/350A (Piano Ensembles) or 196/496
  (Independent Studies/Piano Accompanying) 7 crs. of which 2
  crs. must be 104A for music education majors with brass,
  percussion or woodwind principal and 1 cr. must be 104A for
  music education majors with keyboard, voice or string
  principal. Only students with keyboard as their principal
  performance area may include Music 150A/350A and/or
  196/496 to a maximum of 3 crs.
- 111-112 (Theory I, II), 4 crs.
- 211-212 (Theory III, IV), 4 crs.
- 135L (Introduction to Music Literature), 3 crs.
- 137-138 (Aural Perception I, II), 4 crs.
- 237-238 (Aural Perception III, IV), 4 crs.
- 115A-116A (Piano in Class I, II), 2 crs. (except keyboard
  principals)
- 215-216 (Intermediate Piano in Class I, II), 2 crs. (except
  keyboard principals)
- 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 training leading to the Bachelor of Music degree with a major in performance while students with a strong interest in composition and music technology may select the B.M. track designed to challenge and prepare them for a career in this field. Prior to full acceptance, all candidates for the Bachelor of Music in performance degree must successfully pass a special entrance audition in an applied area. Composition and music technology majors also must obtain approval of the appropriate faculty. This degree does not qualify a student for public school teaching in Montana.

**Major in Performance with option in Piano or Organ (B-1)**

Music course requirements for an option in piano or organ total 82 credits:

-151 (Major Performance Area I), 6 crs.
-251 (Major Performance Area II), 8 crs.
-351 (Major Performance Area III), 8 crs.
-451 (Major Performance Area IV), 8 crs.
-107A/307A (Choral Ensembles), 108A/308A (Orchestras), 104A (Marching Band), 110A/310A (Concert Bands), 150A/350A (Piano Ensembles) or 196/496 (Independent Studies/Piano Accompanying), 8 crs. of which at least 4 must be in 150A/350A or 196/496 and at least 2 in 107A/307A, 108A/308A, or 110A/310A

-111-112 (Theory I, II), 4 crs.

-211-212 (Theory III, IV), 4 crs.

-135L (Introduction to Music Literature), 3 crs.
-137-138 (Aural Perception I, II), 4 crs.
-237-238 (Aural Perception III, IV), 4 crs.
-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.
-455 (Senior Recital), 2 crs.

-135L (Introduction to Music Literature), 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)
-324H-325H (Music History I, II), 6 crs.
-344-345 (Vocal Repertoire I, II), 4 crs.
-388 (Concert Attendance)
-441 (Vocal Pedagogy), 2 crs.
-445 (Senior Recital), 2 crs.

A minimum of 31 non-music credits is required to include Drama 111A (Acting for Non-Majors I), 3 crs., and 8-10 credits of foreign language chosen from French or German. At least 39 credits, music or non-music, numbered 300 or above is required.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double degree program requires a minimum of 150 credits.

**Major in Performance with option in Voice (B-2)**

Music course requirements for an option in voice total 81 credits:

-151 (Major Performance Area I), 4 crs.
-251 (Major Performance Area II), 4 crs.
-351 (Major Performance Area III), 4 crs.
-451 (Major Performance Area IV), 4 crs.

-A minimum of 4 credits in 107A, section 1 (University Choir) and, upon completion of the upper-division recital performance, 107A/307A, section 1 (University Choir), 107A/307A, section 2 (Chamber Chorale), 307A, section 3 (Men's Chorus), 307A, section 4 (Women's Chorus), 113A/313A (Opera Theater), or 150A/350A, section 11 (Jubes) for an additional 4 credits

-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.

A minimum of 31 non-music credits is required to include Drama 111A (Acting for Non-Majors I), 3 crs., and 8-10 credits of foreign language chosen from French or German. At least 39 credits, music or non-music, numbered 300 or above is required.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double degree program requires a minimum of 150 credits.

**Major in Performance with option in Orchestral Instruments (B-3)**

Music course requirements for an option in an orchestral instrument (strings, winds, percussion) total 85 credits:

-151 (Major Performance Area I), 6 crs.
-251 (Major Performance Area II), 6 crs.
-351 (Major Performance Area III), 8 crs.
-451 (Major Performance Area IV), 8 crs.
-108A/308A (Orchestras) or 110A/310A (Concert Bands), 8 crs.
-150A/350A (Chamber Ensembles), 4 crs.
-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)
Major in Composition and Music Technology (B-4)

Music course requirements for a major in composition and music technology total 82 credits:
-151 (Major Performance Area I) 2 crs.
-251 (Major Performance Area II), 2 crs.
-351 (Major Performance Area III), 1 cr.
-107A/307A (Choral Ensembles), 108A/308A (Orchestras), 104A (Marching Band), or 110A/310A (Concert Bands), 113A/313A (Opera Theater), 114A/314A (UM Jazz Bands), 150A/350A (Chamber Ensembles) or 196/496 (Independent Study/Piano Accompanying), 8 crs., of which at least 4 must be in 107A/307A section 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.
-328 (Orchestration), 2 crs.
-361-362 (Form and Analysis I, II), 4 crs.
-379 (Counterpoint), 2 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 Music Programming), 2 crs.
-424 (Music of the 20th Century), 2 crs.
-499 (Professional Projects), 2 crs.
-and 9 credits of upper-division music electives.

Maximum credits applicable toward music requirements for this degree: Large and Chamber Ensembles, 8 crs.; Music 151, 2 crs.; 251, 2 crs.; 351, 2 crs. (1 cr. as upper-division music elective); 451, 2 crs. (as upper-division electives).

A minimum of 24 non-music credits is required. At least 39 credits, music or non-music, numbered 300 or above, is required.

Students taking voice or an instrument in the Music 151-451 series must take 100A, Piano, until a jury examination demonstrates adequate proficiency.

Composition/Technology students must pass a faculty jury examination of representative work in composition at the end of their sophomore year. Seniors present a full recital or two half recitals of original music for solo voice or instruments (Music 499, Professional Projects). This recital must include MIDI and/or other technology and a composition for small vocal or instrumental ensemble, and may include a composition for large ensemble. This recital may include works studied in the applied area, provided the student is concurrently enrolled in Music 451.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double degree program requires a minimum of 150 credits.

Curriculum C-Bachelor of Arts Degree with a Major in Fine Arts and option in Music

Students with a pre-college background in performance may elect curriculum C, a course of study designed to develop musicianship, to gain scholarly insight into the art of music, and to develop substantial background in the arts. This degree does not qualify a student for public school teaching in Montana but does provide groundwork for graduate study in musical performance and scholarship and in preparation for teaching careers in 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 48 credits in music and 51 credits of non-music courses. At least 36 of the non-music credits must be in the College of Arts and Sciences, to include foreign language. 18-20 crs. (with a minimum of two semesters in one language) and Liberal Studies 151L-152L, 8 crs.

Maximum music credits applicable toward this degree: Performance, 16 crs.; Large Ensemble Music, 8 crs. (maximum upper-division Large Ensemble Music credits: 4 crs.); Chamber Ensemble Music, 4 crs.

Students with keyboard as their principal instrument must take a minimum of 2 Large Ensemble Music credits and may take Music 150A/350A (Piano Ensembles) and/or Music 196/496 (Independent Studies/Piano Accompanying) to a maximum of 12 credits Large and Chamber Ensemble Music.

Those with voice as their principal must take a minimum of 4 credits in 107A, section 1 (University Choir) and, upon completion of the upper-division recital performance, 107A/307A, section 3 (Men’s Chorus), 307A, section 4 (Women’s Chorus), 113A/313A (Opera Theater), or 150A/350A, section 11 (Jubes) for an additional 4 credits.

Other music course requirements for Curriculum C include:
-151 (Major Performance Area I), 2-4 crs.
-251 (Major Performance Area II), 2-4 crs.
-351 (Major Performance Area III), 2-4 crs.
-451 (Major Performance Area IV), 2-4 crs.
School of Fine Arts - Department of Music- 317

**Suggested Course of Study**

**Bachelor of Music Education (A)**

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<th>Credits</th>
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<td>MUS 111-112 Theory I, II</td>
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<td>MUS 137-138 Aural Perception I, II</td>
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<td>MUS 151 Major Performance</td>
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<td>MUS 124-125 Strings in Class I, II</td>
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<td>MUS 126-129 Woodwinds or Brass in Class</td>
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<td>MUS 211-212 Theory III, IV</td>
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<td>*MUS 215-216 Intermediate Piano in Class I, II</td>
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<td>MUS 126-131 Woodwinds, Brass or Percussion in Class</td>
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<td>MUS 303 Choral Conducting</td>
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<td>MUS 305 Instrumental Methods and Materials</td>
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Electives and General Education ........... . 6 6

*Keyboard principals do not enroll in Music 115A-116A or 215-216 but must take 346 and 430 as upper-division music electives. Voice principals do not take Music 117A.

**May be scheduled autumn semester with appropriate adjustments in remaining schedule.

**Bachelor of Music, Major in Performance, Option in Piano or Organ (B-1)**

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<th>Credits</th>
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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, Major in Performance, Option in Voice (B-2)**

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<td>MUS 151 Major Performance</td>
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<tr>
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<td>MUS 181-182 Diction for Singers</td>
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<td>Electives and General Education (English 101)</td>
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<td>Second</td>
<td>MUS 107A Ensembles</td>
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<td>MUS 211-212 Theory III, IV</td>
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<td>MUS 215-216 Intermediate Piano in Class I, II</td>
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<td>MUS 219 Piano Proficiency Assessment</td>
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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.

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- 108A/308A (Orchestras), 104A (Marching Band), or 110A/310A (Concert Bands), 5 crs. (Keyboard and Voice 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.
### Bachelor of Music, Major in Composition and Music Technology (B-4)

<table>
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<tr>
<th>Course Code</th>
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<td>MUS 107A-110A Ensembles</td>
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<td>MUS 111-112 Theory I, II</td>
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<td>MUS 115A-116A Piano in Class I, II</td>
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<td>MUS 135L Introduction to Music Literature</td>
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<tr>
<td>MUS 137-138 Aural Perception I, II</td>
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<td>2</td>
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<tr>
<td>MUS 151 Major Performance I</td>
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<td>MUS 159 Composition I</td>
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<td>MUS 170 Introduction to Music Technology</td>
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| Credits | 17 15 |

### Bachelor of Music, Major in Performance, Option in Orchestral Instruments (B-3)

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<td>MUS 111-112 Theory I, II</td>
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<td>MUS 115A-116A Piano in Class I, II</td>
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<tr>
<td>MUS 137-138 Aural Perception I, II</td>
<td>2 2</td>
<td>2</td>
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<tr>
<td>MUS 151 Major Performance I</td>
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| Credits | 15 15 |

### Bachelor of Arts, Major in Fine Arts, Option in Music (C)

<table>
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<td>MUS 111-112 Theory I, II</td>
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<td>MUS 115A-116A Piano in Class I, II</td>
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<td>1</td>
</tr>
<tr>
<td>MUS 135L Introduction to Music Literature</td>
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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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<tr>
<td>Elective and General Education (English 101)</td>
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</tbody>
</table>

| Credits | 13-15 13-16 |

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*Must include Drama 111A (Acting for Non-Majors I), 3 crs.
School of Fine Arts - Department of Music - 319

MUS 251 Major Performance II .......................... 1-2 1-2
MUS 324H-325H Music History I, II ...................... 3 3
Foreign language and General Education ................. 7-8 7-8

Third Year
MUS 307A-310A, 313A, 350A Ensembles .................. 1 1
MUS 351 Major Performance III .......................... 1-2 1-2
MUS 361-362 Form and Analysis I, II ..................... 2 2
Foreign language and General Education ................. 8 12

Fourth Year
MUS 307A-310A, 313A, 350A Ensembles .................. 1 1
MUS 388 Concert Attendance ............................... 0
MUS 451 Major Performance IV ............................ 1-2 1-2
Upper-division academic music electives .................. 2 2
Electives and General Education ........................... 12 11

Requirements for a Minor
To receive a non-teaching minor in music the student must earn at least 27 music credits to include the following:
- 135L (Introduction to Music Literature) 3 crs.
- 151 (Major Performance I) 2 crs.
- 2 crs. chosen from Music 107A (Choral Ensembles), 108A (Orchestras), 104A (Marching Band), 110A (Concert Bands), 113A (Opera Theater), 114A (UM Jazz Bands), 150A (Chamber Ensembles), taken concurrently with 151
- 111-112 (Music Theory I, II) 4 crs.
-and 12 crs. of music electives which must be approved in advance by the Music Department chair. Contact the office at the Department of Music for detailed information.

Courses
U=for undergraduate credit only, UG=for graduate 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.

Music (MUS)

U 100A Performance Study 1-2 cr. Offered autumn and spring. Prereq., consent of instr. Individual instruction in voice, piano, organ, harpsichord, carillon, string, wind and percussion instruments. A total of 6 credits is allowed in any one performance area. All private instruction requires concurrent ensemble participation.

U 104A Marching Band 1 cr. Offered autumn. See MUS 107A for repeatability limitations. A musical organization of brass, woodwinds, percussion, and auxiliary units open to all University students with no audition required.

U 107A Choral Ensembles 1 cr. Offered autumn and spring. Open to all University students. Audition places students according to appropriate ensemble and proper seating/section. Music majors refer to curricula for specific requirements. Non-music majors may apply 8 credits of 107A-110A, 113A/313A, 114A/314A, and 150A/350A toward graduation.

U 108A Orchestras 1 cr. Offered autumn and spring. See MUS 107A for repeatability limitations. Open to all University students by audition. Rehearsal and performing experience in a broad range of symphonic, choral, operatic and concerto repertoire in the University Orchestra and the Missoula Symphony.

U 110A Concert Bands 1 cr. Offered autumn and spring. See MUS 107A for repeatability limitations. Major musical organizations open to all University students. Audition required for Symphonic Wind Ensemble.

U 111 Theory I 2 cr. Offered autumn. Coreq., MUS 137. Material and structure of music. Application of principles in tow-, 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 120 Music Fundamentals 2 cr. Offered autumn. Basic principles of notation, including clefs, scales, intervals, chords and rhythm.

U 124 String Instruments in Class I 1 cr. (R-2) Offered autumn. Group instruction for beginning students on violin, viola, cello and bass, with emphasis on teaching procedures.

U 125 String Instruments in Class II 1 cr. (R-2) Offered spring. Prereq., MUS 124. Continuation of 124.

U 126 Double Reed Class 1 cr. (R-2) Offered autumn. Basic instruction in oboe and bassoon, with emphasis on teaching procedures.

U 127 Flute and Single Reed Class 1 cr. (R-2) Offered spring. Basic instruction in flute, clarinet, and saxophone, with emphasis on teaching procedures.

U 128 Upper Brass Class 1 cr. (R-2) Offered autumn. Basic instruction in trumpet and horn, with emphasis on teaching procedures.

U 129 Lower Brass Class 1 cr. Offered spring. Basic instruction in trombone, baritone, and tuba, with emphasis on teaching procedures.

U 130 Percussion Instruments I 1 cr. (R-2) Offered autumn. Basic instruction in percussion instruments, with emphasis on teaching procedures.

U 131 Percussion Instruments II 1 cr. (R-2) Offered spring. Prereq., MUS 130. Continuation of 130. Basic instruction in percussion instruments, with emphasis on teaching procedures.

U 132L History of Jazz 3 cr. Offered autumn. The development of jazz in the 20th century with emphasis on critical listening and the recognition of important trends and people in its history.

U 133L History of Rock and Roll 3 cr. Offered spring. A study of the roots, components, and development of the musical art form "Rock and Roll". Significant performing artists and movements with the style identified and presented. Includes traditional lecture with substantial use of audio and visual aids.

U 134L Music Appreciation 3 cr. Offered autumn and spring. The development of music listening skills. Exploration of the relationship between musical materials and the expressive qualities of a musical composition or performance. Concert attendance required. No musical background is expected. For non-majors only. Credit not allowed for both MUS 134L and 135L.

U 135L Introduction to Music Literature 3 cr. Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical
styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both MUS 134L and 135L.

U 136H Music of the World’s Peoples 3 cr. Offered autumn and spring. Introduction to the diversity of music among the world’s peoples. Selected music systems throughout the world examined in their broad cultural contexts: religious, historical, and social. Introduction to ethnomusicology—a combination of musicology, anthropology and other related disciplines.

U 137 Aural Perception I 2 cr. Offered autumn. Coreq., MUS 111. A laboratory course in singing and dictation to supplement Theory I.

U 138 Aural Perception II 2 cr. Offered autumn. Coreq., 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 autumn. Prereq., MUS 142. Continuation of 142.

U 147A Beginning Folk Guitar 2 cr. Offered autumn. A beginning course in the fundamentals of playing folk guitar. Includes introduction to the rudiments of music.

U 150A Chamber Ensembles 1 cr. Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.

U 151 Major Performance Area I 1-4 cr. (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering 151 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.

U 159 Composition I 2 cr. (R-4) Offered autumn and spring. Prereq., consent of instr. An introduction to the basic art of music composition. May be substituted for upper division electives for students not majoring in theory or composition.

U 161 Language of Music I 3 cr. Offered autumn. Music fundamentals including scales, intervals, triads, and rhythm as they are written and heard. Practical application to the voice and/or keyboard.

U 162 Language of Music II 3 cr. Offered spring. Prereq., MUS 161. Continuation of 161 with emphasis on analysis of musical examples and aural recognition of basic harmonic patterns.

U 166L History of Musical Theater 3 cr. Offered autumn and spring. Same as DRAM 166L. Exploration of origins, evolving 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 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 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 obtain a upper-division standing in music. The eight-part exam is administered at the end of each semester. Successfully completed assessments will receive a grade of CR.

U 220 Upper-Division Required Performance 0 cr. All majors seeking upper-division standing must present a juryed 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., audition and consent of instr. Continuation of 251. 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 Material 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 1 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 201. Integration of fundamental skills and basic rudiments of music into the various aspects of teaching music creatively in the elementary school. For non-music majors only.

U 342 Vocal Repertoire I 2 cr. Offered autumn odd-numbered years. Prereq., upper-division standing in music. Comprehensive acquaintance with styles and interpretation in British, German, and possible additional repertoire genres.

U 343 Vocal Repertoire II 2 cr. Offered spring even-numbered years. Prereq., upper-division standing in music. Comprehensive acquaintance with styles and interpretation in American, French and possible additional genres.

U 345 Junior Recital 2 cr. Coreq., MUS 301 and 351. Offered autumn and spring.


U 350A Chamber Ensembles 1 cr. Offered autumn and spring. Prereq., consent of instructor. See MUS 150A.

U 351 Major Performance Area III 1-4 cr. (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of 251. All private instruction requires concurrent ensemble participation.

U 359 Composition III 3 cr. (R-6) Offered autumn and spring. Prereq., upper-division standing in music and 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 425 History of American Music 2 cr. Offered intermittently. Prereq., MUS 325 and upper-division standing in music. The development of American music from its antecedents. The effect of an evolving democratic state on the arts, the development of various centers of performing arts, and the types of music performed.


UG 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.

G 431 Piano Methods and Materials II 2 cr. Offered spring even-numbered years. Prereq., MUS 430. Continuation of 430.

G 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.

G 433 Keyboard Literature II 2 cr. Offered spring odd-numbered years. Prereq., MUS 432. Continuation of 432.

G 441 Vocal Pedagogy 2 cr. Offered autumn odd-numbered years or offered spring even-numbered years. Prereq., upper-division standing in music. Procedures, philosophies and terminology used in the teaching of singing. Individual and group techniques.

U 445 Senior Recital I-2 cr. Offered autumn and spring. Coreq., MUS 401 or 451.

G 451 Major Performance Area I 1-4 cr. (R-12) Offered autumn and spring, or offered spring, upper-division standing in music and consent of instr. Continuation of 451. All private instruction requires concurrent ensemble participation.

G 459 Composition IV 3 cr. (R-6) Offered autumn and spring. Prereq., 6 credits in MUS 359. A continuation of composition with writing in the larger forms.

G 466 Computer Music Programming 2 cr. Offered autumn. Prereq., MUS 429 and upper-division standing in music. Composition of computer music through programming. Study of object-oriented programming, synthesis and digital signal processing techniques, music-generating algorithms, sound spatialization, graphical user interface design, and external control.

G 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.

G 496 Independent Studies in Music 1-3 cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

G 499 Professional Projects I-4 cr. (R-4) Offered autumn and spring.

G 500 Secondary Performance Area I-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 II 2 cr. (R-4) Offered intermittently. Prereq., graduate standing in music. Concentrated study of repertoire for instrumental or vocal soloists, chamber ensembles or large ensembles.


G 522 Philosophy of Music 2 cr. Offered intermittently. Prereq., graduate standing in music. An investigation of the meaning of music, the relationship to various societies and social structures and the leading philosophical ideas which relate to music and music instruction.

G 525 Seminar in Vocal Literature 2 cr. (R-6) Offered intermittently. Prereq., graduate standing in music. Concentrated study of opera literature, song literature or choral literature.

G 526 Seminar in Instrumental Literature 2 cr. (R-4) Offered intermittently. Prereq., graduate standing in music. Concentrated study of symphonic literature or instrumental chamber music literature.

G 551 Major Performance Area I-4 cr. (R-12) Offered every term. Prereq., audition and consent of instr. Continuation of 451.

G 554 Analytical Techniques I 3 cr. Offered autumn odd-numbered years. Prereq., graduate standing in music. A survey of the theoretical approach of leading composers from the polyphonic period to the present.

G 555 Analytical Techniques II 3 cr. Offered spring even-numbered years. Prereq., MUS 554. Continuation of 554.

G 559 Composition Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Continuation of 459.

G 581 Arts Education Institute 1 cr. (R-4) Offered summer. Same as ART, DRAM 581. Open forum with national and regional speakers, panels, and symposia to promote discussion, understanding, and direction on significant national issues in the arts and arts education.

G 582 Arts Education Seminar I 2 cr. (R-4) Offered summer. Prereq., MUS 581. Same as ART, DRAM 582. Topics vary.

G 583 Arts Education seminar I 2 cr. Offered summer. Prereq., MUS 582. Same as ART, DRAM 583. Continuation of 582.

G 584 Arts Education Seminar III 1-2 cr. (R-4) Offered summer. Prereq., MUS 583. Same as ART, DRAM 584. Continuation of 583.

G 585 Arts Education Seminar IV 1-2 cr. (R-4) Offered summer. Prereq., MUS 584. Same as ART, DRAM 585. Continuation of 584.


G 587 Arts Education Practicum I 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 I 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)
Stephen Kalm, D.M.A., The City University of New York, 2000 (Chair)
Roger Dale McDonald, M.M., Yale University, 1973
Patrick Williams, M.A., Eastern Michigan University, 1973

Associate Professors
Margaret Baldridge, D.M.A., Eastman School of Music, 1994
Anne Basinski, M.M., Indiana University, 1989
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
Robert Ledbetter, D.M.A., University of North Texas, 1993
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
Joseph Armetta, M.M., The University of Montana, 1995
Don Beller, M.M., VanderCook College of Music, 1975
Roger Logan, B.M., University of Idaho, 1976

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 Musselman, Ph.D., Syracuse University
Florence Reynolds, D.M.A., Eastman School of Music
Donald W. Simmons, Ed.D., University of Illinois
school of journalism
School of Journalism

Jerry E. Brown, Dean
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, web sites, print and online news services and related agencies. The School of Journalism offers Bachelor of Arts and Master of Arts degrees in print journalism and radio-television. Students select options in print, photojournalism, broadcast news or broadcast production.

A quality education in journalism is built on a strong liberal arts foundation. Therefore, at the undergraduate level, at least 80 credits required for graduation must be outside the School of Journalism and 65 of those credits must be in the liberal arts and sciences or be General Education courses.

For further information about the master's degree program, contact Professor Clemens Work, Director of Graduate Studies, School of Journalism, The University of Montana, Missoula, MT 59812, or (406)243-2160, or clem.work@umontana.edu.

Pre-Professional Program

In the first two years of study students are enrolled in pre-journalism or pre-radio-televison and take courses primarily in the liberal arts and sciences. Journalism and radio-televison courses in the pre-professional curriculum may be taken at The University of Montana-Missoula or at another school with a program accredited by the Accrediting Council for Education in Journalism and Mass Communications. All non-journalism courses in the curriculum may be completed at any college or university.

Students in the first two years of study may enter the pre-professional program during any semester. However, requirements in the pre-professional curriculum should be completed by the end of the second year of study to enable students to apply for admission to the professional program during the spring of the sophomore year.

Students should have completed at least 45 credits before applying for the professional program. At the time of application, students should have either completed all courses listed in the pre-professional curriculum or be taking the courses needed to fulfill requirements. A grade point average of 2.5 or better is required of applicants.

Professional Program

Students 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-televison 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 attitude through the quality of their course work and their overall performance in the pre-professional program, and will have demonstrated an interest in pursuing a career in journalism or broadcast production. Students with deficiencies in these requirements may on occasion be admitted provisionally. Once deficiencies are removed from the students' record they will be given full admission status.

The curriculum of the journalism professional programs is sequential. Therefore, students will enter the professional programs in the autumn semester only. Applications for admission to the professional programs may be obtained from the Office of the Dean, School of Journalism. Applications must be received no later than March 1 preceding the autumn semester for which admission is requested. A $15 non-refundable application fee must accompany the application. Transcripts of all academic courses taken must be forwarded directly to the School of Journalism. Admission for one academic year cannot be deferred to another academic year.

Students transferring from other ACEJMC-accredited programs in journalism or radio-televison may be admitted on a space available basis. Transfer credit for pre-professional and professional courses taken at other institutions is accepted only for those courses that are deemed equivalent and in which a letter grade of C- or better is obtained.

Academic Progression

The general University academic standing requirements are listed separately in this catalog. See index.

Students enrolled in the professional journalism program must maintain satisfactory academic progress. Admission to the professional program requires a cumulative grade average of 2.5. Students who have been admitted and whose grade average subsequently falls below a 2.5 must meet with their advisors to discuss their progress before classes resume the following semester. Students in the professional programs who have a cumulative or professional grade point average less than 2.0 will be placed on academic probation. Students on academic probation 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 substantiation is made to the faculty, by written petition, that the substandard performance was the result of circumstances that no longer exist, or that the student has demonstrated the capability and desire to perform satisfactory work since his or her dismissal from the program.

Students leaving the program for any reason, whether in good standing or on academic suspension, must reapply for admission.

Special Degree Requirements

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

Pre-Professional Curriculum

The following courses must be completed prior to admission to any of the School of Journalism professional programs. Students who are unsuccessful in gaining admission to the professional programs should realize that completion of the pre-professional program fulfills a significant portion of the University General Education Requirement.
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 100E, PHIL 201E, PHIL 251H, PHIL 253H, ENLT 120L, ENLT 121L, ENLT 222L, ENLT 223L, ENLT 224L, ENLT 225L.
- 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 or JOUR 415-Feature Writing, and electives that will bring the total number of journalism credits to at least 30.

Students majoring in journalism with a photojournalism option must complete:

First Year:
- Autumn semester:
  - JOUR 327-Intermediate Photojournalism
  - JOUR 380-News Editing I
  - JOUR 488-Preparing for an Internship

Spring semester:
- JOUR 328-Advanced Photojournalism
- JOUR 367-Law of Mass Communication
- JOUR 381-News Editing II

Second Year:
- Autumn semester:
  - JOUR 417-Picture Story/Photographic Essay
  - JOUR 481-Senior Seminar
- Spring semester:
  - Electives that will bring the total number of journalism credits to at least 30.

Students majoring in journalism with a broadcast option must complete:

First Year:
- Autumn semester:
  - R-TV 360-Advanced Broadcast Reporting
- Spring semester:
  - R-TV 361-Newscast Reporting and Producing
  - JOUR 367-Law of Mass Communication

Second Year:
- Autumn semester:
  - R-TV 460-Broadcast Newsroom-Editorial
  - R-TV 494-Broadcast Senior Seminar
- Spring semester:
  - JOUR 351-Advanced Television Directing and Producing
  - JOUR 367-Law of Mass Communication

Students majoring in Radio-Television must complete:

First Year:
- Autumn semester:
  - R-TV 350-Television Directing and Production
- Spring semester:
  - R-TV 351-Advanced Television Directing and Producing
  - JOUR 367-Law of Mass Communication

Second Year:
- Autumn semester:
  - R-TV 450-Broadcast Newsroom-Production
  - R-TV 494-Broadcast Senior Seminar
- Spring semester:
  - JOUR 415-Feature Writing

All journalism and radio-television majors must acquire practical experience through pre-approved internships or other employment approved by the faculty.

All journalism and radio-television majors must meet the Upper-division Writing Expectation by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Courses

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

U 327 Intermediate Photojournalism 3 cr. Offered autumn. Prereq., JOUR 227. Mastery of the technical aspects of photojournalism: studio lights, portable strobes, lighting on location, color temperature. Students shoot weekly assignments and a photo story on color slide film. Students must supply film, 35mm camera, and portable strobe. Introduction to PhotoShop.

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.

UG 331 Public Affairs Reporting 3 cr. Offered autumn. Prereq., JOUR 270. Study and practice of reporting public issues with emphases on news sources, interpretive writing and the coverage of local, state and federal governments.

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.

UG 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 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 multi-cultural movement that is transforming the country and of newsroom diversity issues related to the employment of journalists of color and women. Examination of the risks of error and insult--such as stereotyping and conveying and strengthening misconceptions--inherent in writing about minority cultures.

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 Picture Story/Photographic Essay 3 cr. Offered autumn. Prereq., JOUR 328 and 381 or consent of instr. Culminating class in core curriculum in which students discuss, research, photograph, design and write several stories and essays. Study of the master storytellers.

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 a 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 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 photographic journalism students JOUR 327. Practical experience working for newspapers, magazines or other approved businesses, agencies or organizations.

UG 494 Pollner Seminar 2 cr. Offered autumn. Prereq., consent of instr. or print department chair. Seminar on a topic selected by the T. Anthony Pollner Distinguished Professor. Topics will range from journalism history, ethics, practices and performance to current issues in the news media.

UG 495 Special Topics 1-9 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 501 Project/Theory Seminar 2 cr. Offered spring. Introduction to appropriate research methods and presentation techniques for professional projects and thesis 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 550 or consent of instr. Intensive instruction and practice in reporting, writing, producing, directing and delivering television newscasts. Work on a special program for MontanaPBS in tandem with students in R-TV 351, 361 and 551.

G 567 Studies in Press and Broadcast Law 3 cr. Offered spring. Prereq., graduate standing. Examination and discussion of state and federal court cases affecting the mass media, with emphasis on First Amendment issues.

G 570 Reporting 3 cr. Offered autumn. Prereq., graduate standing. Principles of news gathering through records, documents, meetings, and observation of events, combined with interviewing. Writing news and news feature accounts for broadcast and print media. Perspectives on reporting standards and practices.

G 571 Reporting Public Affairs 3 cr. Offered spring. Prereq., JOUR 570 or consent of instr. Advanced reporting techniques for covering public affairs. Study and coverage of public affairs topics and beats.

G 580 News Editing 3 cr. Offered autumn. Prereq., JOUR 570 or consent of instr. Fundamentals of copy editing and story editing for the print news media. In addition, students perform deadline editing on actual news stories for publication.

G 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 630 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, regular half-hour Montana Journal magazine programs for MontanaPBS, and a weekly UMNews program for commercial stations, in tandem with student in R-TV 460, R-TV 450 and 650.

G 670 Covering the Environment 3 cr. Offered intermittently. Prereq., JOUR 570 or consent of instr. Practical opportunities to research and report on a variety of public health and natural resource issues, combined with a critical examination of how news media cover these issues.

G 690 Supervised Internship 1-2 cr. (R-2) Offered every term. Prereq., JOUR 571. Practical experience working for newspapers, magazines, wire services or other approved businesses, agencies or organizations.

G 696 Advanced Problems Variable cr. (R-6) Offered every term. Prereq., consent of the dean. Independent study.

G 697 Research in Journalism Variable cr. (R-9) Offered every term. Prereq., consent of the dean.

G 699 Thesis Variable cr. (R-6) Offered every term. Research and writing of master's thesis.

Radio-Television (R-TV)

U 150 Introduction to Radio Production 3 cr. Offered autumn and spring. Prereq., JOUR 100S or consent of instr. Introduction to the fundamentals of audio and radio production, including announcing, use of microphones, recording equipment, editing techniques and programming.

U 151 Introduction to Television Production 3 cr. Offered autumn and spring. Prereq., JOUR 100 or consent of instr. Use of cameras, microphones, and lighting gear for field production. Use of mixer and videotape editors for post production.

U 280 Reporting for Broadcast 3 cr. Offered autumn and spring. Prereq., JOUR 100S. Fundamentals of reporting and writing news for broadcast including use of digital audio recording and editing equipment.

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

U 350 Television Directing and Production 3 cr. Prereq., R-TV 151. Production and direction of studio and remote television programs.

U 351 Advanced Television Directing and Production 3 cr. Offered spring. Prereq., R-TV 350. Advanced production and direction techniques in both the studio and field. Work with students in R-TV 361 on special programs for MontanaPBS.
U 360 Advanced Broadcast Reporting 3 cr. Offered autumn. Prereq., R-TV 280, R-TV 151. Radio and television reporting including writing, interviewing, news gathering and preparation of radio and television news stories.

U 361 Newscast Reporting and Producing 3 cr. Offered spring. Prereq., R-TV 360. Intensive instruction and practice in reporting, writing, producing and delivery of television newscasts. Work with students in R-TV 351 on special programs for MontanaPBS.

U 370 KBGA Reporting 1 cr. (R-3) Offered spring. Students report, write and produce stories for KBGA, the student radio station, under supervision of KBGA News Director and a faculty member.

U 395 Special Topics Variable cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 396 Independent Study in Broadcasting Variable cr. (R-6) Offered every term. Prereq., consent of instr. and broadcast faculty. Independent study in broadcasting issues of interest.

UG 401 Broadcast Programming 3 cr. Offered autumn odd-numbered years. An examination of formats, distribution systems, ratings, programming strategies and the business aspects of programming in the broadcasting and cable television industries.

UG 403 Sports and Media 3 cr. Offered autumn even-numbered years. An examination of the historic marriage between the mass media and sports on both collegiate and professional levels.

UG 420 Radio Deliberation Project 1-3 cr. (R-6) 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.

UG 430 Lighting for Video 3 cr. Offered spring even-numbered years. Prereq., R-TV 350 or Dram 351 or consent of instr. Special techniques of lighting for the video camera.

UG 440 Advanced Video Editing and Storytelling 3 cr. Offered autumn. Prereq., R-TV 351 or consent of instr. Advanced non-linear video editing, photography, lighting and audio and writing for television production.

U 450 Broadcast Newsroom-Production 3 cr. Offered autumn. Prereq., R-TV 351 or consent of instr. Students direct, photograph and edit a daily Newsbrief report, regular half-hour Montana Journal magazine programs for MontanaPBS, and a weekly UMNews program for commercial stations, in tandem with students in R-TV 460, 650.

U 460 Broadcast Newsroom-Editorial 3 cr. (R-6) Offered autumn. Prereq., R-TV 361. Students report, write, produce and deliver a daily Newsbrief report, regular half-hour Montana Journalism magazine programs for MontanaPBS, and a weekly UMNews program for commercial stations, in tandem with students in R-TV 450, 650.

UG 481 Documentary-Editorial 3 cr. Offered spring. Prereq., R-TV 460 or consent of instr. Students conceive, research, report and otherwise produce a one-hour television documentary for MontanaPBS, in tandem with student of R-TV 482.

UG 482 Documentary-Production 3 cr. (R-6) Offered spring. Prereq., R-TV 450 or consent of instr. Students conceive, research, photograph, edit and otherwise produce a one-hour television documentary for MontanaPBS, in tandem with students of JOUR 481.

UG 485 Advanced Television News Producing 3 cr. Offered spring. Prereq., R-TV 460 or 461. Techniques and strategies of daily production of a full-length newscast.

UG 489 Preparing for an Internship 1 cr. Offered spring and autumn and spring 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.

UG 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.

UG 494 Senior Seminar 3 cr. Offered autumn. Prereq., senior standing in broadcast news or broadcast production option or consent of instr. Exploration of the current and historic broadcasting in American society, including current business, editorial, production and ethical issues in the industry. Each student completes a major research paper as part of the course.

G 550 Graduate Television Production and Direction 3 cr. Offered autumn. Prereq., consent of instr. Production and direction of studio and remote television programs.

G 560 Graduate Advanced Broadcast Reporting 3 cr. Offered autumn. Prereq., R-TV 280 or JOUR 570 or consent of instr. Radio and television reporting including writing, interviewing, news gathering and preparation of radio and television news stories.

G 650 Graduate Broadcast Newsroom-Production 3 cr. Offered spring. Students direct, photograph and edit a daily Newsbrief report, regular half-hour Montana Journal magazine programs for MontanaPBS, and a weekly UMNews program for commercial stations, in tandem with students in R-TV 460 and 450.

G 681 Graduate Documentary 3 cr. Offered spring. Prereq., JOUR 650 or consent of instr. Students conceive, research, report, photograph and edit a one-hour documentary for MontanaPBS in tandem with students in R-TV 481 and 482.

Faculty

Professors
Sharon Barrett, M.A., University of Wisconsin, 1967
Jerry E. Brown, Ph.D., Vanderbilt University, 1974 (Dean)
William L. Knowles, B.A., San Jose State College, 1959
Carol B. Van Valkenburg, M.A., The University of Montana, 1988 (Chair, Print Journalism)
Clemens P. Work, J.D., Golden Gate University School of Law, 1975

Associate Professors
Raymond Ekness, M.A., The University of Montana, 1995 (Chair, Radio-Television)
Dennis McAuliffe, Jr., B.A., University of Maryland, 1976

Assistant Professor
Denise Dowling, B.A., University of Montana, 1982 (Visiting)
Michael Downs, M.F.A., University of Arkansas, 1999 (Visiting)
Keith Graham, M.A., University of Missouri, 1979
Teresa Tamura, M.F.A., University of Washington, 1996
Sheri Venema, M.A., University of Minnesota, 1983

Adjunct Professors
John Talbot, A.B., Harvard University, 1951
**Lecturers**
- Printer Bowler
- Gus Chambers
- Sherry Devlin
- Jeff Hull
- Joel Lundstad
- William Marcus

Sally Mauk  
John Twiggs

**Emeritus Professors**
- Nathaniel Blumberg, Ph.D., Oxford University, 1950
- Charles E. Hood, Jr., Ph.D., Washington State University, 1980
- 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 to 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 2006
August 23-29 (Wednesday-Tuesday) Introductory Program
August 22 (Tuesday) Registration Finalization
August 28 (Monday) Classes Begin
September 4 (Monday) Labor Day (Holiday)
November 7 (Tuesday) Election Day (Holiday)
November 10 (Friday) Veterans’ Day (Holiday)
November 22-24 (Wednesday-Friday) Thanksgiving Holiday
Building Closed: Thursday, November 23
December 4 (Monday) Last day of classes
December 5-8 (Tuesday-Friday) Reading period
December 9-20 (Saturday-Wednesday) Final exams

Spring Semester 2007
January 16 (Monday) Martin Luther King Jr. Day (Holiday)
January 19 (Friday) Registration Finalization
January 22 (Monday) Classes begin
February 19 (Monday) President’s Day (Holiday)
March 26-30 (Monday-Friday) Spring Vacation
Building Hours: Monday-Friday, 7:00am - 5:30am
Law Library Hours: Monday-Friday, 7:30am - 5:00pm
April 30 (Monday) Last day of classes
May 1-6 (Tuesday-Sunday) Reading period prior to exams
May 7-18 (Monday-Friday) Final exams
May 12 (Saturday) UM Commencement
May 19 (Saturday) Law School Hooding Ceremony

Required Curriculum

First Year
500 Civil Procedure I ................................................. 3
501 Civil Procedure II ............................................. 2
502 Contracts I ....................................................... 3
503 Contracts II ....................................................... 2
504 Pretrial Advocacy I ............................................. 2
505 Pretrial Advocacy II ........................................... 1
506 Legal Research ................................................... 2
508 Legal Analysis .................................................... 1
509 Legal Writing I ................................................... 3

Second Year
510 Criminal Law & Proc I ......................................... 2
511 Criminal Law & Proc II ....................................... 3
512 Torts I ............................................................ 2
513 Torts II ............................................................ 3

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, 3 credits)
Law Practice (Law 631, 2 credits)
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 661, 2 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
John L. Horwich, J.D., Cornell Law School, 1975
Gregory S. Munro, J.D., The University of Montana, 1975
Robert G. Natelson, J.D., Cornell Law School, 1973
David J. Patterson, LL.M., University of Michigan, 1966
Fritz Snyder, J.D., Washburn School of Law, 1979 (Associate Dean)
Robert E. Sullivan, J.D., Notre Dame, 1946 (Dean Emeritus)

Associate Professors
Elaine Gagliardi, LL.M., New York University, 1990

Assistant Professors
Phillip Cousineau, MLS., University of Texas, 1993
Stacey Gordon, J.D., The University of Montana, 2000
Larry Howell, J.D., M.A., The University of Montana, 1992
Maylinn Smith, J.D., The University of Montana, 1987
Margaret A. Tonon, J.D., The University of Montana, 1974

Adjunct Faculty
David Aronofsky, J.D., University of Texas, 1982
Kristen Juras, J.D., University of Georgia, 1982
John W. McDonald, J.D., The University of Montana, 1961
Jeffrey T. Renz, J.D., The University of Montana, 1979
Klaus Sitte, J.D., The University of Montana, 1972

Adjunct Faculty
David Aronofsky, J.D., University of Texas, 1982
Kristen Juras, J.D., University of Georgia, 1982
Jeffrey T Renz, J.D., The University of Montana, 1979
undergraduate advising center
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, but no other penalties are incurred.

Many departmental sections in the catalog include a suggested four-year course of study for students to follow in order to graduate in four years. These are suggested course plans. Four Bear students must meet with their advisor in order to customize their plan to fit individual circumstances and academic goals.

For more information and to sign up for the program, contact the Four Bear Coordinator, Lommasson Center 269.

Courses

U=for undergraduate credit only, UG=for undergraduate or graduate credit, G=for graduate credit. R after the credit indicates the courses may be repeated for credit to the maximum indicated after the R. Credits beyond this maximum do not count toward a degree.

Undergraduate Advising Center (UNC)

U 101 Freshman Seminar I 2cr. Offered autumn. Introduction to academic life: readings in current social and ethical topics, extensive practice in listening and composition skills, applied research skills, individual and group presentations, and individual academic advising. Course is anchored by a mandatory lecture series.

U 102 Freshman Seminar II 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.

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.
affiliated UM campuses
The University of Montana - Western

The unique mission of The University of Montana - Western emphasizes experiential learning that combines theory and practice through projects and field experiences. 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 as its mission the privilege and obligations to capitalize on its beautiful but isolated landscape in southwest Montana. This mission infuses the University’s curriculum: in its century-long tradition for excellence in professional programs in teacher education, business and technology; in its 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). 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 sporting program is also available for students seeking intramural activities. Western's geographic location makes an ideal setting for individuals who enjoy the rugged outdoors. Yellowstone, Grand Teton, and Glacier national parks are nearby for those interested in viewing natural wonders and wildlife.

Although it has a small town atmosphere, Dillon offers all the amenities of a much larger community. Ranching, mining and tourism are the chief industries of the area. Western's picturesque 34 acre campus and friendly atmosphere blend with the community and area. For more information about The University of Montana - Western, call 800-962-6668 and request the admissions office.

The University of Montana - Helena College of Technology

The University of Montana - Helena College of Technology of The University of Montana offers two-year programs in business, trades, technical and health occupations designed to meet the state's business and industry needs for technologi-}

cally-skilled workers. All of the curricula are industry-approved and emphasize learning in a hands-on environment. In addition, the college offers an Associate of Science degree and Associate of Arts degree designed to transfer to four-year institutions. The college, founded in 1939, is fully accredited by the Northwest Association of Schools and Colleges, the Montana State Board of Nursing, the Federal Aviation Administration, and the National Institute for Automotive Service Excellence.

Helena's students take a full compliment of courses in mathematics, communication, computer literacy, and career development. With the restructuring of the university system, the Helena College of Technology also serves as a Higher Education Center, providing graduate-level study to the Helena area through distance education. Located in Montana's beautiful 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, services, organizations
Expenses

Fees

General

The student expense information provided in this catalog is based upon the rates for the 2005-06 academic year. Current information may be obtained by contacting Business Services, Loomisson Center, The University of Montana-Missoula, Missoula, Montana 59812. (Phone 406-243-2223). The Board of Regents reserves the right to adjust fees at any time.

Students are encouraged to have funds on deposit in a Missoula bank for fees, board, room and other necessary expenses and be able to write a check for the exact amount during registration periods. Foreign and Canadian checks are not accepted. Canadian money is discounted. Credit card payment is accepted using 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 2005-2006 academic year. Students with WUE residency, graduate students, law students, unsubsidized residents, post baccalaureate and Lommasson Center, The University of Montana-Missoula, 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 Explanation

Activity Fee

The activity fee is applied to the Associated Students of The University of Montana-Missoula, ASUM. It entitles students to use ASUM services (legal services, day care, tutoring services, etc.), provides support to ASUM activities, allows students to vote in elections and receive reduced rates to programming events.

Athletic Fee

This fee is used to assist the Athletic Department maintain Division I status and bring them into compliance with gender equity laws. This fee entitles full-time students to attend most UM-Missoula 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/usa/health, then select "Student Insurance".

### Radio and Transportation Fee
Students enrolled for 7 credits or more are assessed these fees. Radio Fee is used to support the student radio station. Transportation Fee is used to address transportation issues.

### Registration Fee
Fee is non-refundable and applied to instructional costs.

### Tuition Resident and Nonresident Fees
These fees are applied to instructional costs.

### University Center Fees
The University Center operation fee is applied to the operation of the University Center. The University Center renovation fee is applied to renovation of the University Center.

### Kaimin and Recycling Fees
The $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.

### College of Technology Student Fee Schedule 2005-2006 Semesters

#### Undergraduate Lower Division

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<th>Course Credit</th>
<th>Reg. Fee</th>
<th>Tuition Fee</th>
<th>Bldg. Fee</th>
<th>Comput/ Tech Fee**</th>
<th>Equip Fee</th>
<th>Activity Fees*</th>
<th>Camp Rec</th>
<th>Health Fee***</th>
<th>Utility Sur-Charge</th>
<th>Kaimin/ Recyc Fees**</th>
<th>Acad Fac Fee</th>
<th>UC OP Fee</th>
<th>Radio/ Trans Fee***</th>
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* Students enrolled for 6 credits or less have the option of paying additional amounts to cover Activity, Clinical Services provided by Curry Health Center.
** Mandatory health insurance coverage, with right of waiver, is required for all students. The semester rate, subject to limits set by the BOR, is $582.50
***At 12 credits Technology $36.20; Computer $38.40; Kaimin $4; Recycling $4; Radio $5; Transportation $12.50.
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 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 2006-2007 School of Law fees for 12 credits are approximately $2666 for autumn and $2646 for spring for an in-state student and $7448 for autumn and $7428 for spring for an out-of-state student. The Health Service fee is included. Health Insurance coverage is available to students for an additional charge.

Law Special Fees
All persons who apply for admission to the School of Law must pay an acceptance fee of $300.00 ($150.00 is refundable if written notice is received by the due date if student does not want to attend) which is applied toward payment of fees upon entering and attending the School of Law in the semester for which application was made.

In addition to the above fees, Law School students must pay an additional $1888.00 per semester (if they are enrolled in 15 or more credits) or $126.00 per credit if they are enrolled in less than 15 credits per semester. The amount is applied to instructional costs.

All law students are assessed a $26.00 law activity fee for autumn and a $6.00 law activity fee for spring.

Summer Programs and Continuing Education
Fees, room and board costs for Summer Programs and fees for registration in Continuing Education are contained in separate publications. These publications can be obtained by contacting the Center for Continuing Education and Summer Programs, The University of Montana-Missoula, Missoula, MT 59812.

Refund for Withdrawal from the University
The withdrawal process (dropping all classes) begins at Griz Central located in the Lommasson Center. The date used in determining the amount credited to the student’s account is the official withdrawal date as recorded by the University Registrar. No fees are credited after the fifteenth class day of the semester.

Students using the continuous deferred payment plan will have their withdrawal credit applied to their student account, but may still owe some or all of the deferred balance. All existing debts such as a deferred payment plan balance, library charges, health service charges, etc., may be deducted from any refund due the student. For further information, contact Business Services.

Financial aid funds may be returned to the funding source for students who have received aid the semester they withdraw. Consult the Enrollment Services-Financial Aid Office for more information.

Fees paid for room and board charges are refunded on a pro-rata basis. During the final two weeks of the term, room fees will be forfeited.

If you experience a significant health problem during the first three weeks of the semester, you may be eligible for a refund through a medical withdrawal. Signed documentation of visits with a health care provider during those three weeks must be provided to determine withdrawal date. Review of the documentation by CHC must take place in this first half of the semester. This cannot conflict with Financial Aid guidelines.

Other Registration Costs and Policies

Late Registration
A student who does not complete registration, including payment of fees or finalize via cyberbear.umt.edu, during the scheduled registration period (see current Schedule of Classes) is assessed a late registration fee of $40.00. After the fifteenth class day, a petition is required to register and, if approved, an additional $80.00 may be assessed.

 Dishonored Checks
A charge of $15.00 will be assessed on checks (paper or electronic) returned from the bank. Any check tendered in payment of registration fees and not honored by the bank upon which it is drawn may result in cancellation of a student’s registration. The student will be assessed the late registration fee of $80.00 maximum in addition to the $15.00 service charge.

 Fee Policy on Drop/Adds
Students must pay for all courses for which they are enrolled at registration. However, within the first fifteen class days, they may drop or add courses. The courses for which students are enrolled on the fifteenth class day will determine any fee

Refund for Withdrawal from the University

<table>
<thead>
<tr>
<th>Previously Enrolled Students</th>
<th>Before Classes</th>
<th>1st Week</th>
<th>2nd Week</th>
<th>3rd Week</th>
<th>4th Week or Later</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Tuition/Fees</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Radio/Trans Fee</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Activity Fee</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Athletic Fee</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Kaimin/Recycling</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Campus Rec.</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Health Services #</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>Blue Cross Ins. #</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Other Fees</td>
<td>varies</td>
<td>varies</td>
<td>varies</td>
<td>varies</td>
<td>varies</td>
</tr>
</tbody>
</table>

#Providing student is not withdrawing for medical reasons.
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. Financial aid adjustments are not made for any activity after the fifteenth day of classes.

**Drop/Add Processing Fee**

A $10.00 processing fee will be charged for each course that is added after the fifteenth class day or dropped after the twenty-fifth class day. See the summer class schedule for summer session deadlines.

**Continuous Deferred Fee Payment Plan**
The Board of Regents of Higher Education have authorized a continuous deferred fee payment plan which provides for the payment of at least one third of the total fees along with a $30.00 administrative charge at the time of registration, payment of one third approximately 30 days after registration and payment of the full balance approximately 60 days after registration. Registration, Incidental, Health Service, Activity, Kaimin, Recycling, Academic Facilities, Computer, Equipment, Athletic, Campus Recreation, Radio, University Center and Building Fees, and Residence Halls and Dining Service charges less any Financial Aid may be deferred. The signing and adherence to the terms and conditions of a promissory note will be required and no fees may be deferred by any person who owes the University any fees, fines, loans or other charges or who has previously deferred fees and failed to make timely payments. A $15.00 fee will be assessed each time a payment is late. This plan is not available for the summer session.

**Monthly Bill Statements**
Students will be sent electronic notices on a monthly basis. It is the student's responsibility to check their official um while account. Payment for billed amounts are due by the due date included in the electronic message. Failure to make timely payments will result in an interest charge assessed on balances not in full in the following monthly billing.

**Non Payment**
No person who owes the University any fees, fines or other charges will be permitted to (1) receive academic credit or grades; (2) register; (3) secure any transcript, diploma or record; or (4) access any University facilities or services, regardless of the relationship thereof to the amount owed, until the full amount due has been paid or satisfactorily adjusted with Business Services. Interest may be charged at the rate of 10% on the balance due from the day after the due date until the full amount has been paid and any attorney's fees or other costs or charges necessary for the collection of the amount owed may be added to the balance due. The University shall have the right to apply any portion of any amount it may owe such individual for any reason, including wages, to payment of the balance owed to the University.

**Determination of In-State Fee Status**
The Montana University System classifies all students as either in-state or out-of-state. This classification affects admission decisions and fee determinations. The basic rules for making the classification are found in Board of Regents' Policy. It is each student's responsibility to secure and review a copy of the policy. Failure to be aware of the rules will not be cause for granting any exceptions to them. A copy of the policy is available from the Admissions Office or the Registrar's Office. It is important to bear in mind that each residency determination is based on the unique set of facts found in each individual's case. Students participating in the Western Undergraduate Exchange or the National Student Exchange programs are not eligible to gain residency. If you have questions concerning your particular case, be sure to contact the unit to which you are applying for admission or at which you are already enrolled. Generally, the Admissions Office or the Registrar's Office will be able to assist you.

With certain exceptions, in order to be eligible for in-state status, a person must meet a 12-month duration residency test. You will have to demonstrate a bona fide intent to become a Montana resident. The 12-month period does not start until some act indicative of an intent to establish residency is taken. Mere presence in Montana, enrollment at a unit or rental agreements will not serve to start this period. Sufficient acts to start the period are registration to vote, obtaining a Montana driver's license, registration of a motor vehicle in Montana, purchase of a home in Montana or filing of a resident Montana tax return. The 12-months must be completed by the 15th instructional day to qualify for that term.

Your actions during the 12 month waiting period will be used to determine whether you are in the state as a bona fide resident or merely for educational purposes. The decision on your residency will not generally depend on just one factor. The following are the things you need to do that will support a claim of bona fide residency.

A. Register to vote if you are a voter
B. License a vehicle if you operate one in Montana
C. Obtain a driver's license if you drive
D. Be physically present in Montana, not out of the state of Montana, for more than a total of 30 days
E. Do Not be claimed as a tax exemption by residents of another state
F. Provide at least 51% of your own financial support (this means you will need to document to us that you have contributed approximately $6000 towards your support during the twelve month waiting period)
G. File a Montana resident income tax return (this is important for all who claim residency in Montana, regardless of the amount of earnings)
H. Only register for six (6) credits or less per semester (including summer school) during the twelve month waiting period. Registering for more than 6 credits creates a strong presumption that you are here for education purposes, and may disqualify you from achieving in-state status.

Be certain to secure the Board of Regents residency Policy and questionnaire from the Registrar's Office in the Lommasson Center 201 or at the Registration Counter in Griz Central. At the end of your twelve month waiting period you must complete the residency questionnaire and attach copies of your driver's license, vehicle registration, voter's registration and your earnings for the twelve months and return it to the Registrar's Office for review. This documentation can be submitted to the Registrar's Office up to 30 days in advance of the petitioners start date and not later than the 15th instructional day of the semester for which the status is sought. When a student petitions or meets the 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 Regent's policy.
Costs of On-Campus Services

Housing and Dining Services
Students living in University residence halls are required to contract for a meal plan with Dining Services. Room and board rates are the same for in-state and out-of-state students. Occupants may select any meal plan to obtain the number of meals preferred and choose from a variety of room options.

Students who are approved to move out of the residence halls and terminate their meal plan contract will receive a prorated refund based upon the days remaining in the semester less the cancellation fee.

Residence Halls
*Rates subject to change*
2006-07 room rates in University residence halls are:

<table>
<thead>
<tr>
<th>Room Type</th>
<th>Per Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumn/Spring</td>
<td></td>
</tr>
<tr>
<td>2-Bedroom</td>
<td>$1,329.75</td>
</tr>
<tr>
<td>Single</td>
<td>$1,522.75</td>
</tr>
<tr>
<td>Double as Single</td>
<td>$1,613.75</td>
</tr>
<tr>
<td>Panther Suite</td>
<td>$1,895.75</td>
</tr>
<tr>
<td>Miller Suite</td>
<td>$1,749.75</td>
</tr>
</tbody>
</table>

Rates include telephone service and $6.00 per semester social fee.

Early arrival prior to opening day on August 26th, 2006, cost an additional $14.00 per day.

Lewis and Clark Village
Rent is $376.00 per month per person regardless of which size apartment you are assigned to. Each resident will be responsible for their own rent payment. Residents may choose to pay either by the semester or by the month. Rent includes a furnished apartment with all utilities paid including cable TV. You must make your arrangements for telephone service.

Dining Services
Dining Services meal plan prices 2006-2007 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 Court, Missoula, MT 59801. A $250 deposit will be required when apartment is assigned.

Housing Apartment Rates (monthly)

<table>
<thead>
<tr>
<th>Type</th>
<th>Craighead and Sisson Rental Rate</th>
<th>Elliot (Tenant pays Heat &amp; Elec.) Rental Rate</th>
<th>Toole (Tenant pays Heat &amp; Elec.) Rental Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studio</td>
<td>$422.00</td>
<td>$288.00</td>
<td>$399.00</td>
</tr>
<tr>
<td>1-Bedroom</td>
<td>469.00</td>
<td>343.00</td>
<td>478.00</td>
</tr>
<tr>
<td>2-Bedroom</td>
<td>565.00</td>
<td>425.00</td>
<td>577.00</td>
</tr>
</tbody>
</table>

3-Bedroom 635.00 473.00 654.00 4-Bedroom 669.00

Note: These rates are monthly and effective July 1, 2006 through June 30, 2007. 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 $165 a year. Students have the option of purchasing semester decals for $62.50. Reserved parking is available on a first come, first serve basis for $495 a year. Car pools of three or more drivers may register for $10 per person for the year.

Motorcycles are issued "A" decals at $32 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" decals 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 motorcycles, car pool or half semester registrations.

If a vehicle is sold, transferred or destroyed, the parking decal must be removed and returned to the Office of Public Safety for replacement. There is a $10 replacement fee for all decals lost, stolen or not returned.

Other Campus Services

On campus there are other services provided such as the swimming pool, laundry facilities, locker rental, 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>Benefits</td>
<td>Students</td>
<td>Students*</td>
</tr>
<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 apply. 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 benefits, 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/finaid.

COT students only:
Enrollment Services-Financial Aid Office
909 South Avenue West
Missoula, MT 59801
(406) 243-7886
E-Mail: faidcot@mso.umt.edu

All other students:
Enrollment Services-Financial Aid
Lommasson Center - Griz Central
Missoula, MT 59812-1254
(406) 243-5373
E-Mail: faid@mso.umt.edu

Both offices are fully accessible.
Notice: Any policy is subject to change without advance notice if required by federal or state law, Board of Regents, or Enrollment Services-Financial Aid Office.

Acceptance to UM
Students must be accepted for admission (or readmission) to the University in a degree seeking program before financial aid requests are considered. Students accepted into non-degree categories are not eligible for any financial aid.

Presidential Leadership Scholarships
This award is open to incoming freshmen who have demonstrated high academic achievements, leadership and promise for success in their high school experiences. The award is renewable for four years based on meeting eligibility requirements. Further information is available beginning October 1st. The application is available from Enrollment 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 available 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 limited funds. Those who complete requirements later are considered only for federal loan programs and federal Pell Grants.

Determination of Eligibility
Eligibility for need-based financial aid is determined by subtracting the Expected Family Contribution (as determined from filing the FAFSA), scholarships, and other educational assistance from private or public agencies from the Cost of Education.

Financial Aid Package
Packages of need-based aid can include a combination of grants, loans and workstudy. A student using the FAFSA automatically applies for all possibilities with one application. The types of aid offered will include federal subsidized and unsubsidized student loans for graduate or undergraduate students and federal Pell Grants for undergraduates if qualified. For those who file the FAFSA early and complete all requirements for additional documentation promptly, additional campus aid will be considered. This aid includes federal and state grants for undergraduate students. Federal Perkins loans and either federal or state work study will be considered for all early filers for both degree-seeking undergraduates and graduate students.

Non-need based aid, in the form of unsubsidized federal loans, for students and parents of dependent students will be considered for those families who file the FAFSA and request these loans.

Distribution of Aid
All financial aid is awarded by the Enrollment Services-Financial Aid Office and distributed through Business Services, usually by crediting aid to the student’s account. Aid is released after a student has accepted the award offer, but not before the first day of classes each semester. Loans may be cancelled under certain conditions if the student no longer desires the debt. Students who are offered work study must obtain employment and complete additional paperwork at the Enrollment Services-Financial Aid Office. Students who work are paid monthly based on the timecard submitted by the student and the supervisor.

Additional Requirements for Loans
Any student who receives a student loan at The University of Montana must complete an entrance interview requirement before a loan will be disbursed. Graduating students will be required to complete an exit interview requirement prior to disbursement of any loans in their last scheduled semester of enrollment. Both entrance and exit counseling can be completed by accessing the Enrollment Services-Financial Aid page of the web site for The University of Montana-Missoula, at http://www.umt.edu/finaid.

Study Abroad and Financial Aid
Students who desire to study abroad and who enroll in courses that are approved by The University of Montana should contact the Enrollment Services-Financial Aid Office.
Instructions will be provided for using financial aid with this type of study.

**Other Requirements and Guidelines for Retaining Financial Aid**

Financial aid for full-time is based on maintaining a minimum of twelve (12) credits each term for undergraduates and nine (9) credits for graduate students.

Part-time students with six (6) or more credits will be considered for reduced financial aid packages. Pell recipients receive 75% of the full Pell amount if enrolled for 9-11 credits, and 50% of the award if enrolled for 6-8 credits for the semester. Other aid may be reduced or eliminated.

Students enrolling for fewer than six credits are not considered for financial aid with two exceptions; (1) undergraduates who are seeking their first degree may be eligible for a reduced federal Pell Grant, and (2) fee waivers may be available for those who qualify.

**Employment**

The Enrollment Services-Financial Aid Office coordinates subsidized federal and state work study programs. Open positions are posted on the electronic job board located at http://www.umt.edu/studentjobs.

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.

**Reduced Fees**

**Fee Waivers**

The Montana Board of Regents has authorized the waiver of registration and incidental fees for certain categories of students. Applications for any of the fee waivers listed must be made in writing to the Enrollment Services-Financial Aid Office. The request must be made prior to the start of the semester in which the student expects the waiver.

Minimum academic standards are necessary to receive fee waivers. Other requirements and limitations may apply.

Contact the Enrollment Services-Financial Aid Office for application forms or more information.

**Montana Veterans Fee Waiver**

- bonafide resident of the State of Montana for fee purposes
- Honorable Discharge
- at one time qualified for veterans benefits under Title 38 of the U.S. Code, but are no longer eligible
- served during a time of war as determined by the Attorney General (World War II, 12-7-41 to 9-2-45; Korean War, 6-22-50 to 1-31-55; Vietnam War, 1-1-64 to 5-7-75; or post-Vietnam world conflicts under certain conditions.

Contact the Enrollment Services-Financial Aid Office for further information.

**Indian Student Fee Waivers**

- resident of the State of Montana for one year immediately prior to enrollment at The University of Montana-Missoula
- documentation proving at least one-quarter degree blood
- meet admissions guidelines of the University
- must have financial need as determined by the Enrollment Services-Financial Aid Office
- meet satisfactory academic progress according to the standards of the Enrollment Services-Financial Aid Office

**Senior Citizens Fee Waiver**

- permanent resident of the State of Montana
- 62 years of age or older

**University of Montana Employees**

- instate resident
- employed at least three-quarter time on the date of registration and for the entire semester
- must be after probationary employment period
- approval from department head & Human Resources every semester

**High School Honors**

- awarded by Board of Regents to top graduating seniors in Montana
- student must submit form received from the Regents to The University of Montana Enrollment Services-Financial Aid Office for activation of this waiver.

**Other**

There are several other fee waivers including war orphans, family's of UM employees, dependents of prisoners of war, and surviving spouse or children of any Montana firefighter or peace officer killed in the line of duty. Contact the Enrollment Services-Financial Aid Office for details.

**Department of Military Science**

All students are afforded the opportunity to apply for two, three and four year scholarships provided by Army ROTC. The scholarships pay for all mandatory tuition and fees, a monthly stipend and $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 Reserves at the same time they are involved in ROTC. These programs have financial benefits that range from $15,000 for a two year program to $50,000 for a four year program. These benefits are very complex and are best understood by stopping in to visit with the Military Science Enrollment Officer.

Students have the opportunity to enroll in both the basic and advance courses offered by the Department of Military Science in the College of Arts and Sciences. The Basic Course is simply the Freshman and sophomore level courses offered by Army ROTC Instructors and no financial benefits are received for enrolling unless the student is on a scholarship. The Advanced Course refers to our junior and senior level courses. All advanced course students are contracted and receive financial benefits. We welcome student involvement in Land Navigation and Drill and Conditioning courses but no benefits are provided for enrollment in these classes.
Services

Housing and Dining Services

Residence Halls Community

The University of Montana-Missoula residence halls' community is very much a part of the total University and Missoula communities. The campus is a center for educational, cultural, and social activities. Residing in residence halls places the student at the center of these activities. Our mission is creating an atmosphere that is safe, provides for individual growth, and promotes academic exploration and learning. The University houses nearly 2300 students in nine residence halls on campus. The residence halls staff are resource people. Sharing ideas, observations or questions with them will benefit residents. Resident Assistants offer help when students experience problems with University life.

The University of Montana-Missoula requires all freshmen and students who have earned fewer than 30 semester credits to reside in the University's residence halls. Students are required to continue residence hall living until the student earns 30 semester credits. Any student who moves into the residence halls at the beginning of the semester is required to reside in the residence hall for the entire semester. (However, students must be enrolled for at least seven credits to be eligible to live in a residence hall.) Exceptions to residence hall living are made for students who reside with their parents and for students who are married or are single parents. Other exceptions are made under special circumstances on an individual basis. Any student requesting an exception to the residency requirements must submit a request in writing, accompanied by supporting documentation, to the Director of Residence Life. Students are not released from the residency requirements until the student receives an official notification from the Director of Residence Life.

Students who have earned 30 semester credits or more are not subject to the residency requirements but are encouraged to live on campus. All students living in the residence halls are required to contract for one of the on-campus meal plans.

Rooms in residence halls are provided in order of application. Freshman students required to live in Residence Halls who submit their residence hall application and $100.00 prepayment by the priority Admission deadline of March 1, will be guaranteed permanent housing assignments. Application forms and information may be obtained by writing the Residence Life Office.

A number of rooms have been designed to accommodate students with disabilities. Application for these rooms is made to the Residence Life Office. The Director of Residence Life or the Office of Disability Services for Students, (406) 243-2243, should be contacted to ensure the necessary accommodations are provided or visit our website at www.umt.edu/reslife.

Lewis and Clark Village

Upperclass and Graduate Housing

Lewis and Clark is a No-Smoking apartment facility designated for single students at The University of Montana without dependents who will have accumulated at least 60 credit hours by the time they move into the apartments. The apartments are located off campus just south of Dornblaser 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 UM campus. The apartments are furnished with all utilities paid including cable TV.

Prospective tenants may submit applications together with a requested roommate(s). If a tenant does not have a roommate preference, the Residence Life Office will assign roommates based on like gender. As space allows we will attempt to take into consideration other preferences 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 $350.00, ($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.

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 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 web site at www.umt.edu/uds.

University Village

The University has 566 apartments for married students, single students with dependents, and students with disabilities who have a live-in care attendant. All apartments are within walking distance of the campus. Units range from studio to four-bedroom apartments.

Eligibility for University Village requires at least one adult member of the household be enrolled for a minimum of seven (7) credits two of the three semesters per year. The student must be registered for at least seven (7) credits the first semester of occupancy. Priority is given to students who are married or otherwise have a legal dependent relationship with another adult; single parents with at least one (1) legal dependent living in the apartment; and single students with disabilities who require a live-in care attendant. Single students may be assigned apartments if other priority applicants do not occupy all available units.
Students residing in University Village must demonstrate satisfactory progress toward an educational degree by earning a minimum sixteen (16) credits per calendar year. After the initial year of residency, satisfactory progress is based upon credits earned during the preceding calendar year. In addition, a student or family with one or more members working toward an educational degree will have priority occupancy for a maximum of six (6) calendar years. Any exception from the above residency policies requires a written request for exception submitted to the University Village Office. The request is not approved until written consent is received from the University Village Office.

Housing is assigned according to the date of application and notification is given approximately twenty (20) days before housing becomes available. All applications must be updated every six (6) months in order for applicants to remain on the assignment list. A $250.00 deposit must be submitted when an apartment is assigned. The deposit is refundable when the rental agreement is terminated provided the apartment rental fees are current and no damage or cleaning fees are assessed. The deposit is forfeited if the student cancels after accepting the assigned apartment.

Due to the demand for University Village housing, the University Village Housing Office should be contacted early to make reservations and obtain detailed information including an application or visit our website at www.umt.edu/reslife. Applications must be accompanied by a $20.00 processing fee.

**Personal Property**

The University of Montana-Missoula is not responsible, by state law, for damage to, or theft of, the personal property of students on campus (for example: damage to clothing or a stereo due to fire, smoke or water). Students are encouraged to adequately insure their personal property and to protect their property by locking their room/apartment and car and taking other simple precautions to prevent theft and damage.

**Career Services**

The Office of Career Services assists students in developing viable career objectives and the plans necessary to achieve those goals. Assistance is also provided to students and UM alumni who wish to modify their career goals and improve their employment options. Career Services provides a wide array of services designed to facilitate the transition from education to employement, 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) 243-2022, email: careers@mso.umt.edu or visit our web site at: www.umt.edu/career.

**Student Employment**

Student Employment provides the opportunity for students and employers to connect. 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 (SETOY) Award.

For additional information, contact the office of Student Employment at 154 Lommasson Center, call (406) 243-6257, 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/testingservices.

**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. Information, applications and other forms are available at Internship Services, a student affairs office, located in the Lommasson Center, call (406) 243-2815; fax (406) 243-5866; or visit the web site at: www.umt.edu/internships.

**Disability Services for Students**

Students with disabilities can expect access at The University of Montana-Missoula. Wherever possible, the University exceeds mere compliance with the civil rights laws of Section 504 of the Rehabilitation Act, the Americans with Disabilities Act, and the Montana Human Rights Act. The University’s programs are readily accessible to and usable by people with disabilities. Program access is delivered to the maximum extent feasible and in the most integrated manner. Disability Services for Students (DSS), a student affairs 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...
Foreign Student and Scholar Services

The office of Foreign Student and Scholar Services (FSSS) assumes responsibility for the general welfare of foreign students at The University of Montana from admission to graduation and practical training. It provides direct support services, consultation, and liaison. The office assists in the reception and orientation of foreign students and helps with integration into the University and community. It interprets immigration regulations and laws and assists students in maintaining legal status and obtaining benefits related to their visa status. Staff members provide advising for academic and personal concerns, cultural adjustment, financial problems, and other concerns that arise.

The staff works with the International Student Association and other student groups, as well as the Missoula International Friendship Program to sponsor cultural activities, a speaker’s bureau, a community hospitality program for students, leadership opportunities for students, and the annual International Culture and Food Festival. FSSS coordinates the International Student Peer Assistant Program, a campus peer-mentioning program. It offers educational field 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 these 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.

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, email 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, Itakura Junior High School, Kangnung National University, Korea National University of Education, Kumamoto Gakuen University, Meisei University, Pakistan, and Toyo University.

English Language Institute

UM offers two distinct types of academic second language English instruction: EASL courses that are described in the Linguistics Program for matriculated students and intensive (20 hours a week), academic English courses that are taught in the English Language Institute (ELI) for non-matriculated students (http://www.umt.edu/eli). ELI’s curriculum addresses the needs of international students whose TOEFL scores are below 500/173 (undergraduates) or 525/196 (graduates) and who want to raise their English proficiency in order to gain admission to a university or college where English is the language of instruction.

The 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-Or-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 instructions.
4. Routine exams and X-rays (‘checkups’) on a limited basis.
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 backgrounds who are trained to 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 9:00 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 third-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 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 1:00 - 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 and 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 (Division I-AA), indoor and outdoor track, and tennis. The women’s program offers competition in basketball, cross country, tennis, indoor and outdoor track, volleyball, golf, and soccer. The teams go by the nicknames Griz and Lady Griz. Athletic scholarships are offered in all sports.

Recreation

The Campus Recreation Department offers a wide variety of services and programs to the students, faculty and staff of The University of Montana-Missoula. A comprehensive intramural sports program provides opportunities for men’s, women’s and co-recreational team competition and individual events. Recreational facilities include 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 is the research and public service branch of the School of Business Administration.

Montana Cooperative Wildlife Research Unit

The Unit investigates basic and applied problems in wildlife ecology and management. Graduate students majoring in Wildlife Biology or Biological Sciences, conduct much of the research supported through the Unit by USGS-Biological Resources Division, Montana Fish, Wildlife and Parks, and numerous other agencies and groups.

Montana Campus Compact

The University of Montana is a member in good standing 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.mtcompact.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) serves as a focal point for the campus community to expand academic, professional, and personal development through volunteer and service learning activities. OCE strives to promote active citizenship and leadership development by incorporating service into the University ethos. The OCE operates as an affiliate of the statewide Montana Campus Compact (MTCC) organization (see separate listing). The OCE is located in the Davidson honors College, room 015, (406) 243-5531 or http://www.umt.edu/dhe/oce.

OCE Programs:
- Student Volunteer Programs - Throughout the school year, OCE coordinates several community service programs for students to get actively involved in such as America Reads America Counts, Alternative Spring Break, Adopt-A-Family and more.
- AmeriCorps* & AmeriCorps* VISTA national Service Programs - OCE provides students with the opportunity to engage in national service while attending the University.
- American Humanics - This is a degree enhancement certification program for students to achieve skills and abilities in preparation for careers in the nonprofit sector.

American Humanics

The University of Montana is an affiliate of the national American Humanics, Inc. The American Humanics program at UM is designed to be a degree enhancement certification program that complements a student’s major. The program provides students with academic and extra-curricular opportunities to gain skills and abilities in preparation for professional careers in the nonprofit sector. All American Humanics students acquire knowledge and skills in general nonprofit management, fund-raising principles and practices, board committee development, program planning, and risk management. The office for Civic Engagement operates the American Humanics program in addition to the minor in nonprofit administration. For more information contact (406) 243-3519 or browse the website at http://www.umt.edu/dhe/oce/humanics.htm.

Continuing Education and Summer Programs

Mission

Continuing Education is the outreach arm of The University of Montana, and our mission reflects The University of Montana’s commitment to provide high quality, innovative outreach programs that serve the lifelong learning needs of the citizens of Montana and beyond. Our primary goal is to provide access to UM’s vast array of educational opportunities.

Credit, non-credit, grant-funded, sponsored and self-supporting programs are facilitated through two departments: Educational Outreach and Community and Professional Services. These departments work with academic units and external agencies for program development; write grant and contract proposals for external funding; offer focused training programs that contribute to the economic development of Montana; and use a variety of technologically assisted delivery formats. CE is funded by appropriated, self-support, sponsored and grants/contracts sources.

Continuing Education is located in a bonded facility which provides access to state-of-the-art technology in every room. In addition, we provide conference and event planning, equipment rental, technical support and assistance with catering. For more information, check out our web site at www.umt.edu/ce/facility.

Educational Outreach

The Educational Outreach Department is an integral part of the instructional program of The University of Montana, offering credit courses and programs for individuals on- and off-campus through a variety of delivery methods. Educational Outreach is home to the following divisions: Extended Studies; External Degree Programs; UM Online; Summer Semester and Winter Session. For Information, visit our website at www.umt.edu/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 recertification or professional development requirements or courses to fit individual needs. Select Extended Studies at www.umt.edu/ce/deo/extended to view course schedules and program offerings.
- External Degree Programs administer several UM off-campus programs at various locations around the state including the MBA program, the online MBA Foundation program; Education cohort programs at the Masters level in Educational Leadership, and at the Doctoral level in Educational Leadership. Online degree programs are described below. For more information and locations, select External Degree Programs at www.umt.edu/ce/cedseternal.

UM Online courses are available to students both on- and off-campus at times and places convenient to the learner. Degree programs and courses are offered in cooperation with academic units, to students locally, throughout Montana, nationally and globally. Online degree programs include Library Media Endorsement Program, the AAS in Surgical Technology, the Masters of Public Administration, and the Masters of Education in Curriculum Studies. For more information and course schedules, select UMOnline at our 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. The summer catalog includes complete information about summer semester and may be obtained by writing to the Division Manager, Summer Programs or via e-mail at the website http://www.montanasummer.com or http://umt.edu/summer.

Wintersession offers UM students and community members an opportunity to earn 3-6 credits during the 3-week session in January. 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/.

Facilities

Computing and Information Services
Computing and Information Services (CIS) offers a variety of services and facilities to support students, faculty and staff who use information technology. These include e-mail, Web, and telecommunications services, Internet access, Banner (CyberBEAR) information systems, student computing labs, Help Desk support, and technology short courses.

CIS provides a high-speed network that links several thousand computers in offices, labs, classrooms, and residence halls across the three UM-Missoula campuses, and provides high-speed Internet access to users in these locations. CIS-managed, student computing labs provide about 200 general access computers (PC's and Macs) in several locations. Available software includes a variety of tools for Internet browsing, word processing, spreadsheets, database management, Web development, presentation graphics, and statistical analysis.

CIS offers a selection of free, non-credit, short courses, Help Desk support (visit LA 139 or call 243-help), other consulting services, and numerous free documents to help users become more proficient with information technology.

The CIS main office is located in Liberal Arts room 144 and can be reached at 243-5455. CIS is part of the University's Information Technology Office (ITO). ITO offices are located in the lower level of Davidson Honors College.

Montana Forest and Conservation Experiment Station
The Montana Forest and Conservation Experiment Station was established by the Montana Legislature in 1937 as a non-profit organization devoted to scientific investigation of natural resource problems. The station serves as the research unit of the University of Montana School of Forestry with the dean functioning as station director. The station seeks, through its research and publications, to enhance public understanding of forestry and conservation and contribute to responsible management of our nation's natural resources.

The Shafizadeh Rocky Mountain Center for Wood and Carbohydrate Chemistry
The Center is a research facility 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) 243-6131 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/policsafety/cmpact.htm.

Student Complaint Procedures
Under the terms of the faculty- administration contract at The University of Montana, there is a formal procedure for students who have a complaint against a faculty member or an administrator. The handbook for resolving complaints against faculty and administration is available from the ASUM office and outlines the steps to be taken to pursue grievances. The ASUM Student Resolution Officer is available to answer questions about procedures and to serve student concerns. Time restrictions are important in the process so students should review procedures immediately if they feel they may have a complaint.

Family Educational Rights and Privacy Act of 1974 (Buckley Amendment)
Consistent with the provisions of the Family Educational Rights and Privacy Act of 1974 and University policy, every person who is or has been a student at this University, and the parents of students under 18 who are not taking postsecondary courses, have the following rights:

1. Upon completion of the appropriate request form and submission thereof to the person responsible for the custody and maintenance of the records, a student has the right to inspect and review within 45 days from the date of initial request that portion of any official record which directly relates to the requesting student and to have a copy thereof upon payment of the cost of the copy. An "official record" is any record intended to be used for "school use" or to be available to parties outside the school or school system, specifically including but not necessarily limited to identifying data,
academic work completed, level of achievement (grades, standardized achievement test scores), attendance data, scores on standardized intelligence, aptitude, and psychological tests, interest inventory results, health data, family background information, teacher or counselor ratings and observations, and verified reports of serious or recurrent behavior patterns.

The right of inspection and review shall not extend to psychiatric, medical, or counseling records which are intended for personal diagnostic or treatment purposes only. Neither does the right extend retroactively to items of record previously obtained with assurances that confidentiality would be maintained.

With regard to such confidential items, the student has the option of either waiving the right of inspection and review and having those items retained as a part of the record, or of requesting that such confidential items be removed from the student's record and returned to the source or destroyed.

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, date of birth, dates of attendance, full time/part time status, date of graduation and degree received, school or college, majors, class, student identification photo, 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 obtained 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 consent of the student."

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
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 budget 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, 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.umont.edu/asum/government/studentgroups.htm.

Fraternities and Sororities

The Greek Community of The University of Montana provides a comprehensive educational, social, and living experience for members through the promotion of friendship, leadership, personal development, academics, and services to the University and the Missoula community. The Greek members donate their time and support to over 50 recognized philanthropies. Additionally, they involve themselves in a wide variety of campus leadership organizations, such as Residence Life Staff, PRÓ's, ASUM Senate, Advocates, Peer Advising, and Mortar Board.

The Greek system has 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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