2008-2009 Course Catalog

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## Contents

**Calendar** ........................................ 2

**Administration** ................................. 3

- The Montana University System - Mission ........ 3
- The University of Montana - Mission ............... 3
- The University of Montana-Missoula - Mission .... 3
- Accreditation ..................................... 4
- University Officers ............................... 4

**Academic Information** ......................... 7

- Areas of Study ................................ 8
- Admission to the University ..................... 12
- Academic Advising and Orientation ............. 20
- Academic Policies and Procedures-General University Requirements .......... 21

**Davidson Honors College** ....................... 35

**College of Arts and Sciences** ............... 39

- African-American Studies ....................... 41
- Anthropology ..................................... 42
- Applied Science ................................... 49
- Asian Studies ..................................... 50
- Division of Biological Sciences ................. 51
- Biochemistry ..................................... 52
- Biological Station ................................ 53
- Biology ........................................... 54
- Medical Technology ............................... 62
- Microbiology ..................................... 64
- Pre-Medical Sciences ............................. 67
- Central and Southwest Asian Studies .......... 67
- Chemistry ......................................... 68
- Communication Studies ........................... 75
- Comparative Literature ........................... 78
- Computer Science ................................ 79
- Economics ........................................ 83
- English/Film ....................................... 86
- Environmental Studies ............................ 96
- Geography ......................................... 100
- Geosciences ....................................... 106
- History ............................................ 113
- Human and Family Development ................. 119
- International Development Studies .............. 121
- Latin American Studies ......................... 122
- Liberal Studies .................................... 122
- Linguistics ........................................ 126
- Mathematical Sciences ......................... 128
- Military Science .................................. 133
- Modern and Classical Languages and Literatures 135
- Native American Studies ......................... 146
- Nonprofit Administration ........................ 148
- Philosophy ........................................ 149
- Physics and Astronomy ........................... 152
- Political Science .................................. 157
- Pre-Engineering ................................... 161
- Pre-Law ............................................. 161
- Pre-Nursing ....................................... 162
- Psychology ........................................ 163
- Religious Studies ................................ 167
- Russian Studies ................................... 168
- Science ............................................. 169
- Sociology .......................................... 169
- Women’s and Gender Studies ...................... 174

**College of Forestry and Conservation** ...... 177

- Forestry ........................................... 179
- Wild Land Restoration ............................. 181

- Recreation Management ......................... 186
- Resource Conservation ............................ 188
- Wilderness Studies ............................... 190
- Wildlife Biology .................................... 191

**College of Health Professions and Biomedical Sciences** .............. 195

- Skaggs School of Pharmacy ........................ 196
- School of Physical Therapy and Rehabilitation Science 203
- School of Social Work ............................ 207
- Health Sciences ................................... 210
- Public Health ..................................... 211

**College of Technology** .......................... 215

- Applied Arts and Sciences ..................... 217
- Applied Computing and Electronics Technology 220
- Business Technology ............................. 224
- Health Professions ................................ 234
- Industrial Technology ............................. 243

**Graduate School** ................................ 251

- Interdisciplinary Studies ....................... 252
- Intercultural Youth and Family Development .... 252

**Mansfield Center** ............................... 253

**Mansfield Library** ............................... 255

**School of Business Administration** ........ 259

- Accounting and Finance ......................... 261
- Information Systems and Technology .......... 262
- Management and Marketing ...................... 263

**School of Education** ............................ 273

- Curriculum and Instruction ..................... 274
- Counseling ........................................ 289
- Communicative Science and Disorders .......... 291
- Educational Leadership ........................... 292
- Health and Human Performance ................. 295

**School of Fine Arts** ............................. 303

- Art ................................................. 296
- Drama/Dance ....................................... 308
- Media Arts ........................................ 317
- Music .............................................. 321

**School of Journalism** ............................ 335

- Journalism and Radio-Television ............... 335

**School of Law** .................................. 343

- Continuing Education and Summer Programs .... 348

**Undergraduate Advising Center** ............. 349

**Affiliated UM Campuses** ....................... 350

**Expenses, Services, Organizations** ........ 351

- Expenses .......................................... 351
- Fees ............................................... 351
- Financial Aid ..................................... 356
- Services .......................................... 358
- Services for Students ............................ 358
- Community Services ............................. 363
- Facilities ......................................... 363
- Student Rights .................................... 364
- Organizations ..................................... 365

**Index** ............................................. 366
The University of Montana-Missoula

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

Autumn Semester, 2008
August 20-22 (Wednesday-Friday) Semester Begins, Orientation and Registration
August 25 (Monday) Classes Begin
September 1 (Monday) Labor Day, Holiday
October 27-November 7 Spring 2009 Registration
November 4 (Tuesday) Election Day
November 11 (Monday) Veteran’s Day, Holiday
November 26-27-28 (Wednesday-Thursday-Friday) Thanksgiving Vacation
December 6-7 (Saturday-Sunday) Study Days
December 8-12 (Monday-Friday) Final Examinations

Wintersession, 2009
January 5-23 Wintersession Classes
January 19 (Monday) Martin Luther King Day, Holiday

Spring Semester, 2009
January 21-23 (Wednesday-Friday) Semester Begins, Orientation and Registration
January 26 (Monday) Classes Begin
February 16 (Monday) Washington-Lincoln Day, Holiday
March 30-April 3 (Monday-Friday) Spring Vacation
April 13-24 Autumn 2009 Registration
May 9-10 (Saturday-Sunday) Study Days
May 11-15 (Monday-Friday) Final Examinations
May 16 (Saturday) Commencement

Summer Session, 2009
Summer Sessions will occur between the dates of May 26 and July 31.
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 for and throughout life reflects the commitment to a service learning and community building on and off the campuses. The University enhances its programs through continuous quality review for improvement and remains fully accountable to the citizenry through annual audits and performance evaluations.

The University of Montana-Missoula

Mission

The mission of The University of Montana-Missoula is the pursuit of academic excellence as indicated by the quality of curriculum and instruction, student performance, and faculty professional accomplishments. The University accomplishes this mission, in part, by providing unique educational experiences through the integration of the liberal arts, graduate study, and professional training with international and interdisciplinary emphases. Through its graduates, the University also seeks to educate competent and humane professionals and informed, ethical, and engaged citizens of local and global communities. Through its programs and the
activities of faculty, staff, and students. The University of Montana-Missoula provides basic and applied research, technology transfer, cultural outreach, and service 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 (30 or more doctorates in at least 15 fields annually) and increase funded research to $50,000,000 annually by 2006.

4) Develop more partnerships—especially with local communities, businesses and industries, public schools, community and tribal colleges, state and local governments and universities abroad—and expand the training and technology transfer programs to promote community and economic development.

5) Develop the capability and infrastructure for use of information technology to increase the efficiency and productivity of the campus and the state; and

6) Involve and engage the faculty, staff, students, alumni, partners, and friends of the University in institutional governance.

**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, religion or creed, political ideas, marital or family status, physical or mental disability, national origin or ancestry, or sexual orientation.

**Accreditation**

The University of Montana-Missoula is accredited by the Northwest Association of Schools and Colleges. Many of the professional schools and departments have special accreditation as well. The University of Montana is an accredited institutional member of 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 Accreditation Commission of the Accreditation Board for Engineering and Technology, Inc. (ABET); drama is accredited by the National Association of Schools of Theater at the undergraduate and graduate levels; all programs preparing licensed school personnel (at undergraduate and graduate levels) are approved by the Montana Board of Public Education and are part of the Professional Education Unit which is accredited by the National Council for Accreditation of Teacher Education (NCATE) www.ncate.org; the mental health counseling option and the school counseling option in Counselor Education are accredited by the Council for Accreditation of Counseling and Related Education Programs; the athletic training option in the Health and Human Performance Department in the School of Education is accredited by the Commission on Accreditation of Allied Health Education Programs; the food service management program is accredited by the American Culinary Federation Accrediting Commission; the forest resources management program is accredited by the Society of American Foresters; the School of Journalism is accredited by the American Council on Education in Journalism and Mass Communications; the School of Law has approval of both the Association of American Law Schools and the American Bar Association; the Paralegal Studies program is approved by the American Bar Association; the Department of Music is accredited at the undergraduate and graduate levels by the National Association of Schools of Music; the Skaggs School of Pharmacy is a member of the American Association of Colleges of Pharmacy, the entry-level Doctor of Pharmacy program is accredited by the Accreditation Council for Pharmacy Education, 20 North Clark Street, Suite 2500, Chicago, IL 60611-5109; 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 2008**

**Board of Regents of Higher Education**

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

**Local Executive Board**

Anne Boone ............................... Missoula
Bob Ream ................................. Missoula
Bill Woody ............................... Missoula

**Administrators**

George M. Dennison, Ph.D. President
Royce C. Engstrom, Ph.D. University Provost and Vice-President for Academic Affairs
James P. Foley ............................ Executive Vice President
Teresa S. Branch, Ph.D. Vice President for Student Affairs
David Aronofsky, J.D. Legal Counsel
Robert A. Duringer, M.B.A. Vice President for Administration and Finance
Daniel J. Dwyer, Ph.D. Vice President for Research and Development
**Academic Officers**

Sharon E. Alexander, Ed.D.
Center for Continuing Education

Bonnie Allen, M.L.S.
Library Services

Perry Brown, Ph.D.
College of Forestry and Conservation

Christopher Comer, Ph.D.
College of Arts and Sciences

E. Edwin Eck II, J.D.
School of Law

Roberta Evans, Ph.D.
School of Education

David S. Forbes, Ph.D.
College of Health Professions and Biomedical Sciences

Larry D. Gianchetta, Ph.D.

Barry Good, Ph.D.
College of Technology

Shirley Howell, D. A.
School of Fine Arts

Peggy Kurh, M.A.
School of Journalism

James McKusick, Ph.D.
Davidson Honors College

David Micus, M.S.
Registrar

David Strobel, Ph.D.
Graduate School

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

Writing Studies - courses offered
University College - courses offered
Zoological Sciences - option in B.A. Biology
Admission to the University

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

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

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

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

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

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

The University welcomes out-of-state students as educational programs and resources permit. The University retains the right to limit the number of students and to establish requirements which will assure 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 2008-09 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.
3. Two years chosen from the following: foreign language (preferably two years), computer science, visual and performing arts, or vocational education units.
4. Cumulative high school grade point average (GPA), on a 0-4 scale, and composite on the enhanced ACT (or combined critical reading/math on SAT) must fall in the gray region of grid #1 shown in Figure 1.
5. For Fall 2008, students must meet a minimum math proficiency score of:
   - 18 on the ACT or
   - 440 on the SAT or
   - A score of 3 or above on the AP Calculus AB or BC Subject Exam. In lieu of the above requirement, student can complete a Rigorous High School Core that includes four years of math with grades of C or higher.
6. For Fall 2008, students must meet a minimum Writing Proficiency score of:
   - 17 on the Combined English/Writing section of the Optional Writing Test or a 6 on the Writing Subscore of the ACT; or
   - 420 on the Writing Section of the SAT or a 6 on the Essay the SAT; or
   - 3 on the Montana University System Writing Assessment; or
   - 3 on the AP English Language or English Literature Examination; or
   - 4 on the International Baccalaureate Language A1 Exam or
   - 50 on the CLEP Subject Exam in Composition.

Information on admission requirements for home-school students who graduate from a non-accredited high school can be found at http://admissions.umt.edu/alternatehs.

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 or from the date they would have graduated from high school if they have a GED). Admissions status of high school graduates with transcripts and ACT/SAT scores will be determined using the grid below. Admission status of GED non-traditional applicants with ACT/SAT scores will be determined using the grid below. In lieu of a GPA, the GED score rescaled from 4000 to 4.0 (maximum) will replace the GPA axis.

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

2. GED freshmen (those students who pass the GED and enter college within three years of the date they would have graduated from high school). Admission status of GED freshman will be determined using the grid below. In lieu of a GPA, the GED score rescaled from 4000 to 4.0 (maximum) will replace GPA axis.

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

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

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

### Future trends in Admission Eligibility at UM

In future years, the academic criteria for full admission to Baccalaureate programs at The University will continue to rise. Students who fail to meet these stricter admission standards may be admitted on a provisional basis if the Admissions Committee determines that a student could be successful by taking advantage of the academic support services that are available. 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. 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.

### 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 when applying on-line. This non-refundable fee is payable once at the undergraduate level.

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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 and accurate and validated by a health official.

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

Bachelor of Applied Science Admission

Academic Eligibility
Applicants must hold an Associate of 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. Applications are available from Enrollment Services-Admissions, The University of Montana-Missoula, Missoula, MT 59812 (406-243-6266); or the College of Technology, Enrollment Services-Admissions, 909 South Avenue West, Missoula, MT 59801 (406-243-7882).

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 then 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 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 on-line 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. Some students are required to take either the ACT, SAT or ASSET standardized test and submit scores to the Admissions Office. Contact the College of Technology Admissions Office for specific information regarding this requirement.

4. Proof of high school graduation/GED. An official high school transcript with graduation date or GED score report must be sent to the College of Technology.

5. Medical History Record. All students are required to submit a completed 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 A/B (necessary for obtaining an F-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 on-line 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 affiliated campus: Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.

3. Academic Credentials:
   A. Certified copies of non-U.S. academic credentials beginning with secondary school and continuing through the highest level of achievement.
   B. U.S. transcripts. Complete official transcripts showing all U.S. high school and college/university attendance.

4. Statement of Financial Support. The applicant must submit a certified statement from a bank or sponsor verifying that adequate financial resources are available to pay for the student's estimated expenses for the first year (tuition, fees, room, board, miscellaneous expenses, student health insurance, expenses of dependents, etc.). This estimated amount is adjusted annually and is available by contacting Enrollment Services-Admissions.

5. English Language Proficiency. An official score report showing one of the following:
   - 61 IBT (173 CBT or 500 PBT) on the Test of English as a Second Language (TOEFL).
   - 5.5 on the International English Language Testing System (IELTS).
   - 69 on the Michigan English Language Assessment Battery (MELAB).
   - SAT Writing Score of 420/ACT score of 17 on the Combined English/Writing section.

Those students who are citizens of countries where English is the native tongue need not submit proof of English language proficiency, unless English is not the student's native language. Students who have test scores below the minimum requirement may be eligible for conditional admission.

Any questions concerning the evidence of proficiency in English should be directed to Enrollment Services-Admissions. When the student arranges to take the TOEFL test, he or she should request that examination results be sent directly to Enrollment Services-Admissions or the College of Technology, The University of Montana-Missoula, Missoula, Montana 59812. (Code N. 4489-00)

**Conditional Admission**

International students who have not met the required test score and who meet all other admission requirements will be offered conditional admission. Conditionally admitted students are required to study in an intensive program at The University of Montana-Missoula English Language Institute on campus until the TOEFL score reaches 500. After English proficiency is achieved, enrollment in regular university courses begins.

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 required that the immunization record (for measles, rubella, diphtheria, tetanus and polio) be complete, accurate, and validated by a physician. Skin testing for tuberculosis will be required upon arrival through the Curry Health Center.

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

**When to Apply**

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

**Undergraduate Nondegree Status**

An applicant who wishes to pursue studies for his or her personal growth and who does not wish to work toward a formal degree at The University of Montana-Missoula may apply as an undergraduate nondegree student. (This option is not available to freshmen unless they are applying to the College of Technology.) Each applicant should understand that acceptance into 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 course credits taken and the degree program to which the student may be admitted. This category is not open to students currently on academic suspension from The University of Montana-Missoula.

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

**How to Apply**

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

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

2. $30.00 or $36 on-line application fee. This non-refundable fee is payable once at the undergraduate level provided payment is followed by enrollment. Record of payment will
remain on file for one year for students who do not enroll. An application cannot be considered prior to payment of this fee. The University of Montana-Missoula waives the application fee for students who have attended an affiliate campus: Montana Tech and the Division of Technology, Helena College of Technology, and Western Montana College.

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

When to Apply

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

Graduate Nondegree Status

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

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

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

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

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

Applicants seeking graduate nondegree status must apply online at www.umt.edu/grad and pay a $51 non-refundable application fee. Deadline for submitting graduate nondegree applications is prior to the first day of the semester.

Graduate Nondegree Readmission

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

Graduate nondegree readmission forms can be downloaded from http://ordway.umt.edu/aa/grad/index.cfm/name/gradnondegree. 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 $20 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 http://ordway.umt.edu/aa/grad/index.cfm/name/programs1. 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 $51 non-refundable application fee.

Distance Education

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

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

GED (General Educational Development)

A person who is not a graduate from an accredited high school may be eligible for admission by earning passing scores on the GED test. Passing scores are a minimum score of 35 on each test and an average score of 45. Effective Jan 1, 2002 passing scores are a minimum score of 410 on each test and an average score of 450. GED students who have been out of high school for less than three years must also submit ACT or SAT scores. For additional information and test center locations in Montana, contact the Office of Public Instruction, Helena, MT 59601.

Former University of Montana-Missoula Students - Readmission

Students previously enrolled at The University of Montana-Missoula who have interrupted their enrollment for 24 months or more must submit an application for readmission. Applications for readmission may be obtained from the Registrar’s Office, the registration counter at Griz Central 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 undergraduate 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 or may be posted on the high school transcript. They are used for admission and academic advising, for the granting of scholarships, and for admission into the Davidson Honors College. All new undergraduate degree students, both freshmen and transfers, who have attempted or earned fewer than 12 college credits must take the ACT or the SAT. Arrangements should be made to take the test in October or December of the year preceding entrance to the University. Complete information and registration forms are sent to all high school counselors well in advance of each test date. Information may also be obtained from the American College Testing Program, P.O. Box 168, Iowa City, Iowa 52240 or the College Board ATP, Box 592, Princeton, New Jersey 08540.

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.

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.

The University policy for awarding credit on the basis of AP/CLEP is available at:
http://admissions.umt.edu/apcred.html and
http://admissions.umt.edu/clep.html.

International Baccalaureate

The University of Montana recognizes IB achievement and grants college credit provided the University has received satisfactory scores from the International Baccalaureate Program. University policy on awarding IB credit can be found at http://admissions.umt.edu/admissions/ib.html.

Foreign Language Placement

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

Immunization Requirements

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

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

High School Pilot Program

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

International Student Exchange Program (ISEP)

The University of Montana is a member of the International Student Exchange Program (ISEP), which allows University of Montana students to spend a semester, a year, or a summer abroad at one of ISEP’s 126 member institutions in 35 foreign countries. ISEP offers reciprocal exchanges (students pay their own tuition, room and board, and create a space for an incoming international student) and ISEP-Direct programs (students pay a program fee covering tuition, room and board through the University of Montana to ISEP). Other expenses for which the student is responsible include: books and supplies, local transportation, round-trip airfare, or personal expenses.

For information on ISEP, please contact International Programs, International Center, The University of Montana-Missoula, Missoula, MT 59812 or phone (406)-243-2268.

National Student Exchange (NSE)

The University of Montana-Missoula participates in the National Student Exchange (NSE) program with 190 other state colleges and universities. This program offers students the opportunity to become better acquainted with different social and educational patterns in other areas of the United States. NSE encourages students to experience new life and learning styles, appreciate differing cultural perspectives, learn more about themselves and others and broaden their educational backgrounds through specialized courses or unique programs which may not be available on the home campus. The qualified year student may travel to another state and participate in the exchange program for up to one academic year. For more information, contact the Coordinator of the National Student Exchange Program, Enrollment Services-Admissions, Lommasson Center 101, The University of Montana-Missoula, Missoula, MT 59812 or phone (406) 243-6266.

Special Admission Committee

A special admission committee reviews applications from students who do not meet the regular admission standards.

Enrollment Limitation

The University of Montana-Missoula may deny or condition admission, readmission, or continuing enrollment of any individual who, in the judgment of the University, presents an unreasonable risk to the safety and welfare of the campus and persons 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 adjudicated as a danger to others or to self; (3) When an applicant has been suspended or expelled for disciplinary reasons from other educational institutions, either before or after the applicant has been accepted at The University of Montana-Missoula; (4) When, on the basis of other facts, the Assistant Vice President for Enrollment or other responsible officer has reason to believe an applicant may present an unreasonable risk to the safety and welfare of the campus and persons therein.

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.

Evaluation of Transfer Credit

Evaluation of transfer credits is determined by Enrollment Services-Admissions at the time of admission. The evaluation is included in the acceptance packet and in the advising materials distributed during orientation. All college-level credits from regionally accredited colleges and universities will be accepted for transfer. Credits from colleges or universities that are candidates for regional accreditation will be accepted only after the student has successfully completed twenty semester credits at UM. Course work from unaccredited schools is not accepted or evaluated unless an individual exception is requested by the student and approved by a committee composed of the Academic Vice President, Assistant Vice President for Enrollment and the Registrar.

Enrollment Services-Admissions determines whether or not courses are college-level, the appropriate grading and credit conversion and the applicability of the transfer courses to UM’s general education requirements. Transfer courses graded C- or above will count toward general education and major requirements with the exception of ENEX 101 and math competency. Students are required to earn a transfer grade of C or above in these courses. Transfer courses with grades of D or D- transfer as elective credit. The student’s major department may further evaluate the applicability of transfer courses to the student’s selected program of study. College-level courses which do not have and equivalent at UM will be accepted as elective credits.

Courses earned in vocational-technical courses from regionally accredited schools are not accepted in transfer to UM. Students must earn an A.A. or baccalaureate degree from regionally accredited schools. Students may petition their major department for acceptance of up to 10 semester credits based on vocational-technical experiences which enhance the major program. The petition form is available from the Registrar’s Office. Upon approval, the petition 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. This petition process may be used by students who have taken technical courses from the College of Technology. UM technical courses are designated by a course number suffix of “T.”

Elective credit may be given for military courses according to the recommendations in the American Council (ACE) Service Guide. Elective credit may also be given for training programs recommended by the ACE Guide.

The University of Montana database of courses transferable from colleges and universities is available on the web at www.umt.edu. Choose “T” from the ‘A-Z Index’ and click on Transfer Credit Information.

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

Evaluation of Transfer Credit-College of Technology

College of Technology students 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 practice, and some laboratory courses will not be considered for transfer credit...

Western Interstate Commission for Higher Education

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

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

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

Western Undergraduate Exchange Program (WUE)

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

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

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

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

The conditions of the WUE Scholarship are:

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

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

To be eligible for the WUE scholarship first time incoming freshman and transfer students must apply for admission and be admitted to The University of Montana. Awarding of the WUE will occur on a rolling basis with priority given to those who apply before December 31st. Further details are available from
the Enrollment Services-Admissions Office or by visiting http://admissions.umt.edu.

**Student Conduct Code**

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

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

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

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

**Service members Opportunity College**

The University is a member of Service members Opportunity Colleges, a consortium of over 1300 institutions pledged to be reasonable in working with service members and veterans trying to earn degrees.
Academic Advising and Orientation

Advising

Academic advising is an important part of the education process at The University of Montana. It is a personal and educational advantage to the UM student who establishes a friendly and honest relationship with an academic advisor. An effective relationship with an advisor is one of the avenues through which students can learn to better understand themselves and to meet their special educational needs and goals.

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

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

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

The University of Montana-Missoula encourages the enrollment of students who are uncertain of their education and career plans. These students are designated as Undeclared students. Undeclared students are assigned a faculty advisor or a student (peer) from a select advising pool through the Undergraduate Advising Center. This advisor assists the student in exploring various educational and career goals while meeting the General Education Requirements.

While many advisors are faculty members from the departments, the University does involve trained peer advisors, staff and professional advisors in the process. In the event that a student does not know who his or her advisor is or is dissatisfied with an assigned advisor, he or she may request advisor information or a change of advisor either from the department or through the Undergraduate Advising Center.

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

Faculty, staff and student advisors facilitate positive academic advising experiences by: educating students about developing mentoring relationships with faculty and professional staff; educating students to understand their responsibilities in the advising process; encouraging students to fulfill their obligation to plan in advance for advising sessions; and educating students on accepting responsibility for all advising decisions.

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

Orientation

Students who have made the decision to enroll at The University of Montana are invited to campus to attend an orientation program. Participation in orientation is the best way for new students to get acquainted with the University.

Orientation is designed for all students who are new to UM, both first-time college students and students transferring from another school.

UM offers three summer orientation sessions. If a student is unable to attend a summer session, UM provides similar sessions at the beginning of autumn and spring semesters. On the mountain campus new freshmen are assessed a $60.00 orientation fee and new transfer students are assessed a $50.00 orientation fee. New students in the College of Technology are assessed a $15.00 orientation fee. A College of Technology orientation schedule is sent to all students accepted to COT programs.

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

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

Registration

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

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

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

Students with Disabilities

Students with disabilities may obtain assistance with the registration process and the relocation of classes through Disability Services in Lommasson Center 154 (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 first fifteen day of the term. Added courses and credits may result in additional fees. For courses dropped by the fifteenth instructional day, no fees are charged and courses are not recorded. (For deadlines and refund policy for withdrawal from all courses, see the Withdrawal sections of this catalog.)

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

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

Beginning the sixteenth (16) instructional day of the semester through the thirtieth (30) instructional day, students use paper forms to drop, add, and make changes of section, grading option, or credit. The drop/add form must be signed by the instructor of the course and the student's advisor. The signed drop/add form must be returned to the Registration Counter (or the Registrar's Office at the College of Technology) no later than the thirtieth instructional day. 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 (withdraw) are recorded.

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

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

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

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

Class Attendance/Absence Policy

Students who are registered for a course but do not attend the first two class meetings may be required by the instructor to drop the course. This rule allows for early identification of class vacancies to permit other students to add classes.

Students not allowed to remain must complete a drop form or drop the course on the Internet (http://cyberbear.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 excessive 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 excessive absences should consult with their instructors early in the term to be sure that they understand the absence policies for each of their courses.

Withdrawal from the University

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

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

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

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

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

University Employees' Registration

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

Grading System

The University uses two types of grading: traditional letter grades and credit/no credit grades. At the option of the instructors some courses are offered only on the traditional letter grade basis or only on the credit/no credit basis. Other courses are open to either type of grading, at the option of the 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+, C+, C-, D+, and D-. Other symbols used are: I—Incomplete; N—work on the course may be continued in later semesters (when work is completed, the final grade assigned applies to all semesters of the course); H—no record of academic performance; W—withdrawal from a course or course dropped after the fifteenth instructional day; WP—course dropped after the thirtieth instructional day with passing work; W/—course dropped after the thirtieth instructional day with failing work; AUD—auditor registration. (AUD is recorded for all students who register in courses as auditors, intending to listen to the courses without earning credit or being graded. The same fees are assessed as when registering for credit. Any attendance or participation expectations are established by the instructor of the course. If attendance expectations are not met, the instructor may request a notation be placed on the student's academic record indicating attendance was not satisfactory.) An R preceding the grade indicates a remedial course. Remedial courses do not count in credits earned or grade point averages.

Credit/No Credit Grading (CR, NCR)

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

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

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

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

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

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

No Credit Grading in Composition (NC)

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

Policy on Incompletes

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

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

1. A mark of incomplete may be assigned students when:
   a. They have been in attendance and doing passing work up to three weeks before the end of the semester, and
   b. For reasons beyond their control and which are acceptable to the instructor, they have been unable to complete the requirements of the course on time. Negligence and indifference are not acceptable reasons.
2. The instructor sets the conditions for the completion of the course work and notes these conditions on the final grade report.
3. When a student has met the conditions for making up the incomplete, the instructor will assign a grade based upon an evaluation of the total work done by the student in the course.
4. An incomplete which is not made up within one calendar year automatically will revert to the alternate grade which was assigned by the instructor at the time the incomplete was submitted.
5. An incomplete remains on the permanent record and is accompanied by the final grade, for example, IA, IB, IC, etc.

Computation of Cumulative Grade Average

Quality points are assigned as follows: 4 quality points for each credit of A; 3.7 quality points for each credit of A-; 3.3 quality points for each credit of B+; 3 quality points for each credit of B; 2.7 quality points for each credit of B-; 2.3 quality points for each credit of C+; 2 quality points for each credit of C; 1.7 quality points for each credit of C-; 1.3 quality points for each credit of D+; 1 quality point for each credit of D; and 0.7 quality points for each credit of D-.

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

Undergraduate Academic Performance

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

Academic Probation

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

Academic Suspension

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

Reinstatement

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

All students reinstated after suspension are reinstated on academic probation and will be suspended again unless they meet the requirements as explained under Academic Probation 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 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 TRiO and the other by the Undergraduate Advising Center; both are located in Lommasson Center. The Counseling Center offers workshops on a variety of topics designed to enhance student academic performance.

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

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

Plagiarism Warning
Plagiarism is the representing of another's work as one's own. It is a particularly intolerable offense in the academic community and is strictly forbidden. Students who plagiarize may fail the course and may be remanded to Academic Court for possible suspension or expulsion. (See Student Conduct Code section of this catalog.) Students must always be very careful to acknowledge any kind of borrowing that is included in their work. This means not only borrowed wording but also ideas. Acknowledgment of whatever is not one's own original work is the proper and honest use of sources. Failure to acknowledge whatever is not one's own original work is plagiarism.

General Information

Maximum Credit Load

Generally, an undergraduate student should register for no more than 21 credits during a semester, including physical education activity courses, and courses which carry no credit such as Mathematics 005. Permission to enroll for more than the maximum credit load given above may be approved by the student's faculty advisor.

Full-Time Student Defined

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

Classification of Undergraduate Students

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

Dean's List ( Honor Roll)

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

Repeating a Course

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 Registrar's Office 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 $15.00 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 she or he is meeting University requirements. Pharmacy students should consult the Professional Pharmacy Curriculum section in this catalog.

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

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

Credits Required for a Certificate of Completion

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

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

Credits Required for a Degree

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

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

b. Computation: the ability to complete basic algebraic manipulations and achieve mathematical literacy. To ensure all graduates have achieved computational literacy, students must demonstrate competency in MAT 100 or a higher number mathematics course.

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

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

e. Professional Capstone: the opportunity to apply skills acquired through a specialized field of study in a professional realm. To ensure all graduates have 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 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 0</td>
</tr>
<tr>
<td>Study Skills Courses (AASC 101, C&amp;I 160)</td>
<td>2 2</td>
</tr>
<tr>
<td>Physical education/activity/skills courses</td>
<td>4 4</td>
</tr>
<tr>
<td>(DRAM 385, HHP 100-179, MS 203 and 515)</td>
<td></td>
</tr>
<tr>
<td>R.O.T.C. courses</td>
<td>12 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 6</td>
</tr>
<tr>
<td>(Music majors and minors may present more)</td>
<td></td>
</tr>
<tr>
<td>Ensemble music (Mus 107A-110A 113A-114A and 150A)</td>
<td>8 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 18</td>
</tr>
<tr>
<td>Omnibus credits</td>
<td>15 13</td>
</tr>
<tr>
<td>Internship credits in 198, 298, 398, and 498</td>
<td>6 6</td>
</tr>
<tr>
<td>Correspondence credits</td>
<td>6 6</td>
</tr>
<tr>
<td>Credits attempted in these areas which are beyond the maximum applicable will remain on the students’ permanent records but cannot be used toward graduation.</td>
<td></td>
</tr>
</tbody>
</table>

**Grade Average Requirement**

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

**Graduation with Honors or High Honors**

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

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

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

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

General Education

Preamble

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

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

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

General Education Requirements

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

All courses taken to satisfy General Education Requirements, both Competency Requirements and Distributional Requirements, must be taken for a traditional letter grade and must be C- or better except English composition and the Mathematical Literacy course must be 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. ENEX 101 or WTS 101 or ENEX 200 with a grade of at least C (2.0)
2. One approved writing course;
3. Passing score on the Upper-Division Writing Proficiency Assessment (WPA), to be taken between 45-70 credits;
4. The upper-division writing requirement of the major.

Students will be placed into WTS 100D, WTS 101, ENEX 101, or ENEX 200 based on standardized test scores, such as ACT or SAT. Students may be exempted from WTS 101 or ENEX 102 by transferring an equivalent composition course with a grade of at least C (2.0), or by receiving a score of at least 3 on the AP

One Writing Course. All students, unless exempted, must pass an approved writing course (chosen from the following list of approved courses) before attempting the WPA.

Students are exempted from this requirement by transferring more than 27 semester credits at the time of their initial registration at the University.

The following courses are designated as Writing courses for 2007-2008. Students are cautioned that approved courses may change from year to year. To be used for General Education, a course must be listed as approved in the catalog and in the Class Schedule for the semester a student registers for it.
African American Studies 372, 478  
Anthropology 340H, 359, 450  
Art 203L, 303L, 368H, 384H  
Asian Studies 313L, 314L, 340H, 432  
Biology 405, 418  
Chemistry 334  
Chinese 313L, 314L, 432  
Communications 210E, 421, 422, 424  
Communicative Sciences and Disorders 430, 440  
Computer Science 415E  
Computer Technology 122E  
Curriculum and Instruction 287, 318  
Dance 334H, 494  
Drama 320, 321, 330, 440  
Environmental Studies 302, 305L, 367, 373A, 440, 427E  
Forestry 220, 340, 489E  
Geography 333S, 335, 401, 499  
Geology 320N, 499  
German 303H, 304H  
Health and Human Performance 372, 450  
History 107H, 108H, 300, 400, 401, 437, 446, 467, 470, 471, 478  
Honors College 121L  
Information Systems 448  
Japanese 311L, 312L, 431L  
Journalism 270, 331, 333, 415, 489  
Management 348, 444, 445, 446  
Marketing 461  
Mathematical Sciences 406  
Microbiology 418, 420  
Music 325H, 424, 436, 437  
Native American Studies 200, 202L, 329, 367H, 368H, 410L, 494  
Pharmacy 550  
Philosophy 300E, 427E, 443E, 453, 461, 463  
Physics 330  
Political Science 300  
Psychology 320, 400  
Radio-Television 280, 360, 361, 494  
Recreation Management 451, 482  
Social Work 310  
UNC 270  
Wildlife Biology 245, 408  
Women’s and Gender Studies 336  
Writing Studies 115, 240E

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

Students should note the following:
- Students must take the assessment after 45 but no later than 70 credits.
- Transfer students 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
- Solve quantitative problems
- Interpret solutions to problems
- Make critical judgments regarding the validity of competing formulations and solutions.

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

1. All students must demonstrate basic skills in mathematics. The mathematical manipulative skills of all students entering The University of Montana-Missoula without credit for an equivalent course in mathematical literacy will be assessed using a placement score. Students then will be placed in an appropriate developmental course or courses in mathematics; MAT 100D; a course in mathematical literacy: MATH 107, 109, 111, 112, 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 credit toward General Education requirement; credit by 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 4 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, 217A


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

Environmental Studies 373A

Media Arts 111A, 112A


Writing Studies 184A, 185A, 186A

**Perspective 2 Literary and Artistic Studies:**

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

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

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

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

Communication Studies 250L

Drama 101L, 166L, 210L, 220L


Environmental Studies 305L

Film Studies 227L

French 311L, 312L
German 311L, 312L, 313L, 361L
Honors College 121L
Media Arts 101L
Music 132L, 133L, 134L, 135L, 166L
Russian 305L, 306L, 307L
Spanish 311L, 312L, 450L
Non-Western:
AS 313L, 314L, 432L
Chinese 313L, 314L, 432L
Dance 434L
English 429L
Japanese 311L, 312L, 431L
Liberal Studies 311L, 313L, 314L, 432L
Modern and Classical Literatures 311L, 312L, 313L, 314L, 380L, 431L, 432L
Native American Studies 202L, 410L

Perspective 3 Historical and Cultural Studies:

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

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

African-American Studies 278H, 378H, 379H
Anthropology 100H, 324H
Dance 334H
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
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 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.
Business 103S, 160S
Business Administration 100S
Communications 150S, 260S
Communicative Sciences and Disorders 110S, 210S
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, 405S, 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 251S, 451S
Economics 310S
History 214S
Liberal Studies 213S, 214S
Native American Studies 341S
Political Science 463S
Sociology 370S

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

Upon completion of a core course in ethical and human values, students should:

1. understand central ethical norms of society; understand the foundational moral reasoning and historical origins of these norms; be conversant with the treatment of moral issues according to these norms.

2. understand some of the limits of these norms and be familiar with some alternatives to them.

3. be able to defend held ethical commitments with the ability to identify and articulate the underlying ethical positions that inform them.

Upon completion of a specialized course in ethical and human values, students should:

1. be able to identify and interpret the codes, conventions, or particular value base of the profession or discipline under consideration;

2. be able to analyze those codes and conventions or value bases so to understand them within the context of the group and within larger society; and

3. have considered agency requirements for practitioners or stewards within the field;

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

Core:

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

Specialized:

Anthropology 403E
Communications 210E
Computer Science 415E
Computer Technology 122E
Curriculum and Instruction 407E
Environmental Studies 327E, 427E
Geology 304E
Health and Physical Education 475E
Health Professions 298E
History 226E, 334E, 460E
Honors College 202E
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 100N, 115N, 150N
Wildlife Biology 105N

General Education for Transfer Students

Students transferring credits from other institutions must meet all requirements by transfer, by examination, or by completing courses at The University of Montana-Missoula.

According to Board of Regents policy, students who can demonstrate that they have completed an approved lower-division general education requirement at an approved Montana institution of higher education will be deemed to have completed general education requirements except for the upper-division writing proficiency assessment and the upper-division writing requirements in their majors.

Transfer students who believe they have completed an approved lower-division general education requirement at another Montana school should request that the registrar of the other school send a letter to the University Registrar's Office certifying that the requirement has been met.

If students transfer 20 or more approved Montana University System core course credits with their initial registration at UM-Missoula, they may choose to complete the MUS General Education rather than the UM-Missoula General Education requirement.

Students governed by the 2006-2007 catalog or later catalogs must earn a traditional letter grade of C- or better in courses used to satisfy General Education (except English composition and the Mathematical Literacy course must be a C or better). Students enrolled in a post-secondary institution prior to autumn 2006 may be eligible to choose an earlier governing catalog.
Major and Minor Requirements

Major Requirements

Declaring a Major and Changing a Major
Students indicate on the application for admission the major or majors in which they are interested. Students undecided as to a field of interest may elect to be Undeclared while making program and career decisions. Students must declare a major in a degree-granting program prior to completion of 45 credits or after three semesters, whichever occurs first.

Students must complete a major in order to earn a degree or certificate.

Students may change their majors or minors by obtaining the proper approval on a change of major or minor form available from the Registration Counter in Griz Central in the Lommasson Center. Because of enrollment limitations, students must request a change to a program in the College of Technology by completing an application for admission and submitting it to the College. Students whose initial admission was to the College of Technology may change to a major outside the College by submitting an application for admission to Enrollment Services-Admissions & New Student Services in the Lommasson Center.

Credits Required for a Major
Students in a bachelor degree program must complete a minimum of 30 credits in their major. Most majors require more.

Students may elect to earn a single degree with more than one major. Students may complete a double major (two majors) or any number of majors. All requirements for the majors must be completed even though students will receive a single degree such as a Bachelor of Arts with majors in Psychology and Sociology. It is only necessary to complete the total credit requirement for a single bachelor degree.

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

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

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

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

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

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

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

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

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

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

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

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

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

**Grade Requirement**

Courses taken to satisfy the requirements of the minor must be completed with a grade of C- or better. A minimum grade average of 2.00 in all work attempted in the minor at The University of Montana-Missoula is required for graduation with the minor.

**Teaching Minors**

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

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

Assessment of Personal and Academic Goals

A college education invites students to formulate goals and reflect on their progress toward attaining them. Davidson Honors College students are 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

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

Applications particularly are welcomed from older or non-traditional students and students from varied racial and ethnic backgrounds. College transfer students with a record of strong 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, academic performance, and contribution to the community. These scholarships are renewable for four years.

Eligible candidates for the Presidential Leadership Scholarship must be recent high school graduates who have not previously enrolled as a regular college or university student. Recent finalists for the Presidential Leadership Scholarship posted an average combined score of 2090, SAT or ACT composite score of 31.

All Davidson Honors College applications for admission received by December 31 or each year will be considered for the Presidential Leadership Scholarship. Unsuccessful candidates for the Presidential Leadership Scholarship will automatically be considered for entering student awards and scholarships.

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

Courses

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

Honors College (HC)

U 120 Introduction to Honors 1 cr. Prereq., consent of instr.

Interdisciplinary offerings by various faculty. Orientation to practical and theoretical issues facing students entering college.

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

U 194 Seminar Variable cr. (R-6)
U 195 Special Topics Variable cr. (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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

U 198 Internship Variable cr. (R-6) Prereq., consent of instr. Practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 202E Introduction to Student Leadership 3cr. Offered spring. This service-learning course provides students with a broad overview of leadership development through engagement with campus and community organizations. Students will examine a variety of leadership models, analyze their own capacity for ethical leadership, and develop a personal leadership philosophy.

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

U 298 Internship Variable cr. (R-6) Prereq., consent of instr. Practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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

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

U 398 Internship Variable cr. (R-6) Prereq., consent of instr. Practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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

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

U 498 Internship Variable cr. (R-6) Prereq., consent of instr. Practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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

Faculty

Professor
James McKusick, Ph.D., Yale University, 1984 (Dean)
Christopher Comer, 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

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

Requirements for a Minor

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

A. African-American Core Courses

12 credits required from the following:
- AAS 195: Special Topics, Introduction to African American Studies
- AAS 208H Discovering Africa
- AAS 378H African American History to 1865
- AAS 379H African American History Since 1865
- 6 credits required from the following electives:
  - AAS 195 Special Topics
  - AAS 278H African American Institutions and Perspectives
  - AAS 295 Special Topics: Abolitionism
  - AAS 395 Special Topics
  - AAS 408 Africa and the Black Diaspora
  - AAS 478 Martin, Malcolm and the Civil Rights Movement
  - AAS 493 Omnibus
  - AAS 495 Special Topics

B. Electives

9 credits required from at least two of the following fields:
- Geography
  - 277S Africa
- History
  - 283H Islamic Civilization: The Classical Age
  - 359 Topics in 20th Century U.S. History
  - 361H The American South: From Slavery to Civil Rights
  - 362 African American Struggle for Equality
  - 363H History of American Law
  - 388H Africa to 1880
  - 389H African since 1880
  - 409 History of Southern Africa
  - 470 Women and Slavery
  - African-American Studies
  - 471 Southern Women in Black and White
- Sociology
  - 200 Social Stratification
  - 220S Race, Gender and Class
  - 332 Sociology of Poverty
  - 326H Politics of Africa
  - 350 Economic Development
  - 337 African-American Literature
  - 356 Women in Black and White
  - 493

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 262 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 America, 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, idiosyncrasies, and dynamics of change, continuity, conflict and consensus in their respective programs; lasting impacts and legacies.

U 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.

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

Faculty

Instructors
George Price, Ph.D., The University of Montana, 2006
Emeritus Professor
Ulysses S. Doss, Ph.D., The Union Institute, 1974

Department of Anthropology

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

Special Degree Requirements

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

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

Of the remaining 24 credits, two upper-division courses (6 credits) must be selected from Subarea 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. LING 173 Introduction to Language, 3 cr. or LING 270 Introduction to Linguistics, 3cr.

Subarea I: Theory and Methods, 6 Credits

Anthropological Theory:
ANTH 359 Seminars in Archaeology ANTH 400 History of Anthropology ANTH 404 Anthropological Museology ANTH 410 Human Evolution ANTH 415 The Emergence of Modern Humans ANTH 430 Social Anthropology ANTH 450 Archaeological Theory Anthropological Methods:
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  
ANTH 343S Culture and Population  
ANTH 388 Native American Health and Healing  
ANTH 417 Adaptation and Nutritional Anthropology  
ANTH 418 Ecology and Genetic Variation in Human Populations

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 of Primates  
ANTH 326 Religious Belief Systems  
ANTH 327 Anthropology of Gender  
ANTH 328S Culture and Identity  
ANTH 329S Social Change in Non-Western Societies  
ANTH 340H Contemporary Issues of Southeast Asia  
ANTH 341S Contemporary Issues of Native Peoples  
ANTH 385S Indigenous Peoples and Global Development  
ANTH 411 Primatology  
ANTH 422 Psychological Anthropology  
LING 470 Introduction to Linguistic Analysis  
LING 473S Language and Culture  
LING 474 Language History, Variety, and Change  
LING 476 Child Language Acquisition  
LING 477 Bilingualism  
LING 479 Pragmatics  
LING 484 North American Indian Linguistics  
LING 489 Language of the World

Anthropology or cognate electives, 12 Credits

Upper-Division Writing Expectation

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

Archaeology Option

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

Archaeology Core Courses (9 credits). One course from each of the following lists:

Area (3 credits): ANTH 351, ANTH 352, ANTH 354, ANTH 357, ANTH 395, ANTH 451, ANTH 457, ANTH 459.

Theory (3 credits): ANTH 450, ANTH 456, ANTH 458.
Method (3 credits): Any archaeological field school, ANTH 454, ANTH 455, ANTH 466.

Complete 6 credits in one of the following allied disciplines: Biology, Geography or Geosciences.

Complete 6 credits in one of the following allied disciplines: Computer Science, Environmental Studies, Forestry, History, Mathematical Sciences, or Native American Studies.

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 310N Human Variation  
ANTH 328S Culture and Identity  
ANTH 330H Peoples and Cultures of the World  
ANTH 335S 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  
ANTH 412 Osteology or

SOC 230S Criminology or 235 Criminal Justice System

-Complete 12 credits in additional courses in subjects relevant to the forensic sciences chosen in consultation with the advisor, such as (but not limited to) archaeology, physical anthropology, biology, chemistry, criminology, drawing, geology, pharmacy, photography, public speaking, or psychology.

Linguistic Option

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

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

Suggested Course of Study

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

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

First Year
ANTH 250S Introduction to Archaeology ................. 3
ANTH elective ..................................................... 3
ENEX 101 Composition ........................................ 3
MATH 117 Probability and Linear Mathematics .......... 3
General Education .............................................. 6
Elective ........................................................... 3

Total Credits: 18
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<td>ANTH 220S Comparative Social Organization</td>
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<tr>
<td>LING 270 Introduction to Linguistics</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
  - Two of: ANTH 484; LING 473S, 474 or 475

- **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
- LING 270 Introduction to Linguistics
- LING 471 Phonology and Morphology
- LING 472 Generative Syntax and Semantics
- Two of: ANTH 484; LING 473S, 474 or 475

**Courses**

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Anthropology (ANTH)

U 100H Introduction to Latin American Studies 3 cr.
Offered autumn or spring. Same as MCLG 100H. Multi-disciplinary survey and introduction to Latin America from pre-Columbian times to the present.

U 101H Introduction to Anthropology 3 cr.
Offered autumn and spring. Offered intermittently in summer. A survey of anthropology which introduces the fundamental concepts, methods and perspectives of the field. The description and analysis of human culture, its growth and change. The nature and functions of social institutions.

U 102S Race and Minorities 3 cr.
Offered autumn. Analysis of the development and concept of race as a social category and the processes of cultural change within and between ethnic groups.

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

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

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

U 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 dept. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 201 Human Sexuality 3 cr.
Offered autumn. Same as BIOL 265N. Biological, behavioral, and cross-cultural aspects of human sexuality to help students place their own sexuality and that of others in a broader perspective. Includes sexual anatomy, physiology, development, reproduction, diseases, 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 211N Human Genetics 3 cr.
Offered intermittently. Genetics-related problems that confront individuals and society. Variation and natural selection in human populations. Designed for non-biology majors.

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

U 220S Comparative Social Organization 3 cr.
Offered autumn. Study of social organization of non-western societies; emphasis on variations in ecology, social structure, economic, political and religious beliefs and practices.

U 230 Explorations in American Culture 2 cr.
Offered intermittently. U.S. and foreign students read fictional accounts of cultural adaptation. Some accounts written from the perspective of foreigners to give foreign students comparisons with their own acculturation process and provide a 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. 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 spring even numbered years. Major archaeological sites and discoveries and their impact on our understanding of prehistory and history.

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

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

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

U 310N Human Variation 3 cr.
Offered every spring. Prereq., ANTH 210N or consent of instr. Introduction to human biological variation, and to the methods and theories that are used to explain the distribution of variable features.

U 311 Visual Anthropology of Primates 1 cr.
Offered intermittently. An exploration of primates using videos and films.

U 314 Principles of Forensic Anthropology 3 cr.
Offered spring. Prereq., ANTH 310N 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.

UG 333H Native Peoples of Montana 3 cr.
Offered spring. The history and culture of the Indian tribes in Montana.

UG 342H Indians of Montana Since the Reservation Era 3 cr.
Offered intermittently. Same as NAS 342H and HIST 354H. Examination of the history of Montana Indians since the establishment of the reservations and contemporary conditions and issues among both reservation and nonreservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal
issues.

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

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

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

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

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

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

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

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

U 346 Central Asia and Its Neighbors 3 cr. Offered spring. Same as AS 345 and HIST 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 351H Archaeology of North America 3 cr. Offered intermittently. The origins, backgrounds and development of Pre-Columbian American peoples and cultures.

UG 355 Archaeology of Montana 3 cr. Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.

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

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

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

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

UG 386H Nationalism in Modern Middle East 3 cr. Offered autumn. Same as HIST 386H. 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. Same as HIST 387. 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.

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

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

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

U 398 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 400 History of Anthropology 3 cr. Offered autumn odd-numbered years. Prereq., ANTH 101H and 220S. The development of theory and method in cultural anthropology to the present. Various archaeological, ethnological and socio-psychological theories in the light of historical anthropology.

UG 401 Anthropological Data Analysis 3 cr. Offered autumn. Prereq., college algebra or consent of instr. An analysis of the foundations of anthropological scaling and measurement.


UG 403E Ethics and Anthropology 3 cr. Offered spring odd-numbered years. Prereq., ANTH 101H or 220S, or consent of instr. Ethical and anthropological modes of inquiry in relation to each other. Focus on the sociocultural subfield as well as ethical issues in physical anthropology and archaeology.

UG 404 Anthropological Museology 3 cr. Offered spring even-numbered years. Prereq., ANTH 210N. An exploration of the fossil and archaeological records of the evolution of human beings, and of current methods and theories used in interpreting these data.

UG 411 Primatology 3 cr. Offered autumn odd-numbered years. Prereq., ANTH 210N. Review of the evolution, anatomy, and behavior of monkeys, apes, and other members of the order Primates.

UG 412 Osteology 4 cr. Offered autumn. Prereq., ANTH 314 and consent of instr. A detailed examination of the human skeleton with an emphasis on identifying individual bones and their structures. Specifically extended to fragmentary skeletal elements. Direct hands-on experience required.

UG 413 Forensic and Mortuary Archaeology 3 cr. Offered spring. Prereq., ANTH 314 and consent of instr. Practical approaches to locating, documenting and recovering human
skeletal remains, including surface scatters and burials. Emphasis on interpretations of evidence for recovery scene formation and mortuary behavior.

UG 414 Human Identification 3 cr. Offered spring. Prereq., ANTH 412 or 413 and 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 418 The Emergence of Modern Humans 3 cr. Offered spring odd-numbered years. Prereq., ANTH 210N. An exploration of the emergence of "modern" humans and their relationships with Neanderthals. Exploration of what it means to be "a modern human" through an examination of human evolutionary history.

UG 416 Dental Anthropology 3 cr. Offered spring even-numbered years. Prereq., ANTH 210N. The use of information from teeth in investigating evolutionary trends, the relationships between human groups, subsistence change, and culture change.

UG 417 Adaptation and Nutritional Anthropology 3 cr. Offered autumn odd-numbered years. Prereq., ANTH 210N. An examination of the adaptation of human populations to the environment and food supply via evolutionary, physiological, and cultural mechanisms.

UG 418 Ecology and Genetic Variation in Human Populations 3 cr. Offered autumn even-numbered years. Prereq., ANTH 210N. Human genetic variation examined from an ecological perspective. Emphasis on the role of infectious disease as a selective factor in human evolution and exploration of the implications of these associations for human genetic variation.


UG 422 Psychological Anthropology 3 cr. Offered autumn even-numbered years. Prereq., ANTH 220S or consent of instr. The study of socialization, personality, cognition, and mental health cross-culturally.

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

UG 431 Ethnographic Field Methods 3 cr. Offered spring. Prereq., ANTH 220S, 401, or consent of instr. Introduction to socio-cultural anthropological methods including participant observation, interviewing and narrative techniques and analysis of qualitative data.

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

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

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

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

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

UG 454 Lithic Technology 3 cr. Offered autumn odd-numbered years. Prereq., ANTH 250S and consent of instr. Analysis of stone artifacts and debitage.

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

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

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

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

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

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.

UG 461 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 462 Cities and Landscapes of Central Asia 3 cr. Offered autumn. Same as AS and HIST 457. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.

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

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

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


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

UG 488 Forensic Science and Technology 3 cr. Offered spring odd-numbered years. Prereq., ANTH 286N or consent of
UG 494 Seminars in Ethnology and Linguistics 3 cr. (R-6) Offered intermittently. Prereq., consent of instr. Offered alternate years.

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

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

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

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

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

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

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

G 511 Seminar in Physical Anthropology 3 cr. (R-6) Offered intermittently. Review of major concepts, theories, and recent publications or a topic in physical anthropology. Designed to prepare graduates to evaluate new hypotheses. Topics vary; may be repeated with a different topic.

G 512 Advanced Forensic Anthropology 3 cr. (R-6) Offered spring. Prereq., A lecture course and a lab or field course in forensic anthropology. Review of traditional methods and exploration of new methods of skeletal analysis, as applied to cases from the forensic collection.

G 513 Seminar in Bioarchaeology and Skeletal Biology 3 cr. Offered spring. Theoretical and methodological approaches to the analysis of human skeletal remains derived from archaeological contexts. Demography, health and disease, diet and nutrition, growth, activity patterns, and measures of biological relatedness are interpreted within a biocultural framework.

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

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

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

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

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

G 570 Seminar in Linguistics 3 cr. (R-12) Offered autumn even-numbered years. Prereq., ANTH 470. Same as LING 570. Advanced topics in linguistic analysis.

G 593 Professional Project Variable cr. (R-10) Offered every term.

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

G 596 Independent Study Variable cr. (R-9) Offered every term. Prereq., consent of instr.

G 597 Research Variable cr. (R-10) Offered every term.

G 598 Internship Variable cr. (R-6) Offered intermittently. Prereq., graduate standing and consent of faculty supervisor. Practical application of classroom learning through internship in a number of areas such as museology, cultural resource management and forensics. Written reports are required.

G 599 Thesis Variable cr. (R-10) Offered every term.

G 600 Issues in Cultural Heritage 3 cr. Offered autumn. A review of the range of topics that fall under the umbrella of cultural heritage and a review of theory and practice in one or more of these topics.


G 602 Cultural Heritage Policy and Practice 3 cr. Offered spring. Prereq., graduate standing. Exploration of critical issues in cultural heritage policy emphasizing the regulatory basis for federal CRM, public anthropology, and indigenous people's issues. Hands-on training in the design and production of federal planning documents.

G 604 Seminar in Cultural Heritage Variable cr. (R-6) Offered intermittently. Topic varies.

G 697 Advanced Research Variable cr. (R-6) Offered every term. Prereq., consent of instr. Independent research projects, other than dissertation.

G 699 Dissertation Variable cr. (R-10) Offered every term. Doctoral dissertation research activities.

Faculty

Professors

Gregory R. Campbell, Ph.D., University of Oklahoma, 1987
John E. Douglas, Ph.D., University of Arizona, 1990 (Chairman)
S. Neyoxoet Greymorning, Ph.D., University of Oklahoma, 1992
Mehrdad Kia, Ph.D., University of Wisconsin-Madison, 1986
Randall R. Skelton, Ph.D., University of California, Davis, 1983
G.G. Weix, Ph.D., Cornell University, 1990

Associate Professors

Irene Appelbaum, Ph.D., University of Chicago, 1995
Kimber Haddix McKay, Ph.D., University of California, Davis, 1998
Anna M. Prentiss, Ph.D., Simon Fraser University, 1993
Gilbert Quintero, Ph.D., University of Arizona, 1997

Assistant Professors

Kelly J. Dixon, Ph.D., University of Nevada-Reno, 2002
Sarah Horton, Ph.D., University of New Mexico, 2003
Ardeshir Kia, Ph.D., University of Wisconsin-Madison, 1988
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 Science 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

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

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<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>DAN 435L</td>
<td>Arts and Culture of Bali</td>
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<td>ECON 336 US-Asian Relations</td>
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<td>HIST 283H</td>
<td>Islamic Civilization: Classical Era</td>
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<td>HIST 284H</td>
<td>Islamic Civilization: Modern Era</td>
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<td>HIST 380H</td>
<td>Modern China</td>
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<td>HIST 381H</td>
<td>Modern Japan</td>
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<td>HIST 387</td>
<td>Iran Between Two Revolutions</td>
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<td>JPNS 411</td>
<td>Modern Japanese Writers and Thinkers</td>
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<td>JPNS 431L</td>
<td>Post-War Japanese Literature</td>
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<tr>
<td>MCLG/JPNS 311L</td>
<td>Classical Japanese Literature in English</td>
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<td>MCLG/JPNS 312L</td>
<td>Japanese Literature from Medieval to</td>
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<td>Modern in English Translation</td>
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<tr>
<td>MCLG/JPNS 386</td>
<td>History of Japanese Language</td>
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<td>MCLG/LS 380L</td>
<td>Chinese Folktales</td>
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<td>PSC 328H</td>
<td>Politics of China</td>
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<td>PSC 329H</td>
<td>Politics of Japan</td>
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<td>PSC 420</td>
<td>Comparative Legal Systems</td>
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<tr>
<td>RELS 232H</td>
<td>Introduction to Buddhism</td>
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<td>RELS 233</td>
<td>Traditions of Buddhist Meditation</td>
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<td>RELS 360L</td>
<td>Classics of Buddhist Literature</td>
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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, patterns of cultural and historical change, issues of socio-economic, religious, and political diversity, and the broader political significance of the
region.

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

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

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

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

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 432L Twentieth Century Chinese Fiction in English
Translation 3 cr. Offered intermittently in spring. Same as
CHIN, LS 432L and MCLG 432L. A survey of the principal

UG 457 Artistic Traditions of Central and Southwest Asia 3
Offered 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

Timothy Bradstock, Ph.D., Harvard University, 1984 (Modern
and Classical Languages and Literatures)
Ruth Vanita, Ph.D., Delhi University, 1992 (Liberal Studies)
Terry Weidner, Ph.D., University of California, 1980 (Mansfield
Center)
G. G. Weix, Ph.D., Cornell University, 1990 (Anthropology)
Philip West, Ph.D., Harvard University, 1971 (Mansfield Center)

Division of Biological Sciences

Charles H. Janson, Associate Dean for the
Biological Sciences

The Division of Biological Sciences offers undergraduate and
graduate programs representing the full range of the biological
sciences. The Division offers bachelor degrees in biology (with
a broad array of formal options including cellular and
molecular biology, ecology, field ecology, human biological
sciences, natural history, biological education and general
sciences education), medical technology, microbiology
including microbial ecology and organismal biology, 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
Joel Berger, Ph.D., University of Colorado, Boulder, 1978
Carol A. Brewer, Ph.D., University of Wyoming, 1993
Ragan M. Callaway, Ph.D. 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
Erick P. Greene, Ph.D., Princeton University, 1989
F. Richard Hauer, Ph.D., North Texas State University, 1980
Walter E. Hill, Ph.D., University of Wisconsin, 1967
William E. Holben, Ph.D., University of New York, Buffalo, 1985
Richard L. Hutto, Ph.D., University of California at Los Angeles, 1977
Charles H. Janson, Ph.D., University of Washington, 1985
Ralph C. Judd, Ph.D., The University of Montana, 1979
Michael F. Minnick, Ph.D., Washington State University, 1987
Jack H. Nunberg, Ph.D., Stanford University, 1979 (Director for the Montana Biotechnology Center)
Anna Sala, Ph.D., University of Barcelona, 1992
Stephen Sprang, Ph.D., University of Wisconsin, Madison, 1977 (Director, Center for Biomolecular Structure and Dynamics)
Jack A. Stanford, Ph.D., University of Utah, 1975 (Bierman Professor; Director of the Biological Station)

Associate Professors

Douglas Emlen, Ph.D., Princeton University, 1994
Mark L. Grimes, Ph.D., University of Oregon, 1986
Jesse C. Hay, Ph.D., University of Wisconsin, Madison, 1994
Stephen Lodmell, Ph.D., Brown University, 1996
John L. Maron, Ph.D., University of California-Davis, 1996
L. Posp, Ph.D., Colorado State University, 1990
Michele A. McGuirk, Ph.D., Montana State University, 1999
Frank Rosenzweig, Ph.D., University of Pennsylvania, 1991
D. Scott Samuels, Ph.D., University of Arizona, 1991
Creagh W. Breuninger, Ph.D., University of Washington, 1998
Vanessa O. Ezenwa, Ph.D., Princeton University, 2002
Lila Fishman, Ph.D., Princeton University, 1998
Winsor H. Lowe, Ph.D., Dartmouth College, 2002
Michele A. McGuirk, 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

Lecturers

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

Research Professors

Jerry J. Bromenshenk, Ph.D., Montana State University, 1973
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. Bilderback, 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. Habec, Ph.D., University of Wisconsin, 1959
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

Assistant Professors

Biochemistry

Courses

UG 380 Fundamentals of Biochemistry 4 cr. Offered spring. 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 new data that focuses on RNA biochemistry. Emphasis on literature relevant to research on RNA viruses and ribosomes and protein synthesis.

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

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

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

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

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

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

Biological Station

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

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

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

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

- 342 Field Ecology
- 343 Ecological Methods & Analysis
- 356 Ecology of Birds
- 449 Plant-Animal Interactions
- 451 Landscape Ecology
- 452 Conservation Ecology
- 453 Lake Ecology
- 454 Stream Ecology
- 458 Ecology of forests & Grasslands
- 459 Alpine Ecology
- 492 Seminar in Ecology and Resource Management
- 497 Advanced Undergraduate Research
- 499 Undergraduate (Senior) Thesis
- 597 Research in Ecology

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

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

Students interested in pursuing graduate work at FLBS should
apply in writing to Graduate Admissions, Division of Biological
Sciences, The University of Montana-

Campus Drive #4824, Missoula, Montana 59812-4824, or contact the Director.

Biology

The Division offers an undergraduate degree in biology that
provides a solid foundation in core areas of the biological sciences
and in supporting physical sciences and mathematics. Several
options are provided within the biology degree. Options in cellular
and molecular biology, ecology, field ecology, and organismal
biology, and human biological sciences allow specialization in
biological subdisciplines and are appropriate background for
certain employment opportunities and for continued graduate or
professional study:

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

Ecology and organismal biology: For students interested in
human biological sciences: Provides a strong background in
the biological sciences for students interested in pursuing further
study in a health sciences professional program.

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

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

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

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

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

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

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

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

Also required: MATH 150 (or 152); one semester of statistics
(MATH 241) or a full year of statistics (MATH 444-447, 445-
448); one year of chemistry (CHEM 151N, 152N-154N) or two
years of chemistry (CHEM 161N, 162N, 221-223, 222-224);

Option in Field Ecology
Forty-three credits in biology and microbiology including BIOL
chosen from the Aquatic Emphasis, BIOL 451, 453, 454, 452, 492;
Choose an additional 8 credits of upper division BIOL or MICB,
with at least one being from each category from -ology BIOL
304, 306, 308, 316, 350, 400/401, 410, 418, MICB 300/301; or
Evolutionary Biology, BIOL 405, 406, 480, 482 or 484. One of
these courses must be an Upper Division Writing course. Other
required courses are MATH 150, MATH 241 or MATH 444/447
and MATH 445/448; CHEM 151N and 152N-154N or CHEM
161N, 162N, 221/223 and 222/224; and PHYS 121N, 122N.

Students in Track A will also spend two summers at the Flathead
Lake Biological Station.

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, 223, 301, 340, and 464; MICB 300-301; one course chosen
from MICB 410 or 420; one course chosen from BIOL 345, 440,
444-445, 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 Human Biological Sciences
Forty-two to forty-three credits in biology, biochemistry, and
microbiology including BIOL 108N-109N, 110N, 221, 223, 301,
312, 313, 340-341, 460 or 464, MICB 300-301 (or MICB 302)
and the remaining credits at the 300 or 400 level, including one
writing course.

One year of chemistry (CHEM 151N, 152N-154N) or two years
of chemistry (CHEM 161N, 162N, 221-223-222-224); MATH
Biology professions also may require course work in these areas: CHEM 108N-109N, 110N, 221, 222, 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 GEO 100N-101N are required. Students also must complete at least 20 credits in cognate areas of anthropology, chemistry (excluding CHEM 151N-152N, 154N), geography, geology (excluding GEO 100N-101N), forestry, mathematics, physics/astronomy, and wildlife biology. No more than 10 credits from any one of these areas can be applied toward the 20-credit requirement. Students interested in combining this option with another subject area may, with the advisor's permission, substitute 20 credits in English-writing, journalism, photography, art, foreign language, business management, or other appropriate field.

Option in Natural History

Forty-two to forty-four credits in biology including BIOL 108N-109N, 110N, 221, 222, 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 GEO 100N-101N are required. Students also must complete at least 20 credits in cognate areas of anthropology, chemistry (excluding CHEM 151N-152N, 154N), geography, geology (excluding GEO 100N-101N), forestry, mathematics, physics/astronomy, and wildlife biology. No more than 10 credits from any one of these areas can be applied toward the 20-credit requirement. Students interested in combining this option with another subject area may, with the advisor's permission, substitute 20 credits in English-writing, journalism, photography, art, foreign language, business management, or other appropriate field.

Teacher Preparation in Biology

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

A student must complete thirty-four credits in biology and microbiology including BIOL 108N-109N, 110N, 221, 222, 340-341, 444 & 445; MICB 300-301 and one course chosen from BIOL 301 or 345. MATH 150 or 152 and 241 are required; however, the prerequisite courses MATH 117 and 121 may be needed. CHEM 151N-152N, 154N, 485; PHYS 121N; C&I 426; and one course chosen from GEO 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).

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

Minor Teaching Field of Biology: For an endorsement in the minor teaching field of biology, a student must complete BIOL 108N-109N, 110N, 221, 223; MICB 300-301; C&I 426; CHEM 109N or GEO 301; MATH 150 or 152, 241; and CHEM 151N-152N, 485. A student also must gain admission to Teacher Education and Student Teaching and must meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

Teacher Preparation in General Science

Extended Major Teaching Field of General Science: A student is awarded a B.A. with a major in biology with an ecology option by completing the following 90 credits in astronomy, biology, chemistry, geography, geology, mathematics and physics: ASTR 131N, 134N; BIOL 108N-109N, 110N, 221, 223, 340-341; CHEM 152N, 161N-162N, 485; GEO 100N-101N, 301; MATH 150 or 152, 241 (the prerequisite courses MATH 117 and 121 may be needed); and PHYS 121N-122N or 221N-222N. C&I 426 also is required. Highly recommended are BIOL 345, MICB 300-301, and CHEM 101N.

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

Suggested Course of Study

**Biological Education Option**

**First Year**

<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>BIOL 110N Principles of Biology</td>
<td>4</td>
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<tr>
<td>CHEM 151N General and Inorganic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 152N Organic and Biological Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 154N General Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150 Applied Calculus</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
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<td>General Education</td>
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**Second Year**

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<tr>
<th>Course</th>
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<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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<td>MATH 241 Statistics</td>
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<td>MICB 300-301 General Microbiology &amp; Laboratory</td>
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</tr>
<tr>
<td>Lower-division writing course</td>
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<tr>
<td>General Education/Native American Studies course</td>
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<td><strong>Total</strong></td>
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**Third Year**

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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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<tr>
<td>BIOL 444/445 Plant Physiology and Lab</td>
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<tr>
<td>C&amp;I 200 Exploring Teaching</td>
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<tr>
<td>C&amp;I 303 Educational Psychology and Measurement</td>
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<tr>
<td>C&amp;I 306 Instructional Media and Computer Applications</td>
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<tr>
<td>C&amp;I 410 Exceptionality and Classroom Management</td>
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<tr>
<td>GEOS 109N Environmental Geoscience (or GEOS 301 Environmental Geology)</td>
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<td>HHP 233 Health Issues of Children and Adolescents</td>
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**Fourth Year**

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<tr>
<td>C&amp;I 301 or 302 Field Experience</td>
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<tr>
<td>C&amp;I 407E Ethics and Policy Issues</td>
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<tr>
<td>C&amp;I 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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<td><strong>Total</strong></td>
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**Cellular and Molecular Biology Option**

**First Year**

<table>
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<tr>
<th>Course</th>
<th>Credits</th>
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<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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<tr>
<td>CHEM 151N General and Inorganic Chemistry</td>
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<td>CHEM 152N Organic and Biological Chemistry</td>
<td>3</td>
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<tr>
<td>CHEM 154N General Chemistry Laboratory</td>
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<td>ENEX 101 Composition</td>
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<tr>
<td>MATH 150 Applied Calculus</td>
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<td>General Education</td>
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</tr>
<tr>
<td>Elective</td>
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<tr>
<td><strong>Total</strong></td>
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**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 223 Genetics &amp; Evolution</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 221-222, 223-224 Organic Chemistry and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>MICB 300-301 General Microbiology and Laboratory</td>
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<td>Year</td>
<td>Course</td>
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</tr>
<tr>
<td>First Year</td>
<td>BIO 108N-109N Diversity of Life and Laboratory</td>
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<td>BIO 110N Principles of Biology</td>
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<td>CHEM 51N General and Inorganic Chemistry</td>
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<td>CHEM 152N Organic and Biological Chemistry</td>
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<td>CHEM 154N General Chemistry Laboratory</td>
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<td>ENEX 101 Composition</td>
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<td>BIO 221 Cell and Molecular Biology</td>
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<td>PHYS 121N-122N General Physics I, II</td>
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<td>MATH 444/447 Statistical Methods I</td>
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<td>MATH 445/448 Statistical Methods II</td>
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<td>BIO 340-341 Ecology and Laboratory</td>
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<td></td>
<td>BIO 306 Mammalogy</td>
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<td>BIO 406 Behavior and Evolution</td>
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<td>BIO 446 Wildlife Physiological Ecology</td>
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<td>Fourth Year</td>
<td>BIO 366 Freshwater Ecology</td>
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<td>BIO 403 Vertebrate Design and Evolution (or BIO 301, 345, 444/445)</td>
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<td>Ecology and Organismal Biology Option with Two Years of Chemistry</td>
<td>BIO 108N-109N Diversity of Life and Laboratory</td>
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<td>BIO 110N Principles of Biology</td>
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<td>CHEM 161N General Chemistry</td>
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<td>CHEM 162N College Chemistry Laboratory</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>BIO 223 Genetics &amp; Evolution</td>
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<td>CHEM 211-222-223 Organic Chemistry and Laboratory</td>
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<td>BIO 340-341 Ecology and Laboratory</td>
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<td>BIO 345/348 Statistical Methods</td>
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<td>PHYS 121N-122N General Physics I, II</td>
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<td>Upper-division electives</td>
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<tr>
<td>Fourth Year</td>
<td>BIO 405 Animal Behavior (or BIO 406, 480, 482, 484)</td>
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<td></td>
<td>BIO 448 Terrestrial Plant Ecology (or BIO 366, 430, 446, 447, 495, MICB 422, WBI0 470)</td>
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<td>MICB 300/301 General Microbiology &amp; Lab (or BIO 304, 306, 308, 316, 350, 400/401, 410, 418)</td>
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Ecology Option for Teacher Preparation in General Science

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<td>BIO 108N-109N Diversity of Life and Laboratory</td>
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<td>BIO 110N Principles of Biology</td>
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<td>CHEM 161N-162N College 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>PSYC 100S Introduction to Psychology</td>
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<td>Second Year</td>
<td>ASTR 131N, 134N Elementary Astronomy and Laboratory</td>
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<td>BIO 221 Cell and Molecular Biology</td>
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<td>BIO 223 Genetics &amp; Evolution</td>
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<td>CHEM 152N Organic and Biological Chemistry</td>
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<td>GEOS 100N-101N General Geology and Laboratory</td>
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<td>MATH 241 Statistics</td>
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<td></td>
<td>General Education/Native American Studies course</td>
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<td>Lower-division writing course</td>
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Third Year

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<th>Course</th>
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<tr>
<td>CHEM 485 Laboratory Safety</td>
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<tr>
<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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<tr>
<td>C&amp;I 306 Instructional Media and Computer Applications</td>
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<td>C&amp;I 410 Exceptionality and Classroom Management</td>
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<td>GEOS 301 Environmental Geology</td>
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<td>PHYS 121N-122N General Physics I, II</td>
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Fourth Year
BIOL 340-341 Ecology and Laboratory .......... 5
C&I 301 or 302 Field Experience .................. 1
C&I 407E Ethics and Policy Issues ................. 3
C&I 426 Teaching Science in the Middle and
Secondary School .................................. 3
C&I 427 Literary Strategies in Content Areas ...... 3
HHP 233 Health Issues of Children and
Adolescents ...................................... - 3
Upper-division biology writing course ............ 4
General Education .................................. 3
Electives .......................................... 5
-15 15

Fifth Year
C&I 482 Student Teaching: Secondary .......... 14
C&I 494 Professional Portfolio .................. - 13
Field Ecology Option (Track A, two summers)
First Year A 5
BIOL 108N Diversity of Life ...................... 3
BIOL 109N Diversity of Life Lab .................. 2
CHEM 151N General and Inorgan. Chem .. 3
MATH 150 Applied Calculus ....................... 3
ENEX 101 Composition .......................... 3
Elective ........................................... 1
BIOL 110N Principles of Biology ................. 4
CHEM 152N Organic and Biological Chem .... 3
CHEM 154N Organic and Biological Chem Lab .. 3
General Education Requirement ................. 3
Lower Division Writing Requirement .......... 1
Elective ........................................... 1
-16 16

Second Year
BIOL 221 Cell and Molecular Biology ........... 4
MATH 444/447 Statistical Methods/Computer
Analysis ......................................... 4
General Education Requirement ................. 5
Electives ........................................... 4
BIOL 223 Genetics and Evolution ............... 4
MATH 445/448 Statistical Methods/Computer
Analysis ......................................... 4
General Education Requirement ................. 6
Elective ........................................... 1
-16 16 2 12

Third Year
Summer (at Biological Station)
BIOL 342 Field Ecology and Lab ............... 5
Upper Division Electives ......................... 5
-10
BIOL 484 Ecological & Evolutionary Genetics .. 3
PHYS 121N Fundamentals of Physics I ........... 5
General Education Requirement ................. 6
Electives ........................................... 2
BIOL 316 Plant Form & Function ................. 5
PHYS 122N Fundamentals of Physics II ........... 5
Electives ........................................... 7
-16 17

Summer (at Biological Station)
BIOL 451 Landscape Ecology of Mtn Ecosystems .. 3
BIOL 458 Ecology of Forests & Grasslands .. 3
BIOL 459 Alpine Ecology ........................ 3
BIOL 452 Conservation Biology & Ecology ...... 3
BIOL 492 Seminars in Ecology & Resource
Management ...................................... 1
-13
(or aquatic series)

Field Ecology Option (Track B one summer)
First Year A 8
BIOL 108N Diversity of Life ...................... 3
BIOL 109N Diversity of Life Lab .................. 2
CHEM 161N College Chemistry I ................. 5
MATH 150 Applied Calculus ....................... 4
Elective ........................................... 1
BIOL 110N Principles of Biology ................. 4
CHEM 162N College Chemistry II ............... 5
ENEX 101 Composition .......................... 3
General Education Requirement ................. 3
-15 15

Second Year
BIOL 221 Cell and Molecular Biology ........... 4
CHEM 221/223 Organic Chemistry I & Lab ....... 5
MATH 241 Statistics ................................ 4
Lower Division Writing Requirement .......... 3
BIOL 223 Genetics and Evolution ............... 4
CHEM 222/224 Organic Chemistry II & Lab ...... 5
General Education Requirement ................. 9
-16 15 2

Third Year
BIOL 340/341 Ecology and Lab ................... 5
PHYS 121N Fundamentals of Physics I ........... 5
Electives ........................................... 2
PHYS 122N Fundamentals of Physics II ........... 5
General Education Requirement ................. 6
Electives ........................................... 1
-12 12

Summer Semester at Flathead Lake Biological Station
BIOL 451 Landscape Ecology of Mtn Ecosystems .. 3
BIOL 453 Ecology of Small & Large Lakes .... 3
BIOL 454 Stream Ecology .......................... 3
BIOL 452 Conservation Biology & Ecology .... 3
BIOL 492 Seminar in Ecology & Res. Management .. 1
-13
(or terrestrial series)

Human Biological Sciences Option with Two
Years of Chemistry
First Year
BIOL 108N-109N Diversity of Life
and Laboratory ................................... 5
BIOL 109N Principles of Biology .................. 4
CHEM 161N-162N College Chemistry I ........... 5
ENEX 101 Composition .......................... 3
MATH 150 Applied Calculus ....................... 4
PSYC 1005 Introduction to Psychology .......... 4
-14 16

Second Year
BIOL 221 Cell and Molecular Biology ........... 4
BIOL 223 Genetics and Evolution ............... 4
CHEM 221-223 Organic Chemistry and
Laboratory ........................................ 5
MICB 300-301 General Microbiology and
Laboratory ........................................ 5
Lower-division writing course ................... 3
MATH 241 Statistics ................................ 4
-16 14

Third Year
BIOL 312, 313 Anatomy and
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<tr>
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<td>BIOL 201 Developmental Biology</td>
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<td>PHYS 121N-122N General Physics I, II</td>
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<td>PSYC 330S Abnormal Psychology or PSYC 240S</td>
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<td>Fourth Year</td>
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<td>BIOL 340-341 Ecology and Laboratory</td>
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<td>BIOL 464 Adv. Cell Biology</td>
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<td>MICB 410 Immunology or other</td>
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<td>Natural History Option</td>
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<td>BIOL 110N Principles of Biology</td>
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<td>CHEM 151N General and Inorganic Chemistry</td>
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<td>CHEM 152N Organic and Biological Chemistry</td>
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<td>MATH 117 Probability and Linear Mathematics</td>
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<td>BIOL 221 Cell and Molecular Biology</td>
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<td>BIOL 350 Rocky Mountain Flora</td>
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<td>BIOL 340 Ecology</td>
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<td>BIOL 316 Plant Form and Function</td>
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<td>BIOL 306 Mammalogy or 304, 356</td>
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<tr>
<td>BIOL 405 Animal Behavior or 406</td>
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<tr>
<td>BIOL 410 Insect Biology</td>
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Requirements for a Minor

To earn a minor in biology, the student must complete a minimum of 25 credits in biology including BIOL 108N-109N, 110N, 221 and 223 and 8 credits in Biology at the 300-400 level. All courses must be taken for a traditional letter grade.

Courses

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

**Biology (BIOL)**

- **U 100N** The Science of Life 3 cr. Offered every term. Contemporary exploration of the organization and complexity of living organisms and the systems in which they live. The central question of biology—relationship between form and function, acquisition and use of energy, and continuity between generations will be addressed through lectures and laboratory investigations. Credit not allowed toward a major in biology. Credit not allowed for both BIOL 100N and 110N.

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

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

- **U 108N** Diversity of Life 3 cr. Offered autumn and summer. Survey of the diversity, evolution and ecology of life including prokaryotes, viruses, protista, fungi, plants and animals. U 108N Diversity of Life Laboratory 2 cr. Offered autumn and summer. Coreq., BIOL 108N. The diversity of life including prokaryotes, viruses, protista, fungi, plants and animals including structure and evolutionary relationships.

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

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

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

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

- **U 121N** Introductory Ecology 3 cr. Offered autumn. An introduction to ecological principles, stressing the structure and function of natural communities and examining human's role in these ecosystems.

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

- **U 198** Internship Variable cr. Offered intermittently. Prereq., consent of Division. Extended classroom experience that provides...
practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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

U 221 Cell and Molecular Biology 4 cr. Offered autumn. Prereq., BIOL 110N or equiv., and one year of college chemistry. Description and analysis of biological structures and processes at the cellular and subcellular levels including molecular genetics, energy, metabolism and cell differentiation.


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

U 265 Human Sexuality 3 cr. Offered autumn. Same as ANTH 201. Biological, behavioral, cross-cultural aspects of human sexuality. Sexual orientation and gender identity and if others in a broader perspective. Includes sexual anatomy, physiology, development, reproduction, diseases, determination, as well as gender development and current issues.

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

U 298 Internship Variable cr. Offered intermittently. Prereq., consent of Division. Extended classroom experience through participation in the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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


UG 312 Anatomy and Physiology II 4 cr. Offered autumn. Prereq., or coreq., CHEM 151N or CHEM 161N; BIOL 110N or BIOL 112 or BIOL 113. Introduction to basic cellular structure and function. The fundamental facts and concepts of the anatomy and physiology of the invertebrates, 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 endocrine, 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 any major requirements.


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

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


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

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

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 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 I-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 MIB 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 402 Vertebrate Design and Evolution 5 cr. Offered autumn. Prereq., BIOL 108N, 109N and 223 and PHYS 121N or 221N. Evolutionary patterns of animal morphology and the importance of body size on life history patterns. Phylogenetic study of major extant and extinct vertebrate groups. Laboratory includes systematic study of organ systems and workshops in experimental functional morphology.

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

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


UG 410 Insect Biology 4 cr. Offered spring. Prereq., BIOL 108N, 109N and 223. The classification, morphology, anatomy, development, life-history, behavior and ecology of insects. Labs include identification of major insect groups, internal and external anatomy and student collections.

UG 415 Field Methods in Fisheries Biology and Management 1-4 cr. Offered 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 3 cr. Offered spring. Prereq., BIOL 108N-109N, 120N or 316. The chemical and physical basis of water relations, photosynthesis, mineral nutrition, respiration, vegetative and reproductive growth of plants.

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


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

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

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

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

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

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

UG 454 Stream Ecology 3 cr. Offered summers only at Flathead Lake Biological Station. Prereq., BIOL 342 or 340/341, CHEM 151N. The biota and biogeochemical processes of running waters with unifying principles and contemporary research approaches.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

U 498 Internship 1-6 cr. Offered intermittently. Prereq., consent of the Division. Extended classroom experience that provides practical application of learning during placement off campus. Prior approval must be obtained from the faculty supervisor and 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 oral or poster presentation at the Biological Sciences Undergraduate Research Symposium or a scientific meeting. Graded credit/no credit

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

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

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

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

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

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

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

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

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

Michael Minnick (Professor of Biological Sciences), Advisor

Medical Technology (clinical laboratory sciences) 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, bacteriological 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 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 a 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. After completing the internship and passing the Registry examination, the student receives a diploma from the Board of Registry with the professional designation of Medical Technologist M.T. (ASCP).

The University of Montana 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 if desired. Student who choose the 4+1 curriculum must successfully complete one of MICB 404, 418, 419, 420, or 421 or complete three courses selected from MICB 410, 411, 412, or 415.

First Year
CHEM 161N-162N College Chemistry and Laboratory ........................................ 5 5
+MATH 150 Applied Calculus .......................................................... 4 5
+ENEX 101 Composition ................................................................. 3 -
General Education ........................................................................... 3 9
Electives ......................................................................................... 1 -
Total ................................................................................................. 15 13

Second Year
BIOL 221 Cell and Molecular Biology .................................................. 4 -
BIOL 223 Genetics and Evolution ...................................................... 4 -
CHEM 221-222, 223-224 Organic Chemistry and Laboratory ........... 5 5
MICB 300-301 General Microbiology and Laboratory ...................... 5 -
Lower-Division Writing Course ......................................................... 3 -
General Education ........................................................................... 3 -
Elective ............................................................................................... 1 -
Total ................................................................................................. 15 13

Third Year
BIOL 312 Anatomy and Physiology ..................................................... 4 -
BIOL 380 Biochemistry ..................................................................... 4 -
BIOL 400 Parasitology ..................................................................... 2 -
MICB 410-411 Immunology and Laboratory ................................... 5 -
MICB 412-413 Medical Bacteriology and Laboratory ....................... 5 -
Upper-division elective ...................................................................... 1 -
General Education ........................................................................... 3 -
Elective ............................................................................................... 6 -
Total ................................................................................................. 15 15

Fourth Year
CHEM 341 Quantitative Analysis and Instrumental Methods .......... 4 -
MICB 309 Hematology ..................................................................... 3 -
MICB 406 Clinical Diagnosis ............................................................ 2 -
MICB 407 Clinical Diagnosis Laboratory ......................................... 1 -
MICB 420 Virology .......................................................................... 3 -
PHYS 121N-122N or 221N-222N General Physics ......................... 5 5

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 415.

Suggested Course of Study

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 or at the Montana Medical Laboratory Science Training Program) in cooperation with clinical sites located in Montana and the Midwest. Internship information is available online at the URL shown above. 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 leasing 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; MICB 309, 406-407 and PHYS 121N-122N. The 3+1 option also requires CLS 460, 461, 462, 463, 464, 465, 467, 468, 470, 471, 472, 473, 474, 475, 476, 477, 480, 481, 482, 483, and 485.

To meet the Upper-Division Writing Expectations of the Bachelor of Science in Medical Technology, students must successfully complete one of MICB 404, 418, 419, 420, or 421 or complete three courses selected from MICB 410, 411, 412, or 450.
<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tr>
<td><strong>First Year</strong></td>
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<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
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<tr>
<td>+ ENEX 101 Composition</td>
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<tr>
<td>+ MATH 150 Applied Calculus</td>
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<tr>
<td>General Education</td>
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<td>Electives</td>
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<td><strong>Second Year</strong></td>
<td></td>
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<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
<td>4</td>
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<tr>
<td>BIOL 222 Genetics and Evolution</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 312 Anatomy and Physiology I</td>
<td>4</td>
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<tr>
<td>CHEM 221, 223 Organic Chemistry and Laboratory</td>
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<tr>
<td>MICB 300-301 General Microbiology and Laboratory</td>
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<tr>
<td>Lower-division writing course</td>
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<tr>
<td>General Education</td>
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<td>Elective</td>
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<tr>
<td><strong>Third Year</strong></td>
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<tr>
<td>BIOC 380 Biochemistry</td>
<td>4</td>
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<tr>
<td>BIOL 400 Parasitology</td>
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<td>MICB 410-411 Immunology and Laboratory</td>
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<td>MICB 412-413 Medical Bacteriology and Laboratory</td>
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<tr>
<td>MICB 420 Virology</td>
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<td>General Education</td>
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<tr>
<td><strong>Summer</strong></td>
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<tr>
<td>CLS 460 Clinical Immunohematology</td>
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<tr>
<td>CLS 461 Clinical Chemistry Theory</td>
<td>2</td>
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<tr>
<td>CLS 462 Clinical Laboratory I</td>
<td>1</td>
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<tr>
<td>CLS 463 Clinical Hemostasis</td>
<td>2</td>
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<tr>
<td>CLS 465 Clinical Microscopy &amp; Urolanalysis</td>
<td>1</td>
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<tr>
<td>CLS 466 Clinical Body Fluids</td>
<td>2</td>
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<tr>
<td>CLS 467 Clinical Immunohematology Theory</td>
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<td>CLS 468 Clinical Microbiology &amp; Laboratory</td>
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<td><strong>Fourth Year</strong></td>
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<tr>
<td>CLS 470 Clinical Immunohematology II</td>
<td>2</td>
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<tr>
<td>CLS 471 Clinical Chemistry I</td>
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<td>CLS 472 Clinical Hematology I</td>
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<tr>
<td>CLS 473 Clinical Laboratory II</td>
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<td>CLS 474 Clinical Microbiology I</td>
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<td>CLS 475 Clinical Laboratory III</td>
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<tr>
<td>CLS 476 Clinical Immunology</td>
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<tr>
<td>CLS 477 Medical Mycology</td>
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<td>CLS 480 Clinical Laboratory Management</td>
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<td>CLS 481 Clinical Chemistry II</td>
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<td>CLS 482 Clinical Immunohematology III</td>
<td>2</td>
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<tr>
<td>CLS 483 Clinical Hematology II</td>
<td>3</td>
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<tr>
<td>CLS 485 Clinical Microbiology II</td>
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<tr>
<th>Courses</th>
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<tbody>
<tr>
<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>
<td>16</td>
</tr>
<tr>
<td>U 461 Clinical Chemistry Theory 2 cr. Offered summer. Prereq., consent of medical technology advisor. Overview of clinical chemistry theory, principles, procedures, and correlations. Topics include instrumentation, carbohydrates, proteins, lipids, enzymes, liver function, blood gases, electrolytes, renal function, endocrinology, therapeutic drug monitoring and toxicity.</td>
<td>16</td>
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<tr>
<td>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.</td>
<td>16</td>
</tr>
<tr>
<td>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.</td>
<td>16</td>
</tr>
<tr>
<td>U 464 Clinical Microscopy and Urolanalysis 2 cr. Offered summer. Prereq., consent of medical technology advisor. Theory, techniques and practice of routine urinalysis.</td>
<td>16</td>
</tr>
<tr>
<td>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.</td>
<td>16</td>
</tr>
<tr>
<td>U 467 Clinical Immunohematology Theory 1 cr. Offered summer. Prereq., consent of medical technology advisor.</td>
<td>16</td>
</tr>
<tr>
<td>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.</td>
<td>16</td>
</tr>
<tr>
<td>U 470 Clinical Immunohematology II 2 cr. Offered autumn. Prereq., consent of medical technology advisor. Techniques and modern transfusion practices at the clinical affiliate. Review of the basic and advanced information in blood banking with correlation between laboratory testing and patient care.</td>
<td>16</td>
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<tr>
<td>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.</td>
<td>16</td>
</tr>
<tr>
<td>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.</td>
<td>16</td>
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<tr>
<td>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.</td>
<td>16</td>
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<tr>
<td>U 474 Clinical Microbiology I 2 cr. Offered autumn. Prereq., consent of medical technology advisor. Techniques and practices in clinical microbiology at the clinical affiliate. Psychomotor skills, performance and understanding of the procedure methodologies, along with the relationship of test results to the patient disease/care.</td>
<td>16</td>
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<tr>
<td>U 475 Clinical Laboratory III 1 cr. Offered autumn.</td>
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</table>
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 with the environment and other organisms including 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; BIOC 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. In addition, choose at least 6 credits from: CHEM 341; CS 131; FOR 210N; GEOS 301, 382, 480; 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**

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<th>Course</th>
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<tr>
<td>BIOL 108N/109N Diversity of Life and Laboratory</td>
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<tr>
<td>BIOL 110N Principles of Biology</td>
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<td>CHEM 161N-162N, College Chemistry and Laboratory</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>MICB 309</td>
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**Second Year**

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<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
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<td>BIOL 223 Genetics &amp; Evolution</td>
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<td>CHEM 221-222, 223-224 Organic Chemistry and Laboratory</td>
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<td>MICB 300-301 General Microbiology and Laboratory</td>
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<tr>
<td>MICB 422, 450-451</td>
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<tr>
<td>MICB 430-301</td>
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<tr>
<td>Elective</td>
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</tbody>
</table>

**Third Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 481-482 or 380 and two upper-division</td>
<td>3</td>
</tr>
<tr>
<td>BIOL or MICB*</td>
<td>3</td>
</tr>
</tbody>
</table>

*Note: * Elective courses must be chosen from the major curriculum.
### Microbiology with Microbial Ecology Option

#### First Year

- **BIOL 100N-109N Diversity of Life**
- **BIOL 110N Principles of Biology**
- **CHEM 161N-162N, College Chemistry**
- **MICB 300-301 General Microbiology**
- **MICB 422 Microbial Diversity and Ecology**
- **MATH 241 Statistics**
- **ENEX 101 Composition**
- **Fourth Year Electives**

#### Second Year

- **BIOL 221 Cell and Molecular Biology**
- **CHEM 221-222, 223-224 Organic Chemistry and Laboratory**
- **MICB 300-301 General Microbiology and Laboratory**
- **Lower-Division Writing Course**
- **General Education**
- **Electives**

#### Third Year

- **BIOL 481-482 or 380 and two upper-division electives**
- **MICB or MICB**
- **CHEM 341 Quantitative Analysis and Instrumental Methods**
- **FOR 21N Introductory Soils +**
- **MICB 423 Applied and Environmental Microbiology +**
- **MICB 450-451 Microbial Physiology and Laboratory**
- **MICB 423 Applied and Environmental Microbiology**
- **Upper-Division elective**

#### Fourth Year

- **General Education**
- **Electives**

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### 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

- **UG 302 Medical Microbiology**
- **UG 307N Elementary Microbiology Laboratory**
- **UG 400 General Parasitology**
- **UG 401 General Parasitology Laboratory**
- **UG 405 Experimental Microbial Genetics**
- **UG 406 Clinical Diagnosis**
- **UG 407 Clinical Diagnosis Laboratory**
- **UG 410 Immunology**

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*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.*

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*Choose 6 credits from CHEM 341; CS 131; FOR 210N; GEOS 301; 382 or 480; MATH 153, 251, 444-447, 445-448; PHYS 122N.

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

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

UG 418 Fungal Biology 3 cr. Offered autumn even-numbered years. Prereq., BIOL 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 specialized lab Chytridiomycota), 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, community, including intimate associations with plants and animals. Surveys current methods for studying microbial diversity and ecology 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 the 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 and 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 add-numbered years. Prereq., MICB 420-421. Students are presented with research papers that have been pivotal to the understanding of important molecular or genetic concepts in virology.

G 520 Medical Parasitology 2 cr. Offered spring. Prereq., BIOL 400 or equiv. Offered alternate years. Epidemiology, pathology, immunology, diagnosis and treatment of protozoan and helminth parasites of humans. Stresses current advances in parasitology.

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

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

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

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

G 570 Introduction to Research 1 cr. (R-2) Offered autumn and spring. Prereq., graduate standing. Required course for biochemistry and microbiology graduate students. Instruction in basic research techniques, research equipment and reading in the relevant scientific literature. Students conduct research projects under faculty mentors of their choosing.

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

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

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

G 597 Research Variable cr. (R-18) Offered intermittently. Prereq., graduate standing, one semester residence.

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

G 699 Dissertation 1-10 cr. (R-20) Offered intermittently. Prereq., doctoral student in microbiology. Laboratory research for and preparation of a doctoral dissertation.
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 pre-professional courses. When selecting a major consider that your undergraduate years may be your last opportunity to pursue in depth a non-science subject of interest.

Professional schools are most concerned with the overall quality, scope and difficulty of undergraduate work and not the major.

Pre-professional 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

Ardi Kia, Advisor

The Central and Southwest Asian Studies Minor is available to all students. It consists of eighteen credits. Students selecting the minor are required to successfully complete HIST/ANTH/A.S. 106 and six credits in foundational Central and Southwest Asian Studies courses (200-level courses). Students must then complete nine credits of additional course work at the 300- or 400-level.

No language courses are required; however, students pursuing the minor are strongly encouraged to meet the University-wide general education foreign language competency requirement by completing at least the second semester of one of the following languages (100 level or higher): Chinese, Persian, Arabic, Turkish or Russian. Participation in a study-abroad program is strongly recommended.

Requirements for a Minor

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

a) AMTI 106 or ASI106 or HIST 106 The Silk Road 3 cr.

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

c) 9 cr. in approved 300 or 400-level Central and Southwest Asian Studies courses: ANTH 346 or /HIST/A.S. 345, ANTH/HIST 386H, ANTH/HIST 387, ANTH 462/HIST/A.S. 402, ANTH 461/HIST/A.S. 457, ANTH/A.S. 460/HIST 462.

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.
Mark S. Cracolice, Chair

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

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

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

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

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

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

Special Degree Requirements

All chemistry majors must use the traditional letter grade option in registering for their required science and mathematics courses. The beginning mathematics course for a particular student depends upon a placement examination administered by the Department of Mathematical Sciences. Students are reminded of the University requirements that 39 of the 120 credits presented for graduation must be at the 300 or higher level, and that at least a 2.00 GPA must be earned in all credits attempted in the major. In addition, courses taken to satisfy the requirements of the major or minor must be completed with a grade of C- or better.

Bachelor of Science (American Chemical Society Certified)

The courses required for the B.S. degree provide a solid education in chemistry for the professional chemist and in preparation for graduate work in most areas of chemistry. These requirements meet the latest certification standards of the American Chemical Society.

Course Credits
CHEM 161N-162N College Chemistry and Laboratory 10
CHEM 221-222 Organic Chemistry 6
CHEM 223 Organic Chemistry Laboratory 2
CHEM 264 Organic Chemistry Laboratory for Chemistry Majors (preferred) or 224 Organic Chemistry Laboratory 3
CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation) 3
CHEM 341 Quantitative Analysis & Instrumental Methods 4
CHEM 342 Instrumental Analysis & Physical Measurements 4
CHEM 371-372 Physical Chemistry I, II 8
CHEM 452-453 Inorganic Chemistry 6
BIOC 481 Biochemistry or equivalent 3
CHEM 455 Inorganic Chemistry Laboratory 2
Advanced Electives (from CHEM 395, 442, 445, 465, 495, 3 credits maximum of 497, or 3 credit maximum of 499, or with consent of chemistry advisor, from advanced courses in chemistry, physics, geology, biochemistry or mathematics) 3
Cognate courses:
CS 172 Computer Modeling (or similar computing experience with consent of chemistry advisor) 3
MATH 152-153 and 251 Calculus I, II, III 12
MATH 311 Ordinary Differential Equations and Systems or MATH 221 Linear Algebra 3
PHYS 221N-222N General Physics I and II 10
Modern foreign language 10
ENEX 101 3

At the time of graduation a recipient of this degree must have completed two semesters of one modern foreign language which, as a departmental requirement, may be taken credit/no credit.

Bachelor of Science with a major in Chemistry, Option in Biochemistry (American Chemical Society Certified)

The Chemistry B.S. degree with the option in biochemistry forms a solid base for advanced work in biochemistry including graduate school. These requirements meet the latest certification standards of the American Chemical Society.

Course Credits
CHEM 161N-162N College Chemistry and Laboratory 10
CHEM 221-222 Organic Chemistry 6
CHEM 223 Organic Chemistry Laboratory 2
CHEM 264 Organic Chemistry Laboratory for Chemistry Majors (preferred) or 224 Organic Chemistry Laboratory 3
CHEM 334 Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation) 3
CHEM 341 Quantitative Analysis & Instrumental Methods 4
CHEM 342 Instrumental Analysis & Physical Measurements 4
CHEM 371-372 Physical Chemistry I, II 8
CHEM 452-453 Inorganic Chemistry 6
BIOC 481-482 Biochemistry 6
BIOC 486 Biochemistry Research Laboratory or equivalent laboratory experience 3
BIOC 221 Cell and Molecular Biology 4
Advanced electives in chemistry or biochemistry (from CHEM 395, 442, 445, 455, 465, 495, 3 credits maximum of 497, 3 credit maximum of 499, or from suitable 300 or 400-level BIOC, BIOL, or MICB courses) 3
Cognate courses:
CS 172 Computer Modeling (or similar computing experience with approval of chemistry advisor) 3
MATH 152-153 and 251 Calculus I, II, III 12
PHYS 221N-222N (preferred) or 121N-122N General Physics I and II 10

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

Course Credits
CHEM 161N-162N College Chemistry and Laboratory 10
CHEM 221-222 Organic Chemistry 6
CHEM 223 Organic Chemistry Laboratory 2
CHEM 264 Organic Chemistry Laboratory for Chemistry Majors or 224 Organic Chemistry Laboratory 3
**Bachelor of Science with a major in Chemistry, Option in Environmental Chemistry**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
<td>10</td>
</tr>
<tr>
<td>CHEM 221-222 Organic Chemistry and Laboratory</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 223 Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 264 Organic Chemistry Laboratory for Chemistry Majors or 224 Organic Chemistry Laboratory for Chemistry Majors</td>
<td>3</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>BIOL 110N Principles of Biology or equivalent</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
<td>4</td>
</tr>
<tr>
<td>GEOS 100N General Geology and Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>GEOS 327 Geochemistry</td>
<td>3</td>
</tr>
<tr>
<td>Electives from CHEM 371, 372, 442, 445, 453, 455, 465, 466</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150 Applied Calculus or 152 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 158 Applied Differential Equations or 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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</table>

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

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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
<td>10</td>
</tr>
<tr>
<td>CHEM 221-222 Organic Chemistry</td>
<td>6</td>
</tr>
<tr>
<td>CHEM 223 Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>CHEM 264 Organic Chemistry Laboratory for Chemistry Majors</td>
<td>3</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>
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<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>
</tr>
<tr>
<td>GEOS 100N General Geology and Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>GEOS 327 Geochemistry</td>
<td>3</td>
</tr>
<tr>
<td>Electives from CHEM 371, 372, 442, 445, 453, 455, 465, 466</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150 Applied Calculus or 152 Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>MATH 158 Applied Differential Equations or 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>
</tr>
</tbody>
</table>
this degree obtain faculty advice in planning their program.

Course                  Credits
CHEM 161N-162N College Chemistry and Laboratory 10
CHEM 221-222 Organic Chemistry and Laboratory 6
CHEM 223 Organic Chemistry Laboratory 2
CHEM 264 Organic Chemistry Laboratory 3
CHEM 344 Chemistry Literature and Scientific Writing 3
CHEM 345 Quantitative Analysis & Instrumental Methods 4
CHEM 342 Instrumental Analysis & Physical Measurements 4
CHEM 371-372 Physical Chemistry 8
* Advanced electives 15

Cogitate courses:
CS 172 Introduction to Computer Modeling (or similar computing experience with approval of Chemistry advisor) 3
MATH 152, 153, 251 Calculus I, II and III 12
PHYS 221N-222N (preferred) or 121N-122N General Physics I and II 10
Modern Foreign Language 10
ENEX 101 Composition 3

*As preparation for teaching at the secondary level, students should elect CHEM 452, 453, and 485, 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 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, 221-222-223, 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)

First Year
CHEM 161N-162N College Chemistry A 5
CS 172 Computer Modeling 3
MATH 152-153 Calculus I, II 4
ENEX 101 Composition 3
Electives and General Education 2

Second Year
CHEM 221-222 Organic Chemistry 3
CHEM 223 Organic Chemistry Laboratory 2
CHEM 264 (or 224) Organic Chemistry Laboratory 3
MATH 251 Calculus III 4
MATH 311 Ordinary Differential Equations and Systems or MATH 221 Linear Algebra 3
PHYS 221N-222N General Physics 5
Electives and General Education 2

Third Year
CHEM 334 Chem Literature & Scientific Writing 3
CHEM 341 Quantitative Analysis & Instrumental Methods 4
CHEM 342 Instrumental Analysis and Physical Measurements 4
CHEM 371-372 Physical Chemistry I, II 4
Electives and General Education 2

Fourth Year
CHEM 452-453 Inorganic Chemistry 3
CHEM 455 Inorganic Chemistry Laboratory 2
BIOL 481 Biochemistry 3
Advanced CHEM elective 3
General Education 3

Total 17

For B.S. Degree, Option in Biological Chemistry

First Year
CHEM 161N-162N College Chemistry 5
MATH 150 Applied Calculus or 152 Calculus I 4
MATH 158 Applied Differential Equations or MATH 153 Calculus II 3
BIOL 110N Principles of Biology or equivalent 4
ENEX 101 Composition 3
Electives and General Education 4

Second Year
CHEM 221-222 Organic Chemistry 3
CHEM 223 Organic Chemistry Laboratory 2
CHEM 264 (or 224) Organic Chemistry Laboratory 3
PHYS 121N-122N or 221N-222N General Physics I and II 5
BIOL 221 Cell and Molecular Biology 4
Electives and General Education 3

Third Year
CHEM 334 Chem Literature & Scientific Writing 3
CHEM 341 Quantitative Analysis & Instrumental Methods 4
CHEM 342 Instrumental Analysis and Physical Measurements 4
CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry I 3
BIOL 223 Genetics and Evolution 4
MICB 300 General Microbiology 3
Electives and General Education 3

Fourth Year
BIOL 481-482 Biochemistry 3
CHEM 452 Inorganic Chemistry 3
Electives and General Education 9
Total 15

For B.S. Degree, Option in Environmental Chemistry
<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>First Year</td>
<td></td>
</tr>
<tr>
<td>CHEM 161N-162N College Chemistry</td>
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<tr>
<td>MATH 150 Applied Calculus or 152 Calculus I</td>
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<tr>
<td>MATH 158 Applied Differential Equations</td>
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<tr>
<td>or MATH 153 Calculus II</td>
<td>3-4</td>
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<tr>
<td>BIOL 110N Principles of Biology or equivalent</td>
<td>-</td>
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<tr>
<td>ENEX 101 Composition</td>
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<td>Electives and General Education</td>
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<td>14-15</td>
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<td>Second Year</td>
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<td>CHEM 221-222 Organic Chemistry</td>
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<tr>
<td>CHEM 223 Organic Chemistry Laboratory</td>
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<tr>
<td>CHEM 264 (or 224) Organic Chemistry</td>
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<tr>
<td>Laboratory</td>
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<tr>
<td>PHYS 121N-122N or 221N-222N General</td>
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<td>Physics I and II</td>
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<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>GEOS 100N-101N General Geology and Laboratory</td>
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<td>Third Year</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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<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>GEOS 327 Geochemistry</td>
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<td>Electives and General Education</td>
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<td>Fourth Year</td>
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<tr>
<td>BIOC 481 Biochemistry</td>
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<tr>
<td>CHEM 452 Inorganic Chemistry</td>
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<tr>
<td>CHEM 494 Undergraduate Chemistry Seminar</td>
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<td>MATH 444/447 Statistical Methods</td>
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<tr>
<td>For B.S. Degree, Option in Forensic Chemistry</td>
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<td>First Year</td>
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<tr>
<td>CHEM 161N-162N College Chemistry</td>
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<tr>
<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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<td>COMM 111A Public Speaking</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>CHEM 221-222 Organic Chemistry</td>
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<td>CHEM 223 and CHEM 264 (or 224) Organic Chemistry</td>
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<tr>
<td>PHYS 221N-222N Fundamentals of Physics with Calculus I and II</td>
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<td>BIOL 221 Cell and Molecular Biology</td>
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<td>SOC 230S Criminology</td>
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<td>ANTH 286N Survey of Forensic Science</td>
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<td>General Education</td>
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<td>Third Year</td>
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<tr>
<td>CHEM 334 Chem Literature &amp; Scientific Writing</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</td>
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<td>MATH 444/447 Statistical Methods</td>
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<td>SOC 235 Criminal Justice</td>
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<td>BIOC 481-2 Biochemistry</td>
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<tr>
<td>CHEM 452 Inorganic Chemistry</td>
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<td>CHEM 488/498 Forensic Research</td>
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<td>CHEM 489 Forensics Seminar</td>
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<td>First Year</td>
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<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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<tr>
<td>or MATH 153 Calculus II</td>
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<td>BIOL 110N Principles of Biology or equivalent</td>
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<td>CHEM 223 Organic Chemistry Laboratory</td>
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<td>CHEM 264 (or 224) Organic Chemistry</td>
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<td>PHYS 221N-222N General Physics</td>
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<td>CHEM 370-371 Applied Physical Chemistry or 371 Physical Chemistry I</td>
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<td>GEOS 327 Geochemistry</td>
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<td>PHAR 443-444 Pharmacology and Toxicology</td>
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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>MATH 251 Calculus III</td>
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<td>PHYS 221N-222N General Physics</td>
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<td>CHEM 342 Instrumental Analysis and Physical Measurements</td>
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CHEM 371-372 Physical Chemistry ............. 4 4
Advanced electives ................................ 3 3
General Education ................................ 6 6
Total ................................................ 17 17

Fourth Year
Advanced CHEM elective .......................... 3 3
General Education or elective .................... 3 -
Modern Foreign Language ....................... 5 5
Upper-division elective ............................ 6 6
Total ................................................ 17 14

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 two courses from one of the following groups:
(a) CHEM 342, 372, 442, 445, 452, 453, 465
(b) if the student's major does not require biochemistry, 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., "C-" or equiv. in CHEM 151N or consent of instr. Second semester of an introduction to general, inorganic, organic and biological chemistry.
U 153 General and Inorganic Chemistry Laboratory 1 cr. Offered autumn and spring. Prereq., Enrolled in the College of Technology ASRN program. Prereq. or coreq., CHEM 151 or equivalent. A laboratory course emphasizing inorganic chemistry, quantitative relations and synthesis of inorganic and organic compounds.
U 154N Organic and Biological Chemistry Laboratory 2 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 3 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., CHEM 152 or 453 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 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
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 Aquatic Chemistry 3 cr. Offered autumn odd-numbered years. Prereq., CHEM 341 or consent of instr. Application of chemical equilibria theory for understanding and modeling chemical processes in natural waters with an emphasis on spreadsheet computations. In depth examination of concepts such as pH, alkalinity, buffering, and solubility as they apply to natural waters.

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

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.

U 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 3 cr. Offered autumn, spring and summer. Prereq., consent of instr. Laboratory investigations and research on forensic chemistry topics under the direction of a faculty member.

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

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

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

G 544 Applied Spectroscopy 3 cr. Offered intermittently. Prereq., CHEM 342 or consent of instr. The function and application of optical (ultraviolet to infrared) chemical instrumentation. Specific topics include optics, light sources, detectors and a wide variety of spectrochemical methods with an emphasis on methods not typically covered in undergraduate instrumental analysis courses.

G 553 Inorganic Chemistry and Current Literature 4 cr. Offered spring. Prereq., CHEM 452. A survey of the elements including transition metal reaction mechanisms, redox chemistry, organometallic chemistry, bioinorganic chemistry. Oral and written presentations on primary literature.

G 561 Bioorganic Chemistry of Antibiotic and Natural Product Biosynthesis 3 cr. Offered intermittently. Prereq., one year of organic chemistry; preferred prereq. or coreq., biochemistry. Comprehensive study of the bioorganic chemistry of antibiotic and natural product production in bacteria, plants, and higher animals, focusing on polyketide, shikimate, alkaloid, terpene, and nitrogen-containing/non-alkaloid compounds. Natural product diversity, drug screening and dereplication, combinatorial biochemistry, and pathway manipulation to produce 'non-natural' natural products.

G 562 Organic Structure and Mechanism 3 cr. Offered intermittently. Prereq., one year of organic chemistry. Topics may include: stereochemistry, conformational analysis, aromaticity, transition state theory, isotope effects, solvent effects, substitution and elimination reactions, and mechanisms that involve carbocations, carbanions, radicals and carbenes as reactive intermediates.


G 564 Organic Reactions 3 cr. Offered intermittently. Prereq., one year of organic chemistry. Reactions such as alkylation of nucleophilic carbons, reactions of carbon nucleophiles with carbonyl groups, functional group interconversions by nucleophilic substitution reactions, electrophilic additions to carbon-carbon multiple bonds, and select oxidations/reductions.

G 566 FT-NMR Operation for Graduate Researchers 1 cr. Offered intermittently. Prereq., CHEM 221-223; research project using NMR; consent of instr. Operation of the FT-NMR
spectrometer and brief background of NMR spectroscopy.

G 568 Organometallic Chemistry 3 cr. Offered intermittently in autumn. Prereq., CHEM 221, 222, 452, 453. Survey of the reactivity and structure of main group and transition metal organometallic compounds with an emphasis on applications to organic synthesis and catalysis.

G 569 Medicinal Chemistry 3 cr. Offered intermittently. Prereq., CHEM 221, 222; BI OC 380 or equiv. Same as BMED 621. Introduction to the historical and contemporary discoveries in medicinal chemistry.

G 573 Advanced Physical Chemistry 3 cr. Offered autumn. Prereq., CHEM 371-372. Fundamental principles of physical chemistry and special applications.

G 580 Advanced Graduate Student Research Seminars 1 cr. (R-10) Offered every term. Prereq., consent of instr. Formal oral and written presentations of research results and selected literature topics in a designated area.

G 581 Chemical Biology 3 cr. Offered intermittently. Prereq., consent of instr. Synthesis and structure of native and modified biomolecules such as antisense phosphorothioate oligonucleotides, modified nucleosides and nucleotides designed for antiviral activity, and PNA (protein nucleic acids). Emphasis on the interaction of biomolecules and "small" organic and inorganic molecules and their chemical impact on native structure and function.

G 593 Professional Project 3 cr. Offered autumn and spring. Prereq., consent of instr.

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

G 596 Independent Study Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

G 597 Research Variable cr. (R-open) Offered autumn and spring. Prereq., consent of instr.

G 598 Cooperative Education Experience Variable cr. (R-8) Offered autumn and spring. Prereq., consent of department. Extended non-classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Thesis Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr.

G 630 Seminar 1 cr. (R-open) Offered autumn and spring. Prereq., graduate standing in chemistry or biochemistry, or consent of instr.

G 640 Introductory Graduate Seminar 1 cr. (R-open) Offered autumn. Prereq., graduate standing in chemistry or biochemistry or consent of instr. Seminar to acquaint new graduate students with departmental research.

G 650 Graduate Chemistry Seminar 1 cr. (R-open) Offered spring. Prereq., graduate standing.

G 697 Research Variable cr. (R-open) Offered autumn and spring. Prereq., consent of instr.

G 699 Dissertation Variable cr. (R-10) Offered autumn and spring.

Faculty

Professors

Bruce E. Bowler, Ph.D., Massachusetts Institute of Technology, 1986
Mark S. Cracolice, Ph.D., University of Oklahoma, 1994
Michael D. DeGrandpre, Ph.D., University of Washington, 1990
Donald E. Kiely, Ph.D., University of Connecticut, 1965
Edward Rosenberg, Ph.D., Cornell University, 1970
J.B.A. (Sandy) Ross, Ph.D., University of Washington, 1976
Garon C. Smith, Ph.D., Colorado School of Mines, 1983
Edward E. Waali, Ph.D., University of Wyoming, 1970

Associate Professors

Christopher P. Palmer, Ph.D., University of Arizona, 1991
Nigel D. Priestley, Ph.D., Southampton University, 1991
Kent Sugden, Ph.D., Montana State University, 1992
Trina J. Valencich, Ph.D., University of California, Irvine, 1974 (Adjunct)

Assistant Professors

Klara Briknarova, Ph.D., Carnegie Mellon University, 1999
Xi Chu, Ph.D., University of Kansas, 2001

Lecturer

Holly A. Thompson, Ph.D., Kansas State University, 1982

Research Associate Professors

William R. Laws, Ph.D., The Johns Hopkins University, 1977
Robert Yokelson, Ph.D., Yale University, 1991

Research Assistant Professors

Earle R. Adams, Ph.D., Montana State University, 1994
Ted J. Christian, Ph.D., The University of Montana, 1999
Brooke D. Martin, Ph.D., Dartmouth College, 1998

Emeritus Professors

James W. Cox, Ph.D., Montana State University, 1969
Ralph J. Fessenden, Ph.D., University of California, 1958
Richard J. Field, Ph.D., University of Rhode Island, 1968
R. Keith Osterheld, Ph.D., University of Illinois, 1950
Geoffrey N. Richards, Ph.D., D.Sc., University of Birmingham, 1964
Wayne P. Van Meter, Ph.D., University of Washington, 1959
George W. Woodbury, Jr., Ph.D., University of Minnesota, 1964
Department of Communication Studies

Betsy Bach, 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: knowledge and skills the student may acquire in each of these areas are important to working within organizations, helping professions and associated content areas (e.g., children, families, aging) is the human and family development minor.

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 complete COMM 111A and two other lower-division COMM courses.

Students who intend to major in communication courses 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 36 total communication credits with 18 of those credits in courses numbered 300 or above. A maximum of 6 credits in COMM 360 and a maximum of 6 credits in COMM 398 may count toward a major in communication studies. In addition, the following courses are required:

1. a course in statistics (does not count toward 35 credits in Communication)
Students may petition to count appropriate special topics or transfer courses upon recommendation of the student’s advisor. All courses should be selected in consultation with a faculty advisor. Students electing this option are encouraged to minor in Human and Family Development.

**Rhetoric and Public Discourse Option**

Students who elect to concentrate in rhetoric and public discourse must complete:

1. All the core requirements listed previously.
2. At least 4 courses from the following: COMM 241S (Persuasive Communication), 242 (Argumentation), 350 (Persuasive Speaking and Criticism), 377 (Rhetoric, Nature and Environmentalism), 379 (Consumption, Media, and the Environment), 380 (Gender and Communication), and 455 (Rhetorical Criticism and Theory), 480 (The Rhetorical Construction of “Woman”), and 481 (The Rhetoric of U.S. Women’s Activism).

3. At least 4 courses from the following: ENLT 120L, EVST 167H, 367, 420, 427E; HIST 152H, 301H, 335E, 357, 358, 362, 364, 370H, 371H; PHIL 210, 211, 226E, 429E, 471; PSC 150E, 341, 342, 352, 353, 355, 444, 461, 471 or 472; SOC 220, 225, 325, 340, 470 or 485.

Students may petition to count appropriate special topics or transfer courses upon recommendation of the student’s advisor. All courses should be selected in consultation with a faculty advisor.

**Suggested Course of Study**

### First Year

- **COMM 110S Introduction to Interpersonal Communication** 3 cr.
- **COMM 111A Introduction to Public Speaking** 3 cr.
- **COMM elective** 3 cr.
- **ENEX 101 Composition** 3 cr.
- **MATH 117 Probability and Linear Mathematics** 3 cr.
- **General Education** 6 cr.
- **Total** 15 cr.

### Second Year

- **COMM electives** 9 cr.
- **COMM 230 Organizational Communication** 3 cr.
- **COMM 250L Introduction to Rhetorical Theory** 3 cr.
- **MATH 241 or PSYC 220 or SOC 202** or **HHP 486** 3-4 cr.
- **General Education** 6 cr.
- **Electives** 2 cr.
- **Total** 16-17 cr.

### Third Year

- **COMM Writing course** 3 cr.
- **COMM 460 Communication Research Methods** 3 cr.
- **Upper-division COMM electives** 6 cr.
- **Upper-division electives** 12 cr.
- **Electives** 6 cr.
- **Total** 15 cr.

### Fourth Year

- **Upper-division COMM electives** 3 cr.
- **Upper-division electives** 9 cr.
- **Electives** 3 cr.
- **Total** 15 cr.

### Requirements for a Minor

To be admitted to the communication studies minor, a student must complete 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 non-communication minors. Pre-communication minors may enroll in 100- and 200-level courses only. Students must be fully admitted as communication studies minors to enroll in 300- and 400-level courses.

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

### Courses

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

#### Communication Studies (COMM)

- **U 110S Introduction to Interpersonal Communication** 3 cr. Offered yearly. An overview of the process of human communication with special emphasis on analyzing communication patterns and improving interpersonal communication skills.
- **U 111A Introduction to Public Speaking** 3 cr. Offered every term. Preparation, presentation, and criticism of speeches. Emphasis on the development of public speaking techniques through constructive criticism. Credit not allowed for both COMM 111A and COMM 160A.
- **U 131 American Sign Language I** 3 cr. Offered autumn. Focus on receptive and expressive discourse and the cultural features that shape the language. Vital aspects of language, deaf culture and community. Credit not allowed toward a major in minor in Communication Studies.
- **U 132 American Sign Language II** 3 cr. Offered spring. Prereq., COMM 131. Further study of American Sign Language, its grammar, syntax and cultural features. Development of competence and fluency in ASL. Credit not allowed toward a major or minor in Communication Studies.
- **U 173 Language Culture and Society** 3 cr. Offered yearly. Same as LING 173. A survey of the elements of language (structure, meaning, and sound) including language use in its social and cultural contexts.
- **U 195 Special Topics** Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
- **U 202S Nonverbal Communication** 3 cr. Offered yearly. Nonverbal code systems and how they function in human communication including gestures, facial expressions, personal space, and others.
- **U 220 Professional Communication** 3 cr. Offered intermittently. Principles and practices of effective interviewing in a variety of professional situations including screening of clients and job candidates, performance appraisal, and data-gathering. Advanced public speaking in professional contexts.
- **U 230S Organizational Communication** 3 cr. Offered yearly. Theory and research on communication in organizations. Focus on topics such as productivity, power, culture, socialization, technology and globalization covering a wide range of organizations including corporations, government, educational institutions, non-profit agencies and media organizations.
- **U 240S Communication in Small Groups** 3 cr. Offered autumn and spring. Theory and research related to communication patterns, cohesion, leadership, and decision making. Experiences provided in task oriented groups and field analyses of group processes provided.
- **U 241S Persuasive Communication** 3 cr. Offered yearly. The use of communication in attitude and behavior change as experienced in personal, organizational, and public contexts.
- **U 242 Argumentation** 3 cr. Offered autumn and spring. Prereq., sophomore standing. Development of argumentation skills and critical judgment in decision making and debate. Includes criticism, construction, presentation, and refutation of spoken and
written arguments.

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

U 251S International and Development Communication 3 cr.

Offered spring. International Communication is concerned with information exchange across national borders while Development Communication focuses on the historical, current, and prospective role of communication in social change, improving living conditions, and enhancing life prospects—mainly in developing countries.

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

U 295 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 311 Family Communication 3 cr. Offered yearly. Prereq., COMM 111A. An examination of communication in husband-wife, parent-child, and extended family relationships. Topics include intimacy, power, decision making, problem solving, identity formation, and interpersonal perception.

U 321 Introduction to Public Relations 3 cr. Offered yearly. The many uses of communication in the endeavor of public relations. Communication theories and models including interpersonal communication, organizational communication, and mass communication are applied to explore the internal and external communication behaviors associated with public relations.

U 322 Public Relations Writing 3 cr. Offered yearly. Prereq., COMM 321 recommended. Writing documents to create relationships between organizations and their public such as press releases, fact sheets, brochures, and speeches.

U 350 Persuasive Speaking and Criticism 3 cr. Offered yearly. Prereq., COMM 111A. The persuasive process through the criticism and creation of speeches and other rhetorical artifacts emphasizing the role persuasion plays in creating and shaping our culture.

U 360 Forensics/Honors 1-3 cr. (R-12) Offered every term. Prereq., COMM 111A or COMM 242 or equiv. Preparation and participation in competitive speech and debate, including British Parliamentary debate and National Individual Events Tournament (NIET) speeches. The team travels to regional competitions and hosts on-campus and intermural debates and speaking events. Up to 6 credits may apply toward a major or minor in communication studies.

U 377 Rhetoric, Nature and Environmentalism 3 cr. Offered every other year. Same as EVST 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.

U 379 Consumption, Media, and Environment 3 cr. Offered every other year. Same as EVST 379. Analyzes consumption as a communication practice, investigates discourses that promote consumption, and illuminates environmental impacts on consumption.

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

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

U 398 Internship Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 410S Communication in Personal Relationships 3 cr. Offered yearly. Prereq., COMM 110S. An examination of the functions, types, and historical context of close personal relationships with an in-depth study of the role of communication in friendships and romantic relations.

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

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

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

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

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

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

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

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

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

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

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

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

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

G 510 Seminar in Personal Relationships 3 cr. (R-6) Offered 
yearly. Prereq., consent of instr. Examines theory and research on 
the process and functions of communication in personal 
relationship contexts. Interdisciplinary reading illuminate 
the dynamics of communication in the development, maintenance, and 
interpersonal relationships, friendships, and family 
deterioration of romantic relationships.

G 511 Survey of Interpersonal Communication 3 cr. Offered 
every other year. Prereq., graduate standing in communication 
studies or consent of instr. Survey of theories and research in 
interpersonal communication including definitions of interpersonal 
communicative activities and events in personal relationships.

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

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

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

G 540 Seminar in Instructional Communication 3 cr. (R-6) 
Offered every other year. Prereq., consent of instr.

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

G 555 Seminar in Rhetorical Criticism and Theory 3 cr. 
Offered every other year. Introduction to contemporary issues in 
rhetorical criticism and theory. Topics include classical criticism, 
dramatism, close textual analysis, ideographic criticism, narrative 
criticism, feminist criticism, and postmodern criticism.

G 561 Qualitative Research Methods 3 cr. Offered every 
year. An emphasis on the philosophy and practice of qualitative 
research 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

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 our 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 (2.0 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, 221or 325, 225, and 341.

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

- **Science**: Students must take one of the sequences BIOL 108N-109N, 110N; CHEM 161N, 162N; or PHYS 211N/213N and 212N/214N. 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
  - FOR 201
  - GEOS 100N/101N, GEOS 202, GEOS 226
  - PHYS 221N, PHYS 222N, PHYS 341, PHYS 444

  *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.

- **Social Science, Humanities, Arts and Other Disciplines**: Students must take 30 credits in social science, humanities, arts or disciplines other than computer science, mathematics and science. The courses taken to meet the Writing/Communication requirement can also count towards this requirement.

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, 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, and two courses chosen from MATH 362, 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>1</td>
</tr>
<tr>
<td>CS 131-132 Fundamentals of Computer Science</td>
<td>3</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>4</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>3</td>
</tr>
</tbody>
</table>

**Second Year**

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

**Third Year**

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

**Fourth Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS 415E Computers, Ethics, and Society III</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>

**CS core courses at the 300- and 400-level may not always be offered in the sequence shown but will be offered every year.**

**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 data bases in the management and manipulation of electronic information.

**Computer Science:** To earn a minor in computer science the student must complete (with at least a "C-" in each course 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 177, and CS 181; with remaining courses selected from CS 131-132, CS 241-242, and 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 nonmathematical programs will be written by the student and run on a computer. (Two hours independent lab per week.) Credit not allowed for both CS 101 and CRT 121.

- **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 first term. 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 and spring. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc.; coreq., MAT 100D or consent of instr. CS 102 highly recommended as prereq. or coreq. Fundamental computer science concepts using the high level structured programming language, Java.

- **U 131 Fundamentals of Computer Science** 1 cr. Offered every term. Students planning to attend graduate school in computer science or the mathematical sciences should consult with their respective advisors.

- **U 242** 1 cr. Offered every term. 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** 1 cr. Offered early spring and summer. Prereq., computer programming experience in a language such as BASIC, Pascal, C, etc.; coreq., MAT 100D 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.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>U 171</td>
<td>Communicating Via Computers 3 cr. Offered every term.</td>
<td></td>
<td>Previous computer experience or consent of instr.</td>
</tr>
<tr>
<td>U 172</td>
<td>Introduction to Computer Modeling 3 cr. Offered every term.</td>
<td></td>
<td>Previous computer experience and MAT 100D or equiv. score on math placement test, or consent of instr.</td>
</tr>
<tr>
<td>U 177</td>
<td>Computer Modeling for Science Majors 3 cr. Offered spring.</td>
<td></td>
<td>Basic computer and spreadsheet literacy; coreq., MATH 150 or 152.</td>
</tr>
<tr>
<td>U 195</td>
<td>Special Topics Variable cr. (R-6) Offered intermittently.</td>
<td></td>
<td>Consent of instr.</td>
</tr>
<tr>
<td>U 196</td>
<td>Independent Study Variable cr. (R-6) Offered intermittently.</td>
<td></td>
<td>Consent of instr.</td>
</tr>
<tr>
<td>U 198</td>
<td>Internship Variable cr. Offered intermittently.</td>
<td></td>
<td>Consent of department.</td>
</tr>
<tr>
<td>U 201</td>
<td>Special Programming Languages 3 cr. (R-open) Offered intermittently.</td>
<td></td>
<td>Depends on specific language offered.</td>
</tr>
<tr>
<td>U 241</td>
<td>Data Structures 4 cr. Offered autumn.</td>
<td></td>
<td>Consent of instr. and of department.</td>
</tr>
<tr>
<td>U 242</td>
<td>Programming Languages 4 cr. Offered spring.</td>
<td></td>
<td>Consent of instr. and of department.</td>
</tr>
<tr>
<td>U 295</td>
<td>Special Topics Variable cr. (R-6) Offered intermittently.</td>
<td></td>
<td>Consent of instr. and of department.</td>
</tr>
<tr>
<td>U 296</td>
<td>Independent Study Variable cr. (R-6) Offered intermittently.</td>
<td></td>
<td>Consent of instr. and of department.</td>
</tr>
<tr>
<td>U 298</td>
<td>Internship Variable cr. Offered intermittently.</td>
<td></td>
<td>Consent of department.</td>
</tr>
<tr>
<td>U 332</td>
<td>Algorithms 3 cr. Offered autumn.</td>
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<td>Consent of instr. and of department.</td>
</tr>
<tr>
<td>U 344</td>
<td>Operating Systems 3 cr. Offered autumn.</td>
<td></td>
<td>Consent of instr. and of department.</td>
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<tr>
<td>U 346</td>
<td>Software Engineering 3 cr. Offered spring.</td>
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<td>Consent of instr. and of department.</td>
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<tr>
<td>U 395</td>
<td>Special Topics Variable cr. (R-6) Offered intermittently.</td>
<td></td>
<td>Consent of instr. and of department.</td>
</tr>
<tr>
<td>U 396</td>
<td>Independent Study Variable cr. (R-6) Offered intermittently.</td>
<td></td>
<td>Consent of instr. and of department.</td>
</tr>
<tr>
<td>U 397</td>
<td>Research Variable cr. (R-6) Offered intermittently.</td>
<td></td>
<td>Consent of instr. and of department.</td>
</tr>
<tr>
<td>U 398</td>
<td>Internship Variable cr. (R-3) Offered intermittently.</td>
<td></td>
<td>Consent of instr. and of department.</td>
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<tr>
<td>U 435</td>
<td>Web Programming 3 cr. Offered spring.</td>
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<tr>
<td>U 441</td>
<td>Advanced Programming: Theory and Practice I 3</td>
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<td>Consent of instr. and of department.</td>
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225 or testing and maintenance. 

**UG 442 Advanced Programming: Theory and Practice II** 3 cr. Offered spring. Prereq., CS 441. Design and implementation of a major software project in a group setting, with required documentation, presentation, installation, and approval by the instructor.


**UG 455 Artificial Intelligence** 3 cr. Offered intermittently. Prereq., CS 242 or consent of instr. Using the computer to solve problems that require intelligence. Representation of knowledge, search techniques, symbolic programming in LISP, expert systems.

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

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

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


**UG 486 Data Visualization** 3 cr. Offered intermittently. Prereq., MATH 152; programming experience; and junior, senior, or graduate status; or consent of instr. Visualization fundamentals and applications using special visualization software; formulation of 3-D empirical models; translation of 3-D models into graphical displays; time sequences and pseudo-animation; interactive versus presentation techniques; special techniques for video, CD and other media.


**UG 494 Undergraduate Seminar Variable** cr. (R-6) Offered intermittently. Prereq., consent of instr. Guidance in special work.

**UG 495 Special Topics Variable** cr. (R-6) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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

**UG 497 Research Variable** cr. (R-6) Offered intermittently. Prereq., consent of instr.

**UG 498 Internship Variable** cr. (R-3) Offered 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.

**UG 499 Senior Thesis/Project** 1-6 cr. (R-6) Offered every term. Prereq., consent of thesis/project director and chair of the Computer Science Department. Senior thesis for computer science majors and/or Watkins scholars.

**UG 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. Human computer interface issues as they relate to usability, process support, productivity, and organizational goals.

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

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

**UG 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 economies 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.


**UG 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.

**UG 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.

**UG 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 spring. Prereq., CS 241 or consent of instr. Principles of good design for interactive systems and web-based applications. User-centered design methods including requirements specification, low and high-fidelity prototyping, heuristic evaluation, cognitive walkthrough, predictive modeling, and usability testing. Advanced HCI research project. Credit not allowed for both CS 476 and 576.


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 seminar. Seminar on current research topics in computer science.

G 595 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., consent of exper. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offering of current topics.

G 596 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 597 Research Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 598 Internship Variable cr. (R-3) Offered intermittently. Prereq., consent of department. Business or government internship. Prior approval must be obtained from faculty supervisor and the Internship Services office. Only three credits applicable to computer science major or minor.

G 599 Thesis/Project Variable cr. (R-6) Offered every term. Prereq., consent of instr. Research for and preparation of the master thesis or professional paper.

Faculty

Professors
Ray Ford, Ph.D., University of Pittsburgh, 1980
Donald J. Morton, Jr., Ph.D., Louisiana State University, 1994
Joel E. Henry, Ph.D., Virginia Polytechnic Institute and State University, 1993
Alden H. Wright, Ph.D., University of Wisconsin, 1969 (Chairman)

Associate Professors
Jesse V. Johnson, Ph.D., University of Maine, Orono, 2002
Yolanda J. Reimer, Ph.D., University of Oregon, 2002

Assistant Professors
Min Chen, Ph.D., Florida International University, Miami, 2007
Changwon Yoo, Ph.D., University of Pittsburgh, 2002

Lecturer
Mike O’Conner, M.S., The University of Montana, 1996

Emeritus Professors
Robert P. Banaugh, Ph.D., University of California, 1962
Spencer L. Manlove, M.S., San Jose State University, 1959
James Ulrich, Ph.D., Southern Illinois University, 1969

Emeritus Associate Professor
Jerry D. Esmay, M.S., University of Texas, El Paso, 1971
Gene F. Schiedermayer, M.S., Southern Methodist University, 1971

Research Professor
David W. Opitz, Ph.D., University of Wisconsin, Madison, 1995

Department of Economics

Douglas Dalenberg, Chairman

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

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

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

Special Degree Requirements

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

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

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

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

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

Teacher Preparation in Economics

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

Suggested Course of Study

First Year
- ECON 111S, 112S Introduction to Economics ............. 3 3
- ENEX 101 Composition .................................. 3
- MATH 117 Probability and Linear Math .................... 3
- MATH 150 Applied Calculus .............................. 4
- Electives and General Education ........................ 6 8
- Credit: 15 15

Second Year
- ECON 311 Intermediate Microeconomics ................. 3
- ECON 313 Intermediate Macroeconomics ................. 3
- MATH 241 Statistics 1 .................................. 4
- Upper-division economics elective ........................ 3
- Electives and General Education ........................ 8 9
- Credit: 15 15

Third Year
- ECON 460 Econometrics ................................ 4
- Upper-division economics electives ........................ 3 3
- Electives & General Education ............................ 8 12
- Credit: 15 15

Fourth Year
- ECON 487 Senior Seminar ................................ 2
- ECON 488 Research Methods & Thesis Design .......... 2
- ECON 489 Senior Thesis .................................. 2
- Upper-division economics elective ........................ 3 3
- Electives & General Education ............................ 10 8
- Credit: 15 15

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, UG = for undergraduate or graduate credit, R = 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 mechanism as a social decision-making device to guide the use of a nation's resources. The limitations of these processes in the light of current economic problems such as the rise of the large corporation, monopoly, environmental degradation, economic discrimination and the increasing role of the government.

U 111S Introduction to Microeconomics 3 cr. Offered every term. The nature of a market economy, economic decisions of the household and firm, competition and monopoly, value and price determination, distribution of income and applied microeconomic topics.

U 112S Introduction to Macroeconomics 3 cr. Offered every term. Prereq., ECON 111S. The determination of the level of national economic activity, inflation, economic instability, the role of money and financial institutions, and selected topics in public economic policy.

U 195 Special Topics Variable cr. (R-5) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.


UG 305 Public Finance: Taxation 3 cr. Offered spring. Prereq., ECON 111S and 112S. Tax incidence; economic effects of alternative tax policies at the federal, state, and local levels. 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 and 112S. A survey of economic ideas from antiquity through the present.

UG 317 Money and Banking 3 cr. Offered intermittently. Prereq., ECON 111S and 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 330 Health Economics 3 cr. Offered intermittently. Prereq., economics course. Survey of market forces that govern the production and consumption of medical care in the U.S. market; uncertainty, asymmetric information, and concentrations of market power resulting in inefficient outcomes. Topics include cost escalations, role of medical insurance, and problems of an aging population.


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

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


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

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

U 396 Independent Study Variable cr. (R-9) Offered intermittently. Prereq., six credits in economics and consent of instr.

UG 398 Internship Variable cr. (R-6) Offered intermittently. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. The department will determine the number of credits to be earned for the experience based upon the activities outlined in the learning agreement. Prior approval must be obtained from the faculty supervisor and the Internship Services office. The department has determined that credit for this course cannot count in the 36 credit minimum requirement for the major. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 431 International Trade 3 cr. Offered intermittently. Prereq., ECON 311 or consent of instr. International trade; theory, policy, institutions, and issues. Analysis of comparative advantage and trade restrictions, negotiations, and agreements.

UG 440 Environmental Economics 3 cr. Offered intermittently. Prereq., ECON 111S, 112S. Same as 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 450 Advanced Topics in Economic Development 3 cr. Offered intermittently. Prereq., ECON 111S, ECON 350, or permission of instructor. Advanced treatment of the processes of economic growth and development in the less developed world.

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


UG 487 Senior Seminar in Economics 2 cr. Offered spring. Prereq., ECON 311, 313; six additional credits at the upper-division level; senior standing in economics. Capstone course for economics majors. Advanced topics in economic methodology, theory and/or public affairs.

U 488 Research Methods and Thesis Design 2 cr. Offered autumn. Prereq., senior standing, economics major. Development of senior thesis proposal; presentation of research topics and methods by economics faculty and seminar participants.

U 489 Senior Thesis 2 cr. Offered spring. Prereq., senior standing, economics major. Completion of senior thesis; presentation of results by seminar participants.

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

UG 497 Advanced Problems Variable cr. (R-15) Offered intermittently. Prereq., 12 credits in economics and consent of instr.

G 501 Graduate Research Variable cr. (R-6) Offered autumn and spring.


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


G 569 Empirical Research Design Variable cr. (R-6) Offered every term. Role and scope of empirical research. Planning and conduct of a research project.

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

G 596 Independent Study Variable cr. (R-9) Offered intermittently.

G 598 Internship Variable cr. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Thesis Variable cr. (R-9) Offered every term.

Faculty

Professors
Douglas Dalenberg, Chair, Ph.D., University of Oregon, 1987
John W. Duffield, Research Professor, Ph.D., Yale University, 1974
Richard D. Erb, Ph.D., Stanford University, 1967
Thomas M. Power, Ph.D., Princeton, 1971 (Chairman)
Kay Unger, Ph.D., Johns Hopkins University, 1974

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

Assistant Professors
Jeffrey T. Bookwalter, Ph.D., University of Utah, 1999
Amanda Dawsey, Ph.D., University of Maryland at College Park, 2001
Derek K. Kellenberg, Ph.D., University of Colorado, 2004
Ranjan Shrestha, Ph.D., Ohio State University, 2007

Emeritus Professors
Richard N. Barrett, Ph.D., University of Wisconsin, Madison, 1972
Ronald A. Dulaney, Ph.D., Columbia University, 1973
George B. Heliker, Ph.D., University of Michigan, 1954
John W. Duffield, Ph.D., Yale, 1973
Dennis J. O'Donnell, Ph.D., Pennsylvania State University, 1974
John G. Phouriades, Ph.D., University of Illinois, 1972
John H. Wicks, Ph.D., University of Illinois, 1962
Department of English

Casey Charles, Chair

The Department of English is among the oldest and most prestigious units at the University. In 1919, Rhodes Scholar H.G. Merriam inaugurated one of the first creative writing programs in the country, and now, almost a hundred years later, this department—which has employed writers and scholars such as Richard Hugo, Leslie Fiedler, William Kittredge and Patricia Goedicke—offers a B.A. and three graduate degrees in creative writing (M.F.A.), literature (M.A.), and teaching (M.A.T.).

On the undergraduate level, the department offers five options for English majors: 1) Literature; 2) Creative Writing; 3) English Teaching; 4) Film studies; and 5) Linguistics. In addition, students may pursue a general minor in English or minors in English teaching and Irish Studies. Students can also study expository writing and English as a Second Language.

Under the Literature option, students ground their study in the reading and examination of works through a series of historically based surveys as well as other core courses, covering the techniques of literary analysis, the application of literary theory, and finally the development of a research project in a senior seminar. Students also choose from electives that engage specific genres, authors, and periods, as well as different disciplines (e.g. Literature and the Environment) and literatures of diversity (e.g. Native American Literature). M.A. students select graduate seminars in American, British, and comparative literatures as well as other disciplines, their course work culminating in a research thesis. The literature emphasis imparts an understanding of not only the aesthetic richness of canonical and emerging literatures, but also 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 a student's experience.

The Creative Writing program is predicated on the model of the workshop, and focuses on three areas of study: poetry, fiction, and nonfiction. Undergraduates who select the creative writing option fulfill some of the same requirements as those in literature, while also participating in a series of small workshops at both the lower and upper division, gaining the techniques needed to craft poetry and/or prose that work towards artistic excellence. Graduate students pursuing an M.F.A. degree complete a series of writing workshops and seminars designed to develop their creative work and expand their understanding of literary technique. The Creative Writing program invites visiting writers to fill its Hugo and Kittredge fellowships, and also sponsors the literary magazine CutBank, now in its fourth decade of publishing works, of poetry, fiction and art.

The English Teaching program provides content knowledge, pedagogy, and professional experiences required for teaching literacy in a democratic society. Based on current research and best practices, the English Teaching program integrates the study of language, literature, and media, creating learning communities and supporting teachers as critical thinkers, creative problem solvers, and reflective practitioners. Students who successfully complete this option and the requirements from the School of Education receive a secondary teaching license (grades 5-12) in English. At the graduate level, the English Teaching program offers advanced theory and pedagogy courses for experienced teachers. The English Teaching Program is also the home of the Montana Writing Project, which is dedicated to improving the teaching and learning of writing at all grade levels.

In Film Studies, students receive a thorough introduction to the many facets of moving image culture, including a background in film history and aesthetics. In this interdisciplinary program, students are exposed to a broad array of national and international films, as well as filmic translations of well-known works of literature. Learning various approaches to film theory, students analyze film from a variety of theoretical perspectives and become critical viewers of what is now one of the most predominant forms of cultural representation.

In conjunction with the Linguistics Program, English also offers an option in English Linguistics. Students select one of two tracks: 1) general linguistics, which provides a background in both literature and linguistics, or 2) teaching English as a Second Language, which prepares students for the particular concerns of second-language acquisition while also providing a foundation in the study of literature.

The Department of English also offers an interdisciplinary minor in Irish Studies which provides students with access to instruction in the fields of Irish language, history, literature, and culture. This academic and artistic approach to Irish culture involves an interdisciplinary and inter-collegiate collaboration that brings together leading scholars in the humanities and the creative arts.

Through the administration of one or the core competency requirements of the University’s General Education curriculum, the Expository Writing or Composition program serves the entire student body by insuring that all students learn to write with clarity of thought and precision of language. Writing is understood as a skill, on that is improved by instructing students in the concerns of audience, organization, development, voice, diction, and grammar. Good writing also is related to cogent thinking, and the Expository Writing program—through both its general education requirement and its advanced courses—seek to integrate critical thinking within the production of skilled writing.

Admission Requirements

To be admitted to any option of the English major, a student must satisfy the following requirements:

1. Completion of 24 credits overall with a minimum GPA of 2.5 in the previous two terms or 24 credits.

2. Completion of at least nine credits in English (excluding ENEX-composition courses) with a minimum GPA of 2.5 and no grade lower than a C(2.00) in those courses.

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

Special Degree Requirements

For University graduation requirements, please consult Academic Policy and Procedures: Degree/Certification Requirement for Graduation in this catalog.

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, in some cases, Linguistics will count toward the 42-60 credit major requirement. WTS 100 and 101 do not count toward the major or minor.

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

3. English majors must take all of the courses required in one of the following options within the English major:

   A. Literature: 1). ENLT 201; 2). either ENLT 217 or ENLT 218; 3). two of the following courses: ENLT 219, ENLT 224, ENLT 225; 223L; 224L; 225L; 4). ENLT 301; 5). ENLT 320; 6). ENLT 401; 7) seven electives: at least one course must cover each
of the following four areas: a) Medieval through Early-Modern British literature, b) enlightenment through Romantic British literature, c) theory, d) diversity (categories a and b may be fulfilled at the following courses: ENLT 217, 218, 219, 224, 225; 4). Creative Writing majors must submit samples of their work to the instructors of individual classes. The week before advising begins in order to be considered for the next semester's work shops. Submission guidelines are posted in the English Department. English Department in LA 133.

C. English Teaching: For an endorsement in the extended major field of English: 1) Either ENLT 217 or 218; 2) Two of the following courses: ENLT 219, 224, 225; 3) One course chosen from ENLT 121, 201 or ENCR 211A; 4) ENLT 301; 5) ENLT 320; two additional 300-level ENLT courses, one of which concentrates in American literature, one with a diversity focus; 6) The following English Teaching courses: ENLI 465; ENT 439, 440, 441, 442; 7) Two elective courses from ENLI, ENCR, ENFM, ENEX (above 100 level), or ENIR (above 200 level); 8) secondary school teaching certification courses (see the School of Education). This program requires a minimum of 128 credits.

Students in the major English Teaching option must gain admission to Teacher Education and Student Teaching and meet the requirements for licensure as a secondary teacher.

D. Film Studies: 1). ENFM/LS 180, 181, 182, 186, 187, 188, 189; 2) Two of the following courses: ENLT 217, 218, 219, 224, 225; 3) ENLT 301; 4) ENFM 320; 5) Nine courses from the following: MAR 101, MCLG 222/LS 361, MCLG 338/LS 338, MCLG 358/LS 358, SPAN 359, ENFM 325/LS 336, ENFM/LS 381, PHIL 340, PHIL 444, NAS/ENFM 344, ENFM 381, or ENRT 442; 6) ENFM 427; 7) Two years of a foreign language is highly recommended.

E. English Linguistics: Students choose one of two corecula. General Linguistics: 1) ENLT 217; 2) Two courses from ENLT 218, 219, 224, 225; 3) ENLT 320; 4) either ENLT 349 or 350; 5) ENLT 465; 6) LING 470, 471, 472, 473, 474, and 476; 7) LING 489; 8) either LING 477 or 478; 9) Either LING 474 or 478; and 10) Two years of a foreign language; Teaching ESL: 1) ENLT 217; 2) Two of the following courses: ENLT 218, 219, 224, 225; 3) ENRT 440, 442; 4) ENLI 465; 6) LING 466, 470, 471, 472; 7) One course from LING 473, 475, 476; 8) Either LING 477 or 478; 9) LING 480, 481, 491; 10) one upper-division LING elective; and 11) Two years of a language.

Requirements for General Minor in English

At least nine courses in English excluding ENEX 100 (now WTS 100D) and 101, which must include 1) four courses chosen from ENLT 120, 121, 201, 217, 218, 219, 224, 225, 226; 2). ENLT 301; 3). ENLT 320. Additional credits must be ENLT/ENFM/ENCR/ENLI or ENIR courses numbered 300 or higher.

Minor Teaching Field of English: For an endorsement in the minor teaching field of English, a student must complete 1) Either ENLT 217 or 218; 2) Two of the following courses: ENLT 219, ENLT 224, or ENLT 225; 3) One course chosen from ENLT 121, ENCR 211, or ENLT 201; 4) ENLT 301; 5). ENLT 320; 6). Two additional 300 or 400 level ENLT courses, one of which concentrates in American literature, one with a diversity focus; 7) The following English Teaching courses: ENLI 465; ENT 439; EN 440; ENT 44; ENT 442; and 8). Secondary school teaching licensure courses. Students in the minor English Teaching option must gain admission to Teacher Education and Student Teaching and meet the requirements for licensure as a secondary teacher. (See the School of Education section of this catalog).

Minor in Irish Studies: For an endorsement in the field of Irish Studies, a student must complete at least six courses, including four from the required core courses, and two courses from the elective. A student must complete 2). ENIR 101; 2). ENIR 102; 3) HIST/IR 249; and 4). ENLT/ENIR 322, Irish and/or Northern Irish Literature (in English) or ENLT/ENIR 395, Special Topics in Irish Literature and Culture. A student wishing to begin the Irish Studies Minor must contact the Director of Irish Studies and complete the requisite paper work.

All students must meet the Upper Division Writing Requirement and pass the Writing Proficiency Assessment in keeping with the Academic Policy and Procedures in this catalog.

Sample Course of Study

<table>
<thead>
<tr>
<th>Year</th>
<th>Course Description</th>
<th>Credits</th>
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<tbody>
<tr>
<td>First Year</td>
<td>ENEX 101 Composition</td>
<td>3</td>
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<tr>
<td></td>
<td>ENLT 201 Intro to Literary Studies</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>ENLT 217 or 218 Survey</td>
<td>3</td>
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<tr>
<td></td>
<td>Foreign language</td>
<td>5</td>
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<td>Second Year</td>
<td>ENLT 219, 223, or 225 Survey</td>
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<td>ENLT 219, 224, 225 Survey</td>
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<td>ENLT 301 Applied Literary Criticism</td>
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<td>Third Year</td>
<td>ENLT 320 Shakespeare</td>
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Creative Writing Option

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<th>Year</th>
<th>Course Description</th>
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<td>First Year</td>
<td>ENEX 101/200 Composition</td>
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<tr>
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<td>ENCR 210A or 211A Introduction to Creative Writing</td>
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<td>ENLT 200-Level British Literature</td>
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<td>ENLT 200-level British or American Literature courses</td>
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<td>ENLT 217, 218, 219, 224, or 225</td>
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<td>ENLT 301 Applied Literary Criticism</td>
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<td>ENLT 320 Shakespeare</td>
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<td>ENLT/ENFM/ENIR 300-level course</td>
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<td>Fourth Year</td>
<td>ENCR 310A, 311A, or 312A</td>
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<td>ENCR 410, 411, or 412</td>
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### English Teaching Option

**First Year**
- ENEX 101 Composition ........................................ 3
- One of ENLT 121L, 201, or ENCR 211A .......................... 3
- ENLT 217 or 218 British Literature .............................. 3
- ENLT 224L or 225 American Literature .......................... 3
- General Education ............................................. 9
  - Electives/General Education ................................. 6
- Second Year
  - ENLT 219, 224, 225 American Literature ..................... 3
  - ENLT 301 Applied Literary Criticism .......................... 3
  - ENLT 320 Shakespeare ......................................... 3
  - English elective ............................................... 3
  - General Education and licensure requirements .................. 9
  - Electives/General Education ................................. 6
- Third Year
  - One 300- or 400-level ENLT course concentrating 3
  - in American literature ....................................... 3
  - One 300 of 400-level ENLT course with diversity 3
  - focus .......................................................... 3
  - ENT 439 Studies in Young Adult Literature .................... 3
  - ENLI 465 Structure and History of 3
  - English for Teachers ......................................... 3
  - ENT 440 Teaching Writing .................................... 3
  - English elective ............................................... 3
  - General Education and licensure requirements .................. 9
  - Certification requirement of C&I 494 Student 18
  - Teaching ...................................................... 14
  - Professional Portfolio ....................................... 18
- Fourth Year
  - ENT 441 Teaching Reading and Literature ..................... 3
  - ENT 442 Teaching Oral Language & Media Literacy .............. 3
  - General Education and licensure requirements ............... 12
  - Certification requirement of C&I 494 Student ................ 14
  - Electives/General Education ................................. 15

### Film Option

**First Year**
- ENEX 101 Composition ........................................ 3
  (3)
- ENFM/LS 180 Introduction to Film ................................ 3
- MAR 111A Fundamentals of Integrated Digital ............... 3
- Electives/General Education .................................. 4
- Foreign Language ............................................... 5
- Second Year
  - ENFM 227 Film as Literature, Literature as Film ........... 3
  - ENFM 327 National Cinema Course ............................. 3
  - Electives/General Education ................................ 6
  - Ele...
College of Arts and Sciences - Department of English - 89

Fourth Year
ENT 440 Teaching Writing ........................................ 15
ENT 442 Teaching Oral Language and Media .......................... 15
Literacy ........................................................................... 3
LING 466 Pedagogical Grammar .......................................... 3
LING 473S Language and Culture or 475 Linguistic Field Methods or 476 Child Language Acquisition .... 3
LING 481 ESL Professional ................................................ 3
LING 491 ESL Practicum .................................................... 1
Electives .......................................................................... 6

Irish Studies Minor
First or Second Year
ENIR 101 Introduction to Modern Irish ............................... 3
ENIR 102 Intermediate Modern Irish ................................. 3
Second Year
HIST/IR 249 The Irish and Irish Americans ..................... 3
Third Year
ENLT/IR 322 Irish and/or Northern Irish ......................... 3
Literature .......................................................................... 3
Electives .......................................................................... 3
Forth Year
Electives .......................................................................... 3

Requirements for a Minor
To earn a minor in English the student must complete the following requirements:
1. At least 27 credits in English, excluding ENEX 100 and 101.
2. Four courses chosen from ENLT 120L, 121L, 222L, 223L, 224L, 225L.
3. ENLT 301 and 320.
3. Nine additional credits in English numbered 300 or higher.

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

English As A Second Language (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 WTS 100 Base Composition 3 cr. Offered every term and administered by the College of Technology (see College of Technology, Department of Applied Arts and Sciences, Writing Studies in this catalog). Prereq., placement or referral. Designed for students who need instruction and practice integrating critical thinking, reading, and writing before entering the required first-year writing course. Grading A-F or NC (no credit). Credit does not count toward an associate of Arts of Baccalaureate.

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 200 Advanced Composition 3 cr. Offered autumn, spring, and summer semesters. Prereq., placement or C or better in ENEX 101. Developed for first year students with advanced writing ability and students who seek a lower-division writing course. Offers opportunities for instruction in rhetorical reading and writing, particularly the study and practice of written argumentation in different academic and civic contests.

U 300 Practicum: Tutoring Composition 1-3 cr. (R-6) Offered autumn and spring. Prereq., EN 440 and consent of instr. Limited to those who are tutoring students enrolled in ENEX 100.

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

U 398 Internship Variable cr. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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

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

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

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

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

Creative Writing (ENCW)
U 110L Montana Writers Live! 3 cr. (R-6) Offered autumn. Open to all majors. An introduction to Montana's practicing creative writers and their work through reading, live performances and discussion. Regional poets and prose writers will read from their work and lead class discussion. Students prepare questions developed from readings and criticism.

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

U 210A Introduction to Creative Writing: Fiction 3 cr.
Offered every term. An introductory writing workshop focused on the reading, discussion, and revision of students' short fiction. Students will also be introduced to models of fiction techniques. No prior experience in writing short fiction required.

U 211A Introduction to Creative Writing: Poetry 3 cr.
Offered every term. An introductory writing workshop focused on the reading, discussion, and revision of students' poems. Students also will be introduced to models of poetic techniques. No prior experience in writing poetry required.

U 310A Creative Writing: Fiction 3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. An intermediate fiction writing workshop. Students will be expected to finish 3 or 4 substantial stories for the course. Although some outside material will be considered, the primary emphasis will be analysis and discussion of student work. Students are expected to have done promising work in ENCR 210A.

U 311A Creative Writing: Poetry 3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. An intermediate workshop involving critical analysis of students' work-in-progress as well as reading and discussion of poems in an anthology. Numerous directed writing assignments, experiments, exercises focused on technical considerations like diction, rhythm, rhyme, and imagery.

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

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

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

U 398 Internship Variable cr. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements on and off campus. Prior approval must be obtained from the faculty supervisor. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 410 Advanced Creative Writing: Fiction Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. An advanced writing workshop in which student manuscripts are read and criticized. Rewriting of work already begun (in ENCR 310 classes) will be encouraged.

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

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

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 speciality. Each writer chooses the focus, reading list, and assignments for the course.

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

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

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

Film (ENFM)

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

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

UG 320 Shakespeare and Film 3 cr. Offered once a year. Prereq., ENLT 301 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities in relation to film.

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

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

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

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

Linguistics (ENLI)

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

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

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 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 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, genre, 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. Selecting, writing, re-writing, 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., teaching experience, or senior standing (3.0 GPA and petition) with consent of instr. Selecting, designing, and evaluating informal and formal assessments in English Language Arts. Exploration of portfolios as assessment strategies that align curriculum and instruction. Focus on content and performance standards, evaluation criteria and rubrics, and role of reflection in teaching and learning.

G 550 Montana Writing Project 9 cr. Offered summer. Prereq., special application and consent of director. Intensive, four-week program designed to increase the effectiveness of the teaching and learning of writing in all levels of education in Montana. For graduate students, K-12 teachers in all content disciplines and university level educators.

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

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

G 553 Niitsitapii Ways of Knowing and Teaching: An Institute for Writing, Reading, Inquiry and Reflection 7cr.

Offered summer at Blackfeet Community College. Focus is on writing across the curriculum in the context of participants' teaching assignments alongside the essential component of Niitsitapii (Blackfeet) culture and ways of knowing. Participants develop a theoretical articulation of what it means to write in their disciplinary area(s) of endorsement and with predominantly Blackfeet students. Participants design and critique writing curriculum and instruction in their disciplines with attention to theory and research on writing in the content areas and Blackfeet ways of knowing.

G 593 Professional Paper (Teacher) Variable cr. (R-4)

Offered autumn and spring. Pedagogical paper for the Master of Arts (Teacher Option). Credit not allowed toward any other degree.

G 595 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., teaching experience or senior standing (3.0 GPA and petition) with consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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

G 598 Internship Variable cr. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

Literature (ENLT)

U 120L Introduction to Critical Interpretation 3 cr. Offered every term. Study of how readers make meaning of texts and how texts influence readers. Emphasis on interpreting literary texts: close reading, critical analysis and effective writing.

U 121L Introduction to Poetry 3 cr. Offered every term. An introduction to the techniques of reading and writing about poetry with emphasis on the lyric and other shorter forms.

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

U 201L Introduction to Literary Studies 3 cr. Offered every term. Introduction to the field of literary studies, to the literature option for English majors, and to the conventions of literary analysis. Reading, writing, and research skills will be stressed, along with interpretive approaches to major genres within the field.

U 217L British Literature: Medieval to Renaissance 3 cr. Prereq. or coreq., ENLT 201. Offered every term. Representative texts from the Anglo-Saxon period through the Renaissance.

U 218L British Literature: Enlightenment to Romantic 3 cr. Prereq. or coreq., ENLT 201. Offered every term. Survey of British literature from the seventeenth through the eighteenth century.

U 219L British Literature: Victorian to Contemporary 3 cr. Prereq., or coreq., ENLT 201. Offered every term. Survey of British literature from the early nineteenth century to the present.

U 224L American Literature to 1865 3 cr. Offered every term. Representative texts from the pre-colonial period through the Civil War.

U 225L American Literature Since 1865 3 cr. Offered every term. Representative texts from the Civil War to the present.

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

U 301 Applied Literary Criticism 3 cr. Offered every term. Prereq. or coreq., 12 credits of lower-division ENLT courses. Study of various literary theories and their application to literary texts.

UG 320 Shakespeare 3 cr. Offered autumn and spring. Prereq., ENLT 301 or consent of instr. A survey of selected Shakespeare plays emphasizing close reading of the texts and consideration of their dramatic possibilities.

UG 321 Studies in a Major Author 3 cr. (R-9) Offered autumn and spring. Prereq., ENLT 301 or consent of instr. Intensive study of the life and works of one author writing in English (every two years, Chaucer, Milton, Faulkner, Joyce, Tennyson, Twain; less frequently, Conrad, Hemingway, Blake, Woolf, D.H. Lawrence, Welty).

UG 322 Studies in Literary History 3 cr. (R-9) Offered autumn and spring. Prereq., ENLT 301 or consent of instr. Study of influences on and innovations in the works of various authors within a particular literary historical period in England or America (every two years, British Renaissance, 18th century, Victorian, British Modern, American Puritanism, American Realism and Naturalism; less frequently, Medieval, 17th century).

UG 323 Studies in Literary Forms 3 cr. (R-9) Offered autumn and spring. Prereq., ENLT 301 or consent of instr. Same as LS 323. Reading of various authors from different literary periods and cultures working in the same mode of composition (every two years, Literature of Place, Modern Drama, 19th Century Fiction, 20th Century Fiction, Lyric Poetry, Science Fiction, Autobiography; less frequently, Travel Literature, Popular Fiction, Epic, Tragedy, Satire, Romance, Comedy).

UG 325 Studies in Literature and Other Disciplines 3 cr. (R-9) Offered autumn and spring. Prereq., nine credits in ENLT or LS or consent of instr. Same as LS 356. Selected works of literature studied in conjunction with works of art, music, religion, philosophy, or another discipline (e.g., Film and Literature, Modernism, Literature and Science, Bible as Literature, Song).

U 326 Doctors' Stories 3 cr. Offered autumn. Selected works by physician writers, exploring literary approaches to themes of illness and healing. Authors include Anton Chekhov, William Carlos Williams, Richard Selzer, Dannie Abse and others.

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

UG 329 Native American Literature 3 cr. Offered autumn. Prereq., three credits of lower-division ENLT courses and NAS 100H or 202L. Same as NAS 329. Selected readings from Native American literature with special emphasis on the literature of writers from the Rocky Mountain west.

U 331 Voices of the American Renaissance 3 cr. Offered alternate years. Prereq., ENLT 224L or 225L and ENLT 301 or consent of instr. Perspectives on antebellum Native American, African American, and gender issues. Study of the poetry of Walt Whitman and Emily Dickinson in light of these three perspectives.

U 333 Modern Poetry 3 cr. Offered alternate years. Prereq., ENLT 301 or consent of instr. 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 two or three major authors. Selected works by African-American authors. Course may define a narrowed focus such as poetry, women writers, etc.

U 338L *Montana Literature* 3 cr. Offered alternate years. Prereq., ENLT 224L or 225L. Examination of poems, stories, and novels by or about Montanans and the treatment and representation of race, place, class, gender, sexuality, and identity in Montana. Exploration of the myths and realities of Montana and 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. Study of poetry and prose of Milton.

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

U 357 *Victorian Literature and Culture* 3 cr. Offered alternate years. Survey of British Victorian literature from a cultural perspective, focusing on the connections between literary texts and their social-historical contexts.

U 358 *British Modernism* 3 cr. Offered alternate years. Prereq., ENLT 301 or consent of instr. Study of important literary ideas, genres, trends and movements. Credit not allowed for the same topic in more than one course numbered 430, LS 455, MCLG 440, or MCLG 494.

U 369 *Short Fiction* 3 cr. Offered alternate years. Prereq., ENLT 301 or consent of instructor. Study of selected short stories and novellas from mid-19th century to the present.

U 370 *Science Fiction* 3 cr. Offered alternate years. Prereq., ENLT 301 or completion of Perspective 6 or consent of instr. Study of the science fiction genre from its pulp magazine beginnings in the 1920s to the present.

U 371 *Literature and the Environment* 3 cr. Offered alternate years. Prereq., ENLT 224L or 225L and ENLT 301 or consent of instr. Study of major texts and issues in American nature writing.

U 372 *Gay and Lesbian Studies* 3 cr. Offered alternate years. Prereq., ENLT 301 or consent of instr. Same as WS 372. Review of the history of the gay and lesbian movement in the twentieth century as a basis for understanding the political, social, and sexual issues that influenced homoerotic cultural representation in plays, films, and novels.

U 373 *Topics in Postcolonial Literatures* 3 cr. Offered alternate years. Prereq., ENLT 224L or 225L and ENLT 301.

U 375L *Gender and Sexuality in 20th Century Fiction* 3 cr. Offered alternate years. Same as LS 375L. Major 20th century novels and short stories written in English in different parts of the world and how these texts explore changing concepts of gender and sexuality.

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

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

U 401 *Capstone Seminar in Literature* 3 cr. Offered autumn and spring. Prereq., ENLT 301 and nine credits in literature courses numbered 300. Required for completing the English literature option, this seminar will allow students to conduct advanced studies in literary figures and topics chosen by faculty to engage a broad range of interests. A long research paper is required.

UG 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 ELLT/NAS 329, or consent of instr. Study of texts that present a first-person story of an American Indian individual's life within historical and cultural contexts, with discussion of theories of autobiography.

UG 430 *Studies in Comparative Literature* 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Same as LS 455 and MCLG 440. The study of important literary ideas, genres, trends and movements. Credit not allowed for the same topic in more than one course numbered 430, LS 455, MCLG 440, or MCLG 494.

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

UG 496 *Independent Study* 1-3 cr. (R-9) Offered every term. Prereq., consent of instr. and chair, and junior or senior standing. Special projects in literature. Only one 496 may be taken per semester. Consent must be obtained prior to enrollment.

U 499 *Honors Thesis Variable* cr. (R-9) Offered intermittently. Prereq., consent of chair.

G 500 *Introduction to Graduate Studies* 3 cr. Offered autumn. Instruction in advanced literary and cultural theory, library and research skills, and academic genres.

G 520 *Seminar in British Literature* 3 cr. (R-9) Offered every autumn and spring. Prereq., consent of instructor. Topics will vary.

G 521 *Seminar in American Literature* 3 cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Topics will vary.
G 522 Seminar in Comparative Literature 3 cr. (R-9) Same as MCLG 522. Offered autumn and spring. Prereq., consent of instructor. Topics will vary.

G 524 Nature, Language and Politics 3 cr. Offered intermittently. Same as PHIL 506. Investigation of environmental, social and political thought from the perspective of contemporary language theory.

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

G 596 Graduate Independent Study Variable cr. (R-9) Offered every term. Prereq., consent of instr. and chair. Special projects in literature. Only one 596 permitted per semester. Consent must be obtained prior to enrollment.

G 598 Internship Variable cr. (R-9) Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Thesis Variable cr. (R-6) Offered every term.

Irish Studies (ENIR)

U101 Elementary Irish 1 3 cr. Offered autumn or spring. Same as IRSH 101. This course represents an introduction to modern Irish in both its spoken and written forms: basic principles of grammar and sentence structure are covered. Emphasis is placed on the application of these principles in every-day situations. The GenEd Foreign Language requirement can be fulfilled by successful completion of 101, 102 and 103.

U102 Elementary Irish II 3 cr. Offered autumn or spring. Same as IRSH 102. The primary objective of this course is to build on the foundations laid in Beginning Irish I. Students will expand their vocabulary with a special focus on verbs; they will also engage new themes that demand a corresponding increase in their store of nouns, adjectives, idioms and expressions. The GenEd Foreign Language requirement can be fulfilled by successful completion of 101, 102 and 103.

U103 Elementary Irish III 3 cr. Offered autumn or spring. Same as IRSH 103. The primary objective of this course is to build on the foundations laid in Beginning Irish I. Students will expand their vocabulary with a special focus on verbs; they will also engage new themes that demand a corresponding increase in their store of nouns, adjectives, idioms and expressions. The GenEd Foreign Language requirement can be fulfilled by successful completion of 101, 102 and 103.

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

UG 321 Studies in a Major Author: Joyce 3 cr. (R-9) Offered autumn and spring. Same as ENLT 321 when the topic is Joyce. Prereq., ENLT 301 or consent of instr. Intensive study of the life and works of one author writing in English (every two years; Chaucer, Milton, Faulkner, Joyce, Twain; less frequently, Conrad, Hemingway, Blake, Woolf, D.H. Lawrence, Welty).

UG 322 Studies in Literary History: Irish/Northern Irish Literature 3 cr. (R-9) Offered autumn and spring. Prereq., ENLT 301 or consent of instr. Study of influences on and innovations in the works of various authors within a particular literary historical period in England or America (every two years; British Renaissance, Age of Johnson, Romantic, Victorian, British Modern, American Puritanism to Transcendentalism, American Realism and Naturalism, American Romanticism; less frequently, Medieval, 17th century).

UG 325 Studies in Literature and Other Disciplines: Poetry and Partition 3 cr. (R-9) Offered autumn and spring. Prereq., nine credits in ENLT or LS or consent of instr. Same as ENLT 325 and LS 356. Selected works of literature studied in conjunction with works of art, music, religion, philosophy, or another discipline (every two years, Psychology and Literature, Film and Literature, The Poetry of Meditation; less frequently, British Art and Literature, Modernism, Literature and Science, Bible as Literature, Song).

U 345 Literature in the Irish Language 3 cr. Offered autumn or spring. This course acknowledges Irish as the oldest documented vernacular in Europe and its literature as a voice that is over 1500 years old. Examines the response of Gaelic Ireland to invasion, conquest, and colonization as articulated by its literature.

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

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

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

UG 430 Studies in Comparative Literature: Multicultural British Literature 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Same as ENLT 430, LS 455 and MCLG 440. The study of important literary ideas, genres, trends and movements. Credit not allowed for the same topic in more than one course numbered 430, LS 455, MCLG 440, or MCLG 494.

U 431 Senior Seminar in Literature: James Joyce 3 cr. Offered intermittently. Prereq., ENLT 301 and six credits in literature courses numbered 300 or higher or consent of instr. Advanced studies in literary figures and topics.

Professors
Kevin Canty, M.F.A., University of Arizona, 1993
Casey Charles, Ph.D., State University of New York, Buffalo, 1992 (Chair)
Beverly Ann Chin, Ph.D., University of Oregon, 1973
Phillip R. Fandozzi, Ph.D., University of Hawaii, 1974
John Glendening, Ph.D., Indiana University, 1992
Brady Harrison, Ph.D., University of Illinois, 1994
Christopher J. Knight, Ph.D., New York University, 1982
Michael W. McClintock, Ph.D., Cornell University, 1970
Deirdre McNameer, M.F.A., The University of Montana, 1987
Greg Pepe, M.F.A., University of Arizona, 1974

Associate Professors
Robert Baker, Ph.D., Cornell University, 1997
Jill Bergman, Ph.D., University of Illinois, 1999
Heather Bruce, Ph.D., University of Utah, 1997
Nancy Cook, Ph.D., State University of New York, Buffalo, 1991
Debra Magpie Earling, M.F.A., Cornell University, 1991
John Hunt, Ph.D., Stanford University, 1984
Kathleen M. Kane, Ph.D., University of Texas, 1997
Ashby Kinch, Ph.D., University of Michigan, 2000
Joanna Klink, Ph.D., The Johns Hopkins University, 2000
David L. Moore, Ph.D., University of Washington, 1994
Karen Volkman, M.F.A., Syracuse University, 1992

Assistant Professors
Rob Browning, Ph.D., Indiana University, 2004 (visiting)
Louise Economides, Ph.D., Indiana University, 2003
Lynn Itagaki, Ph.D., University of California at Los Angeles,
2004
  Eric Reimer, Ph.D., University of Oregon, 2002
  Kathleen J. Ryan, Ph.D., University of North Carolina, Greensboro, 2001

Lecturers
  Robert Pack, M.S., Columbia University, 1953 (Distinguished Senior Lecturer)
  Robert Stubblefield, M.F.A., University of Montana, 1994

Emeritus Professors
  Richard R. Adler, Ph.D., University of Illinois, 1971
  William Bevis, Ph.D., University of California, Berkeley, 1969
  Jesse Bier, Ph.D., Princeton University, 1956
  Bruce Bigley, Ph.D., Yale University, 1972
  Gerry Brenner, Ph.D., University of Washington, 1965
  Walter L. Brown, Ph.D., University of California
  Merrel D. Clubb, Jr., Ph.D., University of Michigan, 1953
  Earl Ganz, Ph.D., University of Utah, 1977
  Patricia Goedicke, M.A., Ohio University, 1965
  Robert B. Hausmann, Ph.D., University of Wisconsin, 1972
  William Kittredge, M.F.A., University of Iowa, 1969
  Michael W. McClintock, Ph.D., Cornell University, 1970
  Lois Welch, Ph.D., Occidental College, 1966

Emeritus Associate Professors
  Robert B. Johnstone, Ph.D., University of Washington, 1970
  Dexter Roberts, Ph.D. Stanford University, 1966
  Veronica J. Stewart, Ph.D., State University of New York, Stony Brook, 1990
Environmental Studies

Len Broberg, Director

The Environmental Studies Program (EVST) seeks to provide students with the literacy, skills and commitment needed to foster a healthy natural environment and to create a more sustainable, equitable, and peaceful world. To these ends, the EVST program educates and challenges students to become knowledgeable, motivated, and engaged in environmental affairs. We want our students to acquire the skills and awareness that will enable them to promote positive social change and to improve the environment and communities of Montana and thereby the lives of all Montanans. Our program is organized upon the following principles: 

-Environmental studies require an interdisciplinary approach that integrates the natural sciences, social sciences, and humanities.
- Creating solutions to environmental problems requires enterprise and performance as well as reflection; therefore, an effective environmental education generates thinkers who can do as well as doers who can think.
- It is important to provide both classroom and experiential learning opportunities in the arts and responsibilities of democratic citizenship, including communication, collaboration, and committed civic participation.
- Students should be co-creators of their educational experience.

High School Preparation: Students in high school who are planning to major in environmental studies should take their 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: BIO 101 or 102; CHEM 101N; MATH 241; and 3 credit NAS course from among the following: 100H, 201H, 202L, 231, 301E, 303E, 324H, 329, 341S, 342H or 410L. 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 Cameo 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 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.

Ecological Food and Farming: In addition to satisfying the general requirements for a degree in environmental studies, students desiring to focus in this area must complete: 6 supervised internship credits in the Program in Ecological Agriculture and Society (PEAS, EVST 390); EVST 430 (2 cr.); and EVST 450 (3 cr.). In addition, students must complete 9 credits of advisor-approved courses or internships. (Could include such courses as: FOR 210N, 362, 424; HHP 236N; PHAR 324; ANTH 387; ANTH 387; GEOG 405.)

Water Resources: In addition to satisfying the general requirements for a degree in environmental studies, students desiring an emphasis in water resources must complete 20 credits of advisor-approved courses or internships. These could include such courses as: BIO 308, 366, 408, 415, 453, 454; CHEM 442; GEOS 260, 301, 320, 327, 460, 480; FOR 210, 385, 386, 415, 455, 485. Note: Some of these courses require prerequisites not in the environmental studies core requirements. Students can also work with the UM Watershed Health Clinic.

Sustainability Studies: With this emphasis, students will increase their understanding of our earth’s limited capacity to support all forms of life and to provide for the needs of human society. Students will learn how to reduce our demands on the earth through increased resource efficiency and choosing simpler but more joyful lifestyles. Students have the opportunity to identify and develop more sustainable means of providing food, shelter, mobility and other necessities. The SS emphasis puts students into the community to learn and to innovate. Students pursuing this emphasis must complete 20 credits of advisor-approved courses or internships. These could include courses such as: sustainable Business & Energy Systems (EVST 295), Sustainable Energy & Sustainable Technology (EVST 494), Globalization (EVST 495), Consumption & Environment (EVST 377), PEAS Internship (EVST 390), Sustainable Agriculture Education Practicum (EVST 395), and the 195 & 295 special topics energy related courses offered by the College of Technology such as Energy Systems, Power Systems Technology, Energy Conservation and efficiency, Energy Technology Practicum, Solar and Wind Systems, Alternative Fuels, or Bioenergy and Other Renewable Energy Resources.

Suggested Course of Study

First Year

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<tr>
<th>Course Code</th>
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<td>EVST 167H</td>
<td>Nature and Society</td>
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<td>Probability and Linear Mathematics</td>
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<td>PHAR 324</td>
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<td>UNC 180</td>
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Second Year

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<td>EVST 201</td>
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### College of Arts and Sciences - Department of Environmental Studies

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<td>MATH 241 Statistics</td>
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<td>EVST 360 Applied Ecology</td>
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<td>EVST 377 Environmental Politics and Policies</td>
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<td>EVST 420 U.S. Environmental Management</td>
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### Requirements for a Minor

To earn a minor the student must complete 25 credits. The following courses must be completed: EVST 101N, 167H, 225 and one of these ecology courses: BIOL 121N, EVST 360, FOR 330, or BIOL 340. The remaining credits can be from any other upper-division EVST courses.

### Courses

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

#### Environmental Studies (EVST)

**U 101N Environmental Science 3 cr.** Offered autumn. Provides students with opportunities to use class knowledge to make a difference; helps students build all of the following: scientific literacy; skills in critical thinking, research and self-instruction; provides an understanding of the scientific basis of environmental issues, policies and laws; encourages habits of sustainable living, scientifically-informed, active participation in social decisions, and service to their community and to the earth.

**U 167H Nature and Society 3 cr.** Offered spring. The relationship between ideas about nature and the development of political and social ideas, institutions, and practices, primarily in western (Euro-American) society. Complements ethics offerings in philosophy aimed at environmental studies majors.

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

**U 201 Environmental Information Resources 3 cr.** Offered spring. Students learn how to find, evaluate and use existing information to increase understanding of environmental issues and resolve controversies. Students will: research a subject, using a variety of sources (referred literature, government sources, internet sources, interviews); evaluate sources critically; write a literature review and give an oral presentation on their topic. Focus is on critical thinking and dealing with the information explosion.

**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, examination of the social, 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 13 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 influence real life decisions about human interactions with the environment. Emphasizes the science of sustainability and the 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 379 and/or consent of instr. Writing workshop for the creation, critique, and revision of essays about the environment to include natural history, personal narrative, science interpretation, advocacy/editorial, place-based essay, and others. Examination of concepts, forms, and approaches to writing about environmental concerns, awareness and sensitivity. Reading and responding to published work, primarily from the perspective of technique and approach.

**U 377 Rhetoric, Nature and Environmentalism 3 cr.** Offered intermittently. Same as COMM 377. Survey of rhetorical texts that shape public understanding of nature and environmental issues. Analysis of a range of historical and contemporary environmental texts using theoretical concepts from the rhetorical tradition.

**U 379 Collaboration in Natural Resources Decisions 3 cr.** Offered intermittently. Same as FOR 379. RSCN 379. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.

**U 390 Supervised Internship PEAS 2 cr. (R-8) Offered every term.** Summer intensive, 6 cr. Students learn small scale sustainable vegetable farming in a hands-on work environment at the PEAS farm (15 minute bike ride from campus). Lectures, readings and reflection inform the work. Summer students also visit local farms on once-a-week field trips.
PEAS is repeatable, as the curriculum changes across the season, and students can attend any semester, though the 6 credit summer intensive course is the heart of the program. UG 470 Special Topics Variable cr. 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 governmental organizations or industry. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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

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., PHIL 200, 202, or 300. Same as PHIL 427E. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment. Issues parallel to those in EVST 327E, but considered from a more philosophically sophisticated perspective. Credit not allowed for both EVST/PHIL 327E and EVST/PHIL 427E.

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 432 The Human Role in Environmental Change. 3 cr. Offered autumn even-numbered years. Prereq., upper-division standing or graduate standing. Same as GEOG 432. A systematic examination of the ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.

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

UG 450 Food, Agriculture, and Environment 3 cr. Offered spring. Exploration of the premise that agricultural sustainability requires practices, policies, and social arrangements that balance concerns of environmental soundness, economic viability, and social justice among all sectors of society.

UG 460 Introduction to Alternative Energy 1 cr. Offered autumn, odd-numbered years. Survey of alternative technologies currently available to address energy problems and their environmental and economic impacts.

UG 465 Restoration Ecology 3 cr. Offered intermittently. Prereq., senior standing and a course in ecology. Same as FOR 465. Philosophy and practice of restoring damaged ecosystems. Restoration planning including improvement of degraded soils, site preparation for revegetation, and case studies.

UG 470 Appropriate Technology 1 cr (R-2) Offered autumn even-numbered years/spring odd-numbered years. Problem assessment, project design, fund-raising and implementation of technical resource issues at the PEAS farm to gain practical experience in small scale community development projects, creative problem solving, and working in groups.

UG 477S 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.

UG 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.

UG 496 Independent Study 1-6 cr. (R-6) Offered autumn and spring. Prereq., senior standing and consent of instr. Same as PHIL 496.

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 fall. 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 use 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
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. 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 Education 3 cr. Offered autumn. Prereq., college ecology course or consent of instr. Integrates watershed science, policy, planning, action and organizing. The science component develops an understanding of watershed connections, how to evaluate change and assess the condition of watersheds. The policy component explains the scientific basis of national, state and local laws, programs and agencies that affect watersheds. The planning and action component discusses how to develop a CPR (conservation/preservation/restoration) plan for a watershed and how to select actions likely to address problems without creating other problems. The organizing component covers how to help watershed communities make choices, resolve conflicts and build commitment for watershed conservation and find funding. Students work individually or in teams to assist Montana groups in developing watershed CPR plans, initiating monitoring projects, and/or conducting education projects. Students write two papers in connection with the class—one academic and suitable for publication; one aimed at a non-academic audience.

G 542 Transboundary Environmental Issues 3 cr. Offered intermittently in summer. 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. Examines sources, fate, and effects of pollutants on organisms and ecosystems; methods of measuring and predicting pollutant fate and effects, assessing and reducing risks, estimating ecosystem assimilation capacity; setting standards and restoring ecosystems damaged by pollution. Briefly examines some relevant laws and policies at the federal, state and local levels. Students write two papers, one academic, one applied, and present one orally. Students also provide a peer review of another student's paper.

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

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

G 560 Environmental Impact Analysis 3 cr. Offered spring odd-numbered years. Prereq., graduate standing in EVST or consent of instr. Covers legal and scientific aspects of the Environmental Impact Analysis (EIA) process. Students write two papers, one academic, one applied, on some aspect of EIA and give at least one presentation.

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 Civic 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 1 3 cr. Offered autumn. Prereq., graduate standing in EVST. Same as LAW 650. Philosophy and values underlying environmental regulation, basic introduction to administrative law, in-depth study of air and water pollution and the environmental policy acts.


G 565 Public Land and Resources Law 3 cr. Offered spring. Prereq., graduate standing in EVST and consent of instr. Same as LAW 654. Historical development of United States public land law, state-federal relations, and the roles of Congress, the executive and the courts; the law applying to specific public land resources: water, minerals, timber, range, and preservation.

G 566 Advanced Problems in Public Land and Resources Law 2 cr. Offered spring. Prereq., graduate standing in EVST and consent of instr. Same as LAW 619. Collaborative work on practical problems arising in public land and resources law and individual research and writing projects.

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

G 573 Environmental Writing 3 cr. Offered autumn. Prereq., graduate standing. Writing workshop designed to improve skills in writing in environmental controversies. Focus on the tasks, audiences, and tactics in specific controversies. The workshop concentrates on personal narrative, natural history, science interpretation, advocacy/argument, place-based essays. Includes analysis of published work from the perspective of technique and craft.

G 576 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) Spring and autumn, 2 cr.; Summer intensive, 3 cr. Students learn small scale sustainable vegetable farming in a hands-on work environment at the PEAS farm (15 minute bike ride from campus). Lectures, readings and reflection inform the work. Summer students also visit local farms on a once-a week filed trips. PEAS is repeatable, as the curriculum changes across the season, and students can attend any semester, though the 3 credit (grad level) summer intensive course is the heart of the program.

G 593 Professional Paper Variable cr. (R-6) Offered autumn and spring. Prereq., graduate standing in EVST.

G 594 Graduate Seminar 3 cr. (R-15) Offered autumn and spring. Prereq., graduate standing in EVST or consent of instr. In-depth analysis of a current environmental topic. Different topics offered each semester.

G 598 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
Department of Geography

Jeffrey Gritzner, 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 environment, the place of humans in it, and the resulting diversity of regions and places. Geographers study the physical earth by examining the interlocking systems of the natural environment, including climate, landforms, soils, and biota. Humans are studied by examining those diverse historical, cultural, social, economic, and political structures and processes which affect the location and spatial organization of population groups and their activities. Regions and places, whether described as nations, cities, ecological units, or landscapes, are studied by integrating and interpreting their physical and human relationships in an effort to better understand them and the problems that 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 Geographical Information Systems find professional opportunities in map-making and spatial analysis. No academic discipline offers a greater range of employment opportunities.

The Department of Geography maintains particular strengths in each of the following major branches within the discipline: 1) physical geography (geomorphology, palaeo-environments, climate and global change); 2) human-environment interaction (environmental rehabilitation, water policy, and environmental hazards); 3) geography and society (geography of towns and settlements, economic geography, and migration and population change); 4) regional geography (with particular strengths in the geography of North America, Africa, Asia, and Europe); 5) geographical techniques (remote sensing, cartography and GIS, transport planning and GIS-T, field methods, quantitative and qualitative method).

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

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

Special Degree Requirements

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

General Education Requirements for Geography Majors

Geography majors must meet the mathematical literacy requirement by taking MATH 117. Students obtaining a geography degree without an option, 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 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.

Faculty

Professors

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

Associate Professors

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

Assistant Professors

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

Vicki Watson, Ph.D., University of Wisconsin, 1981
Thomas M. Roy, M.A., University of Chicago, 1966
Fletcher Brown, Ph.D., Miami University, 1994
Neva Hassanein, Ph.D., University of Wisconsin, 1997
Robin Saha, Ph.D., University of Michigan, 2002
Daniel Spencer, Ph.D., Union Theological Seminary, New York, 1994, 1983
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, or in cartography and GIS also must meet the course requirements of the option (see below).

**General Geography**

The general geography degree (without option) is very flexible. In addition to meeting the core requirements for all geography majors, students may take a wide range of electives in geography (minimum 10, maximum 34 elective credits). Electives may be chosen from the fields of regional geography, geographic methods and techniques, or systematic geography (physical geography, human-environment interaction or geography and society).

**Physical Geography Option**

In addition to satisfying the general requirements for a degree in geography, a student pursuing the option in physical geography must complete a minimum of 24 additional credits as follows: six additional credits of upper-division coursework in physical geography, geology, hydrology, and/or ecology, and three credits of 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.

**Cartography and GIS Option**

In addition to satisfying the general requirements for a degree in geography, the student desiring to pursue 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.

**Certificate in GIS Sciences and Technologies**

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

**Teacher Preparation in Geography**

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

**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 chairman.

**International and Field Experience for Geographers**

Students obtaining a degree in geography are strongly encouraged to explore study-abroad options and field experiences. Geography credits obtained through approved studies abroad will be applied toward the geography degree. With approval of the student's advisor, additional credits obtained through studies abroad and field experiences may count toward geography electives.

**Suggested Course of Study**

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

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<tr>
<th>First Year</th>
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<tr>
<td>GEOG 101S Introduction to Human Geography</td>
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<td>GEOG 102N Introduction to Physical Geography</td>
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<td>GEOG 105 Geography Laboratory</td>
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<tr>
<td>MATH 100 Intermediate Algebra</td>
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<td>MATH 117 Probability and Linear Math</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>Total</td>
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**Second Year**

| GEOG 103S Geography of World Regions or other regional geography course | 3 |
| MATH 241 or 100-level foreign language | 0-5 | 3-5 |
| Electives and General Education | V | V |
| Total | 15 | 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, Physical Geography and Human-Environment Interaction | 3-6 | 3-6 |
| *Upper-division writing course | 3 |
| Electives including study abroad/internship | 2-5 | 6-9 |
| Total | 15 | 15 |

**Fourth Year**

| Electives including study abroad/internship/ senior thesis | 15 | 15 |
| Total | 15 | 15 |

**Geography with option in Physical Geography**

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<td>ENEX 101 Composition</td>
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<tr>
<td>GEOG 101S Introduction to Human Geography</td>
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<td>GEOG 102N Introduction to Physical Geography</td>
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<td>GEOG 105 Geography Laboratory</td>
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<td>MATH 117 Probability and Linear Math</td>
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<td>MATH 121 Precalculus</td>
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<tr>
<td>General Education and electives</td>
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<td>Total</td>
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<th>Second Year</th>
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<tr>
<td>GEOG 103S Geography of World Regions or</td>
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</table>
other regional geography course .......................... 3
MATH 150 Applied Calculus .............................. 4
MATH 241 Statistics ........................................ 3
Two 100-level science sequences ................. 6 6
General Education and electives .................. 5 3
Total ......................................................... 15 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 3
Upper-division courses in Physical Geography ... 3 3
Electives including study abroad/internship ...... 9 9
Total ......................................................... 15 15

Fourth Year
GEOG 487 and 489 Raster GIS and Laboratory ... 4
Upper-division course in Physical Geography .... 3
Electives including study abroad/internship ..... 8 15
Total ......................................................... 15 15

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 .................. 12 12
Total ......................................................... 15 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 3
Electives including study abroad/internship/ 
senior thesis .............................................. 5 12
Total ......................................................... 15 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 12
Total ......................................................... 15 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 7
Total ......................................................... 15 15

Requirements for the Certificate in GIS
Sciences and Technologies

To earn a certificate in GIS Sciences and Technologies, 
students must either complete or have completed an 
undergraduate degree and complete a minimum of 20 semester 
credit hours of course work, including 10 to 12 required credits 
and 8 to 10 elective credits as described below. Students must 
achieve at least an overall grade point average of 3.0 for 
courses within the program in order to earn a certificate. The 
certificate will be awarded upon the successful completion of 
all of the requirements of the certificate and the undergraduate 
degree.

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

Required Courses (10-12 cr):
FOR 303 Introduction to Geographic Information Systems, or
GEOG 387 Principles of Digital Cartography and GEOG
389 Digital Cartography Lab
FOR 351 Photogrammetry and Remote Sensing or GEOG 487
Remote Sensing, and Raster GIS and GEOG 489
Cartography/GIS Lab
GEOG 488 Thematic Cartography and GIS and GEOG 489
Cartography/GIS Lab
Elective Courses (8-10 cr):
Raster GIS, Remote Sensing, and Image Analysis
GEOG 387 Digital Image Analysis and Modeling and GEOG
389 Cartography/GIS Lab
FOR 551 Digital Image Processing
Vector GIS and Networks
GEOG 483 Transport Planning and GIS and GEOG 489
Cartography/GIS Lab
GEOG 580 Seminar in GIS and Cartography
GEOG 588 VECTOR GIS and GEOG 589 Cartography/GIS
Lab
Data Management and Collection
GEOG 486 Community and Regional Analysis and GEOG
489 Cartography/GIS Lab
FOR 505 Sampling Methods
GIS Applications
GEOG 385 Field Techniques
GEOS 495 GIS in Geology
GEOG 495 Planning Decision Support Systems
GEOG 564 Planning Design
FOR 503 GIS: methods and Applications I
FOR 504 GIS: Methods and Applications II
(Although elective courses are organized by topical specialty, 
no specialization is necessary)

Minor in Mountain Studies
Mountain studies is an interdisciplinary field of study focusing 
on the physical and human dimensions of mountain 
environments. Coursework in the minor emphasizes physical 
geography and mountain-society interactions, including a 
critical analysis of the processes of change and influence 
shaping local and regional mountain environments today. The 
minor in mountain studies takes advantage of existing faculty 
expertise and an array of courses to provide students with a 
science-based curriculum and global perspective. Students 
pursuing the minor in mountain studies will develop knowledge 
and skills appropriate for graduate study and for working with 
government and non-government agencies and groups.

Requirements
In addition to completing the requirements for a major in any 
discipline, students electing the minor in mountain studies must 
complete a minimum of 18 additional credits as follows:
1. Nine credits must be core courses:
   1. Nine credits must be core courses:
GEOG 138 Montana's Mountains (3 cr.)
GEOG 222 Global Mountain Environments (3 cr.)
GEOG 338 Mountains (3 cr.)
2. Six credits must be selected from the following list of upper-division advanced mountain studies courses:
- BIOL 350 Rocky Mountain Flora (3 cr.)
- BIOL 451 Landscape Ecology of Mountain Ecosystems (3 cr.)
- BIOL 450 Alpine Ecology (3 cr.)
- FOR 495 Montana Wilderness Field Studies in Winter (3 cr.)
- GEOG 310 Crown of the Continent (3 cr.)
- GEOG 401 Regionalism and the Rocky Mountain West (3 cr.)
- GEOG 438 Mountains Field Study (3 cr.)
- GEOG 425 Geology of the Pacific Northwest (3 cr.)
- GEOG 488 (Snow, Ice and Climate (3 cr.)

3. Three credits must be chosen from the following list of electives, or alternatively, from the advanced mountain studies course listing above:
- BIOL 201 Montana Wildlife (3 cr.)
- FOR 330 Forest Ecology (3 cr.)
- FOR 385 Watershed Hydrology (3 cr.)
- GEOG 295 Mountain Cultures & Economies (3 cr.)
- GEOG 324 Geomorphology (3 cr.)
- GEOG 426 Biogeography (3 cr.)
- GEOG 103 Volcanoes, Earthquakes, and Other Natural Hazards (3 cr.)
- GEOG 230 Field Methods and Maps (3 cr.)
- GEOG 395 Appropriate Topics (3 cr.)
- GEOG 430 Global Tectonics (3 cr.)
- RECM 482 Wilderness and Protected Area Management (3 cr.)

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 that 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 focuses upon the linkages between geography and society including analysis of regions, ethnic groups, urban landscapes, migration and population change, geopolitics, economics, and cultural differences.

U 102N Introduction to Physical Geography 3 cr. Offered autumn and spring. Prereq., MATH 100 or above, or appropriate score on mathematics placement examination. Introduction to the earth's major natural environmental systems, their spatial distribution and interrelationships, including weather and climate, vegetation and ecosystems, soils, landscapes, 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, graphs, aerial photos, imagery, and 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.

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 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 496 Independent Study Variable cr. (R-6) 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 geographical topic supervised by a faculty member, and leading to completion of the baccalaureate degree.

Physical Geography

U 222 Mountain Environments 3 cr. The study of mountain environments and their physical processes around the globe: Andes, Appalachians, East African Mountains, European Alps, Hindu Kush-Himalaya-Karakoram, Pamir, Rocky Mountains, Southern Alps of New Zealand, Tien Shan, and others. Topics include mountain building, alpine glaciers, mountain geomorphology and climatology, mountain watersheds, mountain biogeography, and mountain hazards such as earthquakes and mass movements.

U 322N Weather and Climate 3 cr. Offered autumn odd-numbered years. Prereq., GEOG 102N or consent of instr. Flowing, composition, structure, and dynamics of the atmosphere, gas and radiation laws, energy budget and balance, weather elements and North American weather systems.

U 324 Geomorphology 3 cr. Offered intermittently. Prereq., GEOG 102N or equiv. Important landforms and landscapes, their biophysical processes, and their formative elements.

U 442 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.

U 462N Biogeography 3 cr. Offered intermittently. Prereq., GEOG 102N or equiv. Changing patterns of plant and animal distributions in space and time. Combination of historical and ecological approaches to biological species and communities. Study of external causes of plant and animal distributions, especially climatic change and human impacts.

U 438 Mountains Field Study 3 cr. Prereq., junior or senior standing or graduate student. Examination of aspects of the study of mountain geography through a two-week field course based in a mountainous country and/or region. Possible areas of focus include, but are not limited to, the Northern Rocky Mountains, the Alps, the Himalaya, and the Andes.

U 425 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, soils, and other selected topics. Topic titles will appear in the Class Schedule.

G 538 Mountain Studies Seminar 3 cr. Offered intermittently. Prereq., consent of instr. In-depth treatment of the physical and cultural geography of mountainous regions, including attention to the theory and methodology of mountain geography.

**Human-Environment Interaction**

UG 333S Cultural Ecology 3 cr. Offered spring. Examines issues related to culture and the natural environment. Topics include cultural origins and diversity, geography of religion, geolinguistics, plant and animal domestication, livelihood systems, folk and popular culture, ethnic geography, political patterns, demography, industries, urban genesis, and the transformation of environmental systems.

U 335 Water Policy 3 cr. Offered autumn. 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 transcultural and transnational 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 and Society 3 cr. Offered autumn. Physical and cultural aspects of the mountains of North and South America, Europe, Africa, and 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 ways in which the major physical systems and ecosystems of the earth have been modified by human activity, and approaches to the rehabilitation of these systems.

UG 434 Food and Famine 3 cr. Offered autumn intermittently. Exploration of the production, distribution, and consumption of food; the causes and consequences of hunger; and measures that might be taken to relieve hunger.

UG 435 Environmental Hazards and Planning 3 cr. Offered spring. 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, including 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 within the context of patterns of rural settlement.

UG 415 Migration and Population Change 3 cr. Offered autumn odd-numbered years. Prereq., senior standing or graduate standing or consent of instr. Focus on internal migration and population change in the U.S., in particular in the Mountain West. Review of migration theories and empirical research; development of practical skills for conducting empirical research related to migration and population change.

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

G 515 Advanced Human Geography 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Advanced topics in cultural and historical geography, gender issues, migration and population change, economic geography, urban and settlement geography, and other selected topics. Topic titles will appear in the Class Schedule.

**Regional Geography**

U 138 Montana's Mountains 3 cr. Prereq., freshman or sophomore standing or consent of instructor. A field-based course offered during winter session in the winter splendor of the North Fork of the Flathead River and Glacier National Park. Topics addressed include physical geography, geology, winter ecology, national park management, environmental history, and the changing economy of the region.

U 201S Montana 3 cr. Offered autumn. The physical, cultural, economic, political, and historical geography of the state including Montana's mountains and the prairies.

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; prehistory; patterns of cultural and historical change; issues of socio-economic, religious, and political diversity; and the broader political significance of the region.

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

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.

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

U 310 Crown of the Continent 3 cr. The study of the geographical setting of the Crown of the Continent of North America, including the richness of physical geography, history, culture, and models of conservation. Examines ongoing research initiatives, impacts of climate change, regional transformations, and the relationship between people and this mountainous environment.

UG 401 Regionalism and the Rocky Mountain West 3 cr. Offered spring. Same as HIST 401. Investigation of regionalism as a concept and its future in the Rocky Mountain West. Regionalism as a geographical, economic, political, and cultural entity.

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

UG 410 High Asia 3 cr. Offered intermittently. A study of the geography and mountain-society interactions in High Asia. The course includes attention to the theory and methodology of mountain geography, with attention to physical and human systems and their interaction.

**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/laboratory-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. 
UG 389 Digital Cartography Laboratory 1 cr. Offered autumn. Prereq., GEOG 105; coreq., GEOG 387. Laboratory to accompany GEOG 387.
UG 465 Planning Principles and Processes 3 cr. Offered autumn. Prereq., upper-division or graduate standing. Surveys planning principles, practices and issues in urban and rural environments. Attention is devoted to Montana, state planning programs in the United States, and federal programs and policies that influence land-use planning. Emphasizes skills and techniques used in plan development and implementation.
UG 466 Environmental Planning 3 cr. Offered spring. Introduction to practice of environmental planning which includes elements of physical planning, planning design at the landscape scale, and conservation planning. Includes field visits and project-based work.
UG 467 Planning Decision Support Systems 3 cr. Offered spring even numbered years. Introduction to use of computer software tools for modeling and analyzing land use.
UG 468 Community and Regional Analysis 3 cr. Offered autumn. Prereq., MATH 117 (or higher) or consent of instr. Coreq., GEOG 469. Socio-demographic analysis of communities and regions: population, employment, and spatial interaction. Hands-on course designed for future planners, GIS analysts, and others interested in socio-demographic change.
UG 469 Planning and Analysis Laboratory 1 cr. Offered autumn. Coreq., GEOG 468. Laboratory to accompany GEOG 468.
UG 471 Workshop in Teaching Geography 2-3 cr. Offered summer. Prereq., upper-division or graduate standing. Modern concepts and techniques in geography, with emphasis on their use in teaching geography in Montana schools. Students are required to prepare and present a teaching unit project.
UG 483 Transport, Planning, and GIS 3 cr. Offered spring. Prereq., MATH 117 (or higher) or consent of instr. Coreq., GEOG 489. An integrated course focusing on patterns and trends in urban passenger transportation, principles of transport planning, and 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 through 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 and spring. 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 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 the 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 GIS. 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 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 current topics, or current offerings of current topics.
G 596 Independent Study Variable cr. (R-9) Offered every term. Prereq., consent of instr. Independent research
Department of Geosciences

William Woessner, Chairman

The Science of Earth directly involves the study of natural geological processes and the interactions of these processes with the environment. The major in Geosciences prepares students to assist society in understanding and addressing complex science-based challenges such as climate change, and the utilization of finite energy, mineral, and water resources. Geoscientists are involved in deciphering both ancient and modern records that record Earth history.

Geoscientists advance our understanding of earthquakes, landslides, severe storms, and volcanic eruptions; explore the history of life; investigate changing glacial landscapes and watersheds; evaluate the inner-workings of our plant, and search for natural resources, including oil, gas, water, and minerals. Our classrooms include field and laboratory settings in which inquiry-based learning develops skills in creative thinking and problem solving. Geoscientists completing our program are employed by private industry; federal, state, and local governmental agencies; environmental consulting firms; non-profit organizations, and by secondary schools needing earth science teachers. Our graduates have a wide range of educational employment opportunities. They are sought after to work in other natural science fields, and as graduate students. Jobs in geosciences are available at the B.S., M.S. and Ph.D. levels. The M.S. degree is highly prized by employers and is considered the working professional degree. The Ph.D. degree is required for positions at universities and with companies specializing in research.

The Department of Geosciences offers five B.S. degree options, and a M.S. and Ph.D. degree. The B.S. degree are Interdisciplinary Geosciences, Geosciences, Earth Science Education, and two dual degrees: International Field Geosciences dual degree with the University College of Cork (Ireland), and an International Field Geosciences dual degree with Potsdam University (Germany). All degree programs in the department require a student to develop a strong background in geosciences and a sound foundation in other sciences.

High School Preparation: In addition to the general requirements for University admission, recommended high school preparation includes a solid background in mathematics and science.

Special Degree Requirements

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

Science courses designed for education majors may not be counted toward Geosciences Department science requirements. Geology courses and allied science courses must be taken for a traditional grade.

The Upper-division Writing Expectation must be met by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog or by completing GEOS 499. See index. The Geosciences Department offers a total of five B.S. degree options. The first is a highly flexible degree program designed for those who wish to double major in another field or who simply wish to acquire a broad Geoscience education of their own design. This degree features a minimum number of specifically required course in Geosciences and other sciences. The remaining four B.S. degrees are designed for students who desire a more defined path through our curriculum. Two options require a significant international geosciences experience and an emphasis on field-based learning, and one option is designed for students seeking certification to teach. Some paths in each of these degree options may require prerequisites that are not specifically listed.

Interdisciplinary Geosciences B.S.

This flexible option requires the following courses in Geosciences: GEOS 100N, GEOS 101N, GEOS 200, GEOS 226, and GEOS 230. In addition, thirteen credits of Geoscience coursework must be taken, relevant to student interests, at the 200, 300, or 400 levels. Thus a minimum of 27 credits from the Geosciences curriculum is required to earn this degree.

In addition to 27 credits in Geosciences, at least 27 credits from recognized cognate science classes are required to earn this degree. Required classes include Chemistry 151N or Chemistry 161N; Math 121 or a more advanced math class; and three credits in Computer Science (modeling or programming), or GIS or Statistics.

Additional cognate science courses must be completed from the list below such that the sum of all cognate science classes is a minimum of 27 credits. Student curricular planning should include awareness of prerequisites as listed in this catalog.

CHEM above 151N; MATH above 121; CS 131 or above; PHYSICS 121N or above; BIOL 100N or above; FOR 210N Introductory Soils, FOR 360 Range Management; FOR 380S Environmental Conservation.
At the discretion of the academic advisor, other sciences courses such as some courses in physical geography may also be acceptable.

Geosciences B.S.
This option is designed for students who seek post-graduate employment as a professional geoscientist and has two major suggested courses of study: Earth History, Evolution and Earth Resources, and Water, Climate, and Environment. The following Geosciences courses are required to earn this degree: GEOS 100N, GEOS 101N, GEOS 200, GEOS 226, and GEOS 230.

Earth History, Evolution, and Earth Resources
GEOS 306 Igneous and Metamorphic Petrology 4
GEOS 310 Invertebrate Paleontology 3
GEOS 311 Paleobiology 3
GEOS 327 Geochemistry 3
GEOS 330 Structural Geology 3
GEOS 429 Field Geology 6
GEOS 430 Global Tectonics 3
GEOS 432 Architecture of Sedimentary Deposits 4
GEOS 433 Sedimentary Petrology 4
GEOS 437 Seismology and Magnetism 4
GEOS 438 Gravity and Electromagnetics 4
GEOS 460 Process Geomorphology 4

Water, Climate, and Environment
GEOS 320 Global Water 3
GEOS 327 Geochemistry 4
GEOS 330 Structural Geology 3
GEOS 382 Global Change 3
GEOS 395 Glacial and Alpine Processes 3
GEOS 432 Architecture of Sedimentary Deposits 4
GEOS 433 Sedimentary Petrology 4
GEOS 437 Seismology and Magnetism 4
GEOS 438 Gravity and Electromagnetics 4
GEOS 460 Process Geomorphology 4
GEOS 480 Hydrogeology 4

At least 32 credits of Geoscience courses must be completed, of which 18-24 are upper-division (300-400 level) credits. In addition to completing the coursework in Geosciences, students must also complete a minimum of 30 credits in cognate sciences classes. Required are the following: PHYS 121N/122N or PHYS 221N/222N; CHEM 151N/152N/154N or CHEM 161N/162N; MATH 150/158 or MATH 152/153; three credits in Computer Science (modeling or programming), or GIS, or Statistics. Additional cognate sciences courses must be completed such that the sum is a minimum of 30 credits. These may include additional courses in Chemistry, Computer Science, Math, and Physics above the listed minimum levels specified above. Biology 100N or above is also appropriate, but substitutions or other science courses must be approved by the student’s advisor.

International Field Geosciences Dual Degree with University College of Cork (Ireland)
This option is designed specifically for students who seek to combine a rigorous education in the Geosciences with a year long international geosciences experience and an emphasis on field-based learning. It requires attending classes and living overseas. Student demonstrating a high level of performance at the University will be eligible for partial financial support as funds are available. Although most of the course work completed during the year abroad will take place at University College Cork in Ireland, additional course work is required at Potsdam University in Germany. For students who satisfy all degree requirements, a B.S. degree in Geosciences will be awarded by the University of Montana and a second B.S. degree in International Field Geosciences will be awarded by the University College Cork.

The following UM Geoscience courses are required to earn this degree: GEOS 100N; GEOS 101N; GEOS 108N; GEOS 200; GEOS 226; GEOS 230; GEOS 302; and GEOS 429. Also required are a minimum of 12 credits in upper division UM Geoscience courses selected from among the following: GEOS 306, 310, 311, 320, 327, 330, 430, 432, 433, 437, 438, 460, 480, 495.

In addition to Geoscience coursework completed at UM, the following overseas field-based Geoscience courses are required: BP15 (Field course-C-France, run by Potsdam) or both BW01 (Field course-Norway, run by Potsdam) and BW02 (Field course-Alps, run by Potsdam); plus two formal field course modules run by University College Cork, selected from GL 2101 (pre-Easter Field Course-Greece), GL4008 (Easter Field Course-Canary Islands). In addition, while in residence at Cork, students must take at least two of the following courses in consultation with their UM advisor:

International Geoscience Dual Degree with Potsdam University (Germany)
This option is designed specifically for students who seek to combine a rigorous education in the Geosciences with a year long international geosciences experience and an emphasis on field-based learning. It requires attending classes and living overseas. Student demonstrating a high level of performance at the University will be eligible for partial financial support as funds are available. Although most of the course work completed during the year abroad will take place at University College Cork in Ireland, additional course work is required at Potsdam University. For students who satisfy all degree requirements, a B.S. degree in Geosciences will be awarded by the University of Montana and a second B.S. degree in International Field Geosciences will be awarded by Potsdam University.

The following UM Geoscience courses are required to earn this degree: GEOS 100N; GEOS 101N; GEOS 108N; GEOS 200; GEOS 226; GEOS 230; GEOS 302; and GEOS 429. Also required are a minimum of 12 credits in upper division UM Geoscience courses selected from among the following: GEOS 306, 310, 311, 320, 327, 330, 430, 432, 433, 437, 438, 460, 480, 495.

In addition to Geoscience coursework completed at UM, the following overseas field-based Geoscience courses are
required: BP15 (Field course C–France, run by Potsdam) or both BWO01 (Field course–Norway, run by Potsdam) and BW02 (Field course–Alps, run by Potsdam); plus one of the following courses offered by University College Cork; GL 2016 (pre-Easter Field Course–Scotland), GL3019 (Easter Field Course–Greece), GL4008 (Easter Field Course–Canary Islands).

Students seeking this degree must also complete any four of the following courses offered by Potsdam University:

- BW04 Regional Geology (6)
- BW05 Paleoclimates and Quaternary Geology (6)
- BW06 Analysis of Geographic Maps (6)
- BW07 Analytic Geochemistry (6)
- BW16 Natural Hazards (6)
- BW17 Tectonophysics and Rheology (6)
- BW11 Seismology (6)
- BW12 Seismology (6)
- BW13 Geoelectricity (6)
- BW05 Sedimentary Systems and Stratigraphy (6)
- BW06 Geomorphology (6)
- BW16 Tectonics and Geodynamics (6)

Along with the formal geoscience course work, students earning this degree must complete a minimum of 27 credits in cognate science courses, including the following: PHYS 121/122N or PHYS 221N/222N; CHEM 151/152N or CHEM 161N/162N; MATH 150/158 or MATH 152/153; three credits in Computer Science (modeling or programming), or GIS or Statistics. While overseas, the students must complete two of the following geoscience courses at Potsdam University:

- BWP07 Basics in GIS
- BWP08 Basics in Remote Sensing
- BWP09 Numerical Methods
- BWP10 Basic Data Analysis

Also required is one year of college German (GERM 101/102) and completion of general education requirements relevant to German and Irish culture and history.

**Option in Earth Science Education**

Major Teaching Field of Earth Science: A student must complete GEOS 100N, 101N, 105N, 130, 226, 301, 310, 330, 3 additional credits from any geosciences course numbered 100 or above and 12 credits from any geosciences 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 BIOI 121N–122N or CHEM 151N–152N or PHYS 121N–122N must be completed.

For endorsement to teach earth science, a student also must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog). The demand in most Montana high school for teaching in this field may be limited, and students must complete the requirements for the required second teaching endorsement (major or minor).

**Suggested Course of Study**

For questions concerning your special interests or preparation, see a geosciences advisor.

**Interdisciplinary Geosciences B.S.**

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>CHEM 151/153 N or CHEM 161N</td>
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<tr>
<td>CHEM 152N/154N or CHEM 162N</td>
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<tr>
<td>ENEX 101 Composition</td>
<td>5</td>
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<tr>
<td>GEOS 100N–101N General Geology and Lab</td>
<td>3</td>
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<tr>
<td>GEOS 108N Climate Change</td>
<td>3</td>
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<td>GS 172 Intro to Computer Modeling</td>
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<td>General Education</td>
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**Second Year**

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<tr>
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<td>MATH 152 Calculus</td>
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<td>FOR 210N Introductory Soils</td>
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<tr>
<td>GEOS 200 Earth's History and Evolution</td>
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<td>GEOS 226 Earth Materials</td>
<td>4</td>
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<tr>
<td>GEOS 230 Geosciences Field Methods</td>
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<tr>
<td>Electives and General Education</td>
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**Third Year**

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<td>GEOS any 300 and above</td>
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**Fourth Year**

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<td>Electives and General Education</td>
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*Suggested, a total of 30 additional science credits are required. See special degree requirements.

**Geosciences B.S.**

**First Year**

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<tr>
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<td>CHEM 152N/154N or CHEM 162N</td>
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<tr>
<td>GEOS 200 Earth's History and Evolution</td>
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<td>GEOS 108N Climate Change</td>
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<td>MATH 121 Precalculus (if needed)</td>
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**Second Year**

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<tr>
<td>MATH 152 Calculus</td>
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<td>MATH 153 Calculus II</td>
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<td>GEOS 226 Earth Materials</td>
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<td>PHYS 122N (222N)</td>
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<td>GEOS at 300 level or above</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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*Suggested, a total of 30 additional science credits are required. See special degree requirements.

**International Field Geosciences Dual Degree with University College Cork (Ireland)**

**First Year**

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<tr>
<td>GEOS 226 Earth Materials</td>
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</table>
College of Arts and Sciences - Department of Geosciences - 109

GEOS 230 Geosciences Field Methods .................. 4
GEOS 330 Structural Geology .......................... - 3
GEOS 432 Architecture of Sedimentary deposits or GEOS 433 Sedimentary Petrology .................. - 4
GERM 101 German I ....................................... 5
GERM 102 German II ...................................... 5

Summer (in Potsdam)
BP15 (or BW01 and BW02) ................................ 6
BWXX (GIS class) ......................................... 6

Third Year (in Cork)
Formal GL field courses ................................. - 5
Formal GL classroom courses ............................. 10.5 2.5
General Education ....................................... 13 10

Summer
GEOS 429 Field Geology ................................... 6

Fourth Year
PHYS 121N (221N) ........................................ 5
PHYS 122N (222N) ........................................ 5
GEOS at 300 level or above ............................... 6 6
Electives and General Education ........................ 15 15

International Field Geosciences Dual Degree with Potsdam University (Germany)

First Year
CHEM 151N/153 N ......................................... 4
CHEM 152N/154N ........................................... 5
ENEX 101 Composition .................................... 3
GEOS 100N-101N General Geology and Lab ........ 3
GEOS 108N Climate Change ............................... 3
GEOS 200 Earth’s History and Evolution .............. 3
MATH 121 Precalculus (if needed) .................... 4(0)
General Education ....................................... 15 15

Second Year
MATH 152 Calculus (or MATH 150) ...................... 4
MATH 153 Calculus II (or MATH 158) ................. 4
GEOS 226 Earth Materials ................................ 4
GEOS 230 Geosciences Field Methods ................ 4
GEOS 302 Sedimentary Geology Field Trip ........... 2
GERM 101 German I ....................................... 5
GERM 102 German II ...................................... 5
Electives and General Education ........................ 17 15

Summer (in Potsdam)
BP15 (or BW01 and BW02) ................................ 6

Third Year (in Potsdam)
Formal BP or BWP class work ............................ 6 6
BWP cognate science classes ............................. 3 3
Electives and General Education ........................ 12 12

Winter (in Cork)
Formal GL field courses ................................. - 2.5

Fourth Year
PHYS 121N (221N) ........................................ 5
PHYS 122N (222N) ........................................ 5
GEOS at 300 level or above ............................... 6 6
Electives and General Education ........................ 15 15

Earth Science Education Option
First Year
CS 172 Introduction to Computer Modeling or equivalent .......................................................... - 3

ENEX 101 Composition .................................... 3
GEOS 100N-101N General Geology and Laboratory .... 3
GEOS 105 Oceanography .................................. 2
GEOS 130 Introductory Field Geology and Maps ...... 3
MATH 121 Precalculus ................................... 4
PSYC 100S Introduction to Psychology ................. 4
*Electives and General Education ........................ 3 6

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

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
C&I 200 Exploring Teaching Through Field Experience ......................................................... 2
C&I 303 Educational Psychology & Measurements ... 4
&I Other ..................................................... 3
GEOS 330 Meteorology ................................... 3
GEOS 310 Invertebrate Paleontology ................... 3
GEOS 330 Structural Geology ............................ 3
GEOS any 300 or above .................................. 3 6

Fourth Year
C&I 426 Teaching Science in Middle and Elementary Schools ................................................. 3
&I Other ..................................................... 3
GEOS any 300 or above .................................. 3
*Electives and General Education ........................ 9 12

*G&I recommends a minor teaching field. A fifth year may be required to obtain a minor field endorsement.

Requirements for a Minor
To earn a minor in Geosciences the student must complete GEOS 100N, 101N, 130, 226, plus at least 12 credits in other geoscience 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.

Geosciences (GEOS)
U 100N General Geology 2 cr. Offered autumn and spring.
General geology including the work of wind, flowing water, glacial ice, gravity, earthquakes, volcanoes and plate tectonics in shaping the earth. Credit not allowed for both GEOS 100N and 109.
U 101N General Geology Laboratory 1 cr. Offered autumn and spring. Prereq, or coreq., any geoscience courses below GEOS 130. A series of laboratory and field experiences designed around basic geologic processes and materials. Familiarization with common minerals, rocks, land forms, and structures. Intended to provide laboratory experience with any geoscience course below GEOS 130.
U 105N Volcanoes, Earthquakes and other Natural Hazards 3 cr. Offered spring. Examination of volcanism,
earthquakes, landslides, floods, coastal erosion, hurricanes, and asteroid impacts. Emphasis on processes, recognition and consequences of catastrophic events, and how to minimize their societal impacts.

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

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

U 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 geoscience 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 GEOG 101N, 109, and 108.

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 Earth’s History and Evolution 3 cr. Offered spring. Prereq., any 100-level GEOG course. Traces the history of the earth since its inception 4.5 billion years ago. Presents scientific theories for the origin of the earth and for the nature of important earth shaping events of the past, including the development of the oceans, atmosphere and climate.


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

U 226 Earth Materials 4 cr. Offered autumn and spring. Prereq., any geoscience 100-level lecture course, GEOG 101N, CHEM151 or CHEM 161. Study of minerals and rocks utilizing an Earth Systems approach; mineral identification and paragenesis; survey of the distribution of minerals from the interior to the surfaces of planets and the processes that led to their formation.

U 230 Geoscience Field Methods 3 cr. Offered autumn and spring. Prereq., GEOG 100-N-101N. Field methods and interpretations. This course introduces students to a variety of field methodologies routinely used in the collection and interpretation of geoscientific field data.

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., GEOG 100N-101N, 130; MATH 117 or 121; CS 172 or equiv. experience with spreadsheet 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 environments and change.

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

U 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., GEOG 226, CHEM 162N. Igneous rock associations, igneous processes and origins; metamorphic minerals and phase relationships, metamorphic zones, facies, and conditions; metamorphic environments, metallic minerals and mineral deposits.

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., GEOG 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., GEOG 310 or equiv. Application of geologic and biologic principles to problems in paleontology.

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

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

U 327 Geochemistry 4 cr. Offered autumn even-numbered years. Prereq., one year of college chemistry. Chemical principles applied to geologic processes. Origin and chemical composition of atmosphere and hydrosphere. Methods of radiometric dating and isotope applications.

U 330 Structural Geology 3 cr. Offered autumn. Prereq., GEOG 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 chemical 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 geosciences. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. No more than 3 credits of GEOS 398 may be applied to the geosciences minor. A maximum of 6 credits of internship (198, 298, 398, 498) may count toward graduation.

UG 402 Sedimentary Geology Field Trip 2 cr. Examination of sedimentary depositional systems through a nine-day spring break field trip off campus.

U 425 Geology of the Pacific Northwest 3 cr. Offered intermittently. Prereq., GEOS 100N. Narrative discussion of the evolutions of the Pacific Northwest from Archean time to present.


UG 430 Global Tectonics 3 cr. Offered spring. Prereq., GEOS 330, MATH 150, and 2.25 or better overall GPA in geosciences 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., GEOS 202. Study of the architectural elements and composition of sedimentary deposits in the context of their tectonic environments and their influence on petroleum and hydrogeologic systems.

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

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

UG 438 Gravity and Electromagnetics 4 cr. Offered Spring. Prereq. or coreq., MATH 153, GEOS 100N-101N, PHYS 121N. GPS, gravity, and electromagnetic methods with acquisition, processing, and interpretation of locally-collected data. Applications include environmental and crustal scale imaging, tectonic processes, and whole-earth models.

UG 460 Process Geomorphology 4 cr. Offered autumn, alternate years. Coreq., one year college calculus and physics. Quantitative examination of landslides, runoff generation, weathering, mechanics of soil erosion by water and wind, mass wasting, glacial and periglacial processes and hillslope evolution.

UG 465 Computer Modeling in the Physical Sciences with Matlab 3 cr. Offered spring alternate years. Coreq., one year college calculus and physics. Introduction to Matlab and writing and using computer models to address typical problems faced by physical scientists. Topics include heat diffusion, carbon storage, and landscape evolution. No previous computer experience required.

UG 480 Hydrogeology 4 cr. Offered autumn. Prereq., GEOS 100N-101N; PHYS 121N or 221N; MATH 150 or 152 strongly recommended. Occurrence, movement, quality, and methods of quantification of groundwater. Geological framework and physics of groundwater flow. Supply, contamination, and management problems.

UG 488 Snow, Ice and Climate 3 cr. Offered spring. Prereq., MATH 100. Study of basic physical processes occurring n snow and ice, and how these processes govern the interaction between frozen water and the climate system. The first half of the course focuses on snow, with special attention to snow formation in the atmosphere, snow metamorphism, water flow through snow, and basic avalanche mechanics. The second half of the course focuses on ice and includes glacier and ice sheet flow dynamics, glacier hydrology, and ice age theory. Graduate students will be required to compete additional problem sets requiring higher level math; perform additional reading assignments; perform at a higher level on assignments and exams where students are asked to outline and describe various physical processes; submit a well researched and reference research proposal that is able to synthesize previous research and provide a sophisticated research plan.

UG 493 Omnibus Variable cr. (R-10) Offered intermittently. Independent work under the University omnibus option. See index.

UG 494 Senior Seminar 1-10 cr. (R-10) Offered intermittently. Prereq., upper-division standing in geosciences 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 geosciences. Independent research project in any geosciences 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 508 Fundamentals of Academic Research 3 cr. Offered fall. Prereq., graduate standing. An introduction to research methods and tools in the academic setting intended for first semester graduate students in geosciences. Topics include proposal writing, presenting research results in oral and written formats, using computer tools for research in the geosciences, and ongoing research of department faculty.

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 531 Environmental Geochemistry of Metal Contamination 4 cr. Offered autumn. Prereq., GEOS 570, 579; 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 548 Topics in the Cryosphere 3 cr. (R-6 M.S.), R-12
on request of graduate students by arrangement with appropriate faculty. Recent topics: landscape evolution; weathering processes; tectonic geomorphology.

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

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


Faculty

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

Associate Professor
Nancy W. 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
Joel T. Harper, Ph.D., University of Wyoming, 1997
Andrew C. Wilcox, Ph.D., Colorado State University, 2005

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
Graham R. Thompson, Ph.D., Case Western Reserve, 1971
John P. Wehrenberg, Ph.D., University of Illinois, 1956
Robert M. Weidman, Ph.D., University of California (Berkeley), 1959
Donald Winston, Ph.D., University of Texas, 1963
Department of History

Richard Drake, Chair

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

Toward this end, the department offers a wide variety of courses ranging in time, location, and subject. For those students interested in local history there are courses on Montana, the West and unique aspects of the frontier. Other classes stress the nature of early American society, the American Revolution, family and gender in America, the Civil War, and diplomacy in the Cold War. Still others emphasize European social, cultural, and intellectual history, European exploration, the French Revolution, Islamic civilization, Asian history, Russian history, and African history. Topical courses concentrate upon the European peasantry, documentary analysis, diplomacy, war and peace, terrorism, and environmental history.

The History Department helps to prepare men and women for many different kinds of occupations. Graduates are employed in federal, state or local government positions ranging from domestic to foreign service, from senators to research analysts. Many teach history in Montana or in other states while others pursue their educations at advanced graduate schools earning master or doctoral degrees. Several have been awarded Rhodes or Marshall scholarships. Lawyers, journalists and businessmen also are trained by the department; many combine history with political science, journalism, or business. History provides not only a basis for the pursuit of their chosen profession but also furnishes knowledge and perspective for intelligent leadership of citizens in community affairs.

The department offers the Bachelor of Arts, Master of Arts, and the Doctor of Philosophy degrees.

Special Degree Requirements

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

Requirements for a History Major

Students selecting a major in history must complete the following requirements:

I. Courses and credits

A. A minimum of 40 credits in history, maximum of 60. Of the 40-credit total, 13 credits must be in European history, 13 in American history, and 6 in world history (Asian, Islamic, African, or Latin American) History majors must complete at least 20 upper-division credits.

B. History majors must complete Hist 300, The Historian's Craft or a 400-level approved history writing course.

II. Languages

The Department requires competency in English and a proficiency in one foreign language. These requirements include:

A. ENEX 101 or its equivalent.

B. Foreign language requirements may be satisfied by completing any of the following options:

1. The 101-102 active skills sequence in any foreign language.
2. Any single course at or above the 102 or 112 level in any foreign language.
3. An equivalency test for (3) offered by the Department of Modern and Classical Languages and Literatures.

The Department of History does not allow credit for foreign languages taken in high school but students with high school backgrounds in a foreign language may wish to pursue options (2) or (3) above.

III. Upper-Division Writing Expectation

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

Teacher Preparation in History

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

Teacher Preparation in History and Government

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

Suggested Course of Study

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<tr>
<th>Year</th>
<th>Course</th>
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<tr>
<td>First Year</td>
<td>History 104H-105H European Civilization or 151H-152H The Americans</td>
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<td>ENEX 101 Composition</td>
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<td>Foreign language</td>
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<td>Electives and General Education</td>
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<td>Second Year</td>
<td>HIST 201H, East Asia, 208H, Africa, HIST 269 Montana, or HIST 283H, 284H Islamic or HIST 286H, 287H Latin America</td>
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<td>Electives and General Education</td>
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<td>Third Year</td>
<td>HIST 300 The Historian's Craft</td>
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<td></td>
<td>HIST 300-level history courses</td>
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<td>Electives and General Education</td>
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<tr>
<td>Fourth Year</td>
<td>HIST 300- and 400-level history</td>
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<td></td>
<td>Electives, General Education, Broadfield Social Sciences and C&amp;I courses (if applicable)</td>
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Requirements for a Minor

To earn a minor in history the student must complete the following: (1) a minimum of 20 credits in history of which 6 credits must be in American history and 6 must be in European history, and 5 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 ANTH 106. Introduction to the study of the human communities, cultures, and economies in Central and Southwest Asia along the ancient four thousand mile-long Silk Road.

U 107H Honors Course in European Civilization: The Birth of Modern Europe 4 cr. Offered autumn. Limited enrollment by consent of instr. only. A comprehensive, introductory history of western civilization from classical antiquity to 1715. Lecture-honors discussion. Credit not allowed for both 107H and 104H.

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

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

U 152H The Americans: 1877 to the Present 4 cr. Offered spring. A comprehensive introductory history of the U.S. since 1877. Lecture-discussion. Credit not allowed for both 152H and 153H.

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

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

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

U 198 Internship Variable cr. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services Office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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

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

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

U 226E Terrorism: Political Violence in the Modern World 3 cr. Offered autumn. Prereq., lower-division course in Perspective 5 or consent of instr. The rise and spread of terrorism in the modern world, from the French Revolution to the present.

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

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

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

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

U 283H Islamic Civilization: The Classical Age 3 cr. Offered autumn. Same as ANTH 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 ANTH 284H. History of the Islamic world and particularly the Persian, Arabic, and Turkish speaking lands between 1453 and 1952.

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

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

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

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

UG 300 The Historians' Craft 3 cr. Offered autumn and spring. The location and use of historical sources; footnotes, bibliography, and style; previous historical interpretations; an explicit writing component.

UG 301H Classical Greece 3 cr. Offered intermittently. Same as MCLG 301H. Greek history from the earliest times through the Macedonian ascendancy, based on the writings of the Greek historians.

UG 302H Classical Greece II: Individual, Family, and Civic Life in Ancient Greece 3 cr. Offered intermittently. Same as MCLG 302H. Various aspects of personal, social, and political life of classical times in Greece. Primary readings in various ancient authors supplemented by some audio-visual or other informational presentations.

UG 303H Classical Rome 3 cr. Offered intermittently. Same as MCLG 303H. Roman history from the time of the Kings through the early Empire. Based on the writings of the Roman historians.
UG 306H The Medieval World: The Barbarian West, 400-1200 3 cr. Offered autumn. The collapse of Roman authority, the expansion of Germanic kingdoms, Christianity and the Roman church.

UG 307H The Medieval World: The High Middle Ages, 1150-1450 3 cr. Offered spring. The Christian world in the West to the decline of the papacy, a hundred years of war, the Black Death.

UG 310H The Reformation 3 cr. Offered intermittently. The Reformation and its impact on European society, politics, economic theory and religious thought from 1500 to 1600; the Counter-Reformation.

UG 311H Europe in Renaissance and Reform, 1348-1648 3 cr. Offered intermittently. The political, economic, intellectual and social development of Europe from 1348 to 1648.

UG 312H The Age of Absolutism, 1648-1789 3 cr. Offered intermittently. The political, economic, intellectual, and social development of Europe 1648-1789.

UG 314 France in Revolution, 1789-1848 3 cr. Offered autumn. Political, economic, and social upheaval and development.

UG 315 Modern France, 1848-1870 3 cr. Offered intermittently. The political, economic and social development.

UG 319H Contemporary Europe 3 cr. Offered autumn odd-numbered years. European politics, culture, and society since 1945.

UG 321 Germany: Augsburg to Bismarck, 1555-1866 3 cr. Offered intermittently. Political, economic and social development of the states of the Holy Roman Empire from 1555-1866.

UG 324 Italy: 1300-1800 3 cr. Offered autumn odd-numbered years. The emergence of the Italian states with an emphasis on cultural achievements in the late Medieval, Renaissance, Baroque, and Neoclassical periods.

UG 325 Italy: 1800-1945 3 cr. Offered spring even-numbered years. The emergence of a united Italy, the triumph of fascism and contemporary Italian society.

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

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

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

UG 334E War, Peace, and Society 3 cr. Offered intermittently. A thematic and interdisciplinary approach to warfare and peace, sociopolitical structures and military organization, power among states, technological change, the role of the individual in organized violence, and moral views of war and peace.

UG 335E Human Rights 3 cr. Offered intermittently. A treatment of the powerful global influence of visions of human rights upon the historical and contemporary world in which movements such as abolitionism, women’s rights, humanitarian law, racial equality, decolonization and democratisation, and the impact of the Universal Declaration of Human Rights.


UG 341 Britain from Reformation to Revolution, 1485-1668 3 cr. Offered autumn odd-numbered years. Social, political, intellectual and cultural history of the British peoples during the tumultuous period of reformation, exploration, constitutional crisis, and civil war.

UG 342 Britain from Revolution to Reform, 1668-1832 3 cr. Offered spring. The social, political, cultural, and intellectual consequences of British expansion, financial and industrial revolutions, and revolutionary movements.

UG 343 Britain from 1832 to Present: Reform, Rise, Retreat 3 cr. Offered autumn odd-numbered years. Social, political, intellectual and cultural history of the United Kingdom from an age of industry, empire, and political reform to one of economic decline and international retreat.

UG 344 Russia to 1881 3 cr. Offered autumn. Emphasis on the autocratic political tradition, Westernization, and territorial expansion.

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

UG 346 Central Asia and Its Neighbors 3 cr. Offered spring. Same as AS 345 and ANTH 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 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 The Early American Republic, 1787-1843 3 cr. Offered spring odd-numbered years. Emphasis on nationalism and sectionalism, the War of 1812, the second party system, social order and disorder, the capitalist revolution.

UG 354H Indians of Montana Since the Reservation Era 3 cr. Offered autumn odd-numbered years. Same as ANTH 324H and NAS 324H. Examination of the history of Montana Indians since the establishment of the reservations, contemporary conditions, and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.

UG 355 The Age of the Civil War 3 cr. Offered autumn odd-numbered years. Civil War and Reconstruction; the triumph of the industrialist and capitalist ethic.

UG 356 The Birth of Modern America, 1877-1919 3 cr. Offered autumn odd-numbered years. The history of the U.S. from 1877 to 1920 is largely the story of Americans responding to profound social, cultural and economic change. In an effort to bring order to their changing world, Americans created new institutions, retooled their technologies, and improved the nation’s infrastructure. The order they created is, in modified form, still with us today. Students will explore the myriad changes that transformed the United States during this period and study the social, political, and cultural struggles that shaped the emergence of Modern America.

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

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

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 Radialism 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 367 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 375 U.S. Immigration and Ethnicity 3 cr. Discussion-based course on immigration, assimilation, and social diversity in U.S. history. Students will study the waves of immigration that have peopled America from colonial times to the present, the shifting intellectual and policy responses to immigration, the social histories of different immigrant and ethnic/racial groups, and contemporary debates about multiculturalism.

UG 376 Problems in American Constitutional History 3 cr. Offered intermittently. An examination of major issues in the American constitutional past. Topics include the creation of the Constitution and the problem of "original intent," courts and judicial review, slavery and anti-slavery, the bill of rights, industrial capitalism and the welfare state, and majority rule and minority rights in American democracy.

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

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

UG 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 1800, emphasizing internal weaknesses of the Manchu dynasty, confrontation with the west, and the emergence of Nationalist and Communist regimes.

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

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

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

UG 386H Nationalism in Modern Middle East 3 cr. Offered autumn. Same as ANTH 386H. 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. Same as ANTH 387H. The socioeconomic, political, and cultural causes which resulted in the transformation of the Iranian society from a traditional Islamic entity to a modern secular state and the factors which led o the downfall of the secular state and the establishment of an Islamic regime.

UG 388H Africa to 1880 3 cr. Offered intermittently. Same as AAS 388H. Historical development in Africa since the imposition of colonial rule. Analysis of colonialism and emergence of nationalism.

UG 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.

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.

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 even-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 402 and ANTH 462. Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.

UG 409 History of Southern Africa 3 cr. Offered intermittently. Same as AAS 409. Historical survey of developments in southern Africa from the earliest of times to the present. Focus on the evolution and growth of societies and states; economic, social and political developments; external interventions and impacts on race relations.

UG 410 Personalities in History 3 cr. (R-6) Offered intermittently. Influential individuals in European, American, and Asian history.

UG 437 Dynamics of Diplomacy 3 cr. Offered intermittently. An interdisciplinary, global, and thematic approach to major issues in foreign affairs brought about by world wars, diplomatic expansion, the collapse of cultural homogeneity, technological developments, and the rise of public opinion.

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

UG 446 The Russian Revolution, 1900-1930 3 cr. Offered spring. The causes, course, character, and consequences of the Bolshevik Revolution.

UG 455 An Introduction to Public History 3 cr. Offered spring. Review of selected areas in which public historians work. Examination of how the public historian's role may differ from the academic historian. Focus on specific approaches, issues, and problems in a variety of areas of public history.

UG 457 Artistic Traditions of Central and Southwest Asia 3 cr. Offered autumn and spring. Same as AS 457 and ANTH 461. 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 460. Advanced analysis of the historical and contemporary issues involving the human communities, cultures, and economies in Central and Southwest Asia.

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

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

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

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

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

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

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

UG 485 Latin America: Memories of Politics and Politics of Memory 3cr. Offered spring alternate years. Individual and collective memories of social and political conflict, activism, and repression in Latin America. Battles over memory (and its relation to truth) in forums ranging from academic panels to human rights tribunals. Relations between memory, politics and history in select case studies.

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

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

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

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

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

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

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

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

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

G 516 Modern Europe 3 cr. Offered alternate years. Intensive reading in 19th and 20th century European history.

G 531 International Relations 3 cr. Offered alternate years.
Intensive reading in the history of international relations and diplomacy during the late 19th and 20th centuries.

G 540 European Cultural and Intellectual History 3 cr. Intensive reading.

G 541 Early Modern Britain 3 cr. Offered intermittently. Intensive reading in British history from 1500 to 1800.

G 544 Modern Russia 3 cr. Offered alternate years. Intensive reading in 19th and 20th century Russia.

G 550 Early America 3 cr. Intensive reading.

G 551 The Early American Republic: Constitution to Civil War 3 cr. Intensive reading.

G 552 Industrial America, 1863-1932 3 cr. Intensive reading.

G 553 Modern America 3 cr. Intensive reading.

G 564 U.S. Environmental History 3 cr. Intensive reading.

G 566 The American West 3 cr. Intensive reading.

G 567 Native Americans 3 cr. Intensive reading.

G 585 Latin America 3 cr. Offered alternate years. Intensive reading.

G 586 Modern Islamic Politics 3 cr. Offered alternate years. Intensive reading.

G 594 Seminar Variable cr. (R-12) Prereq., 27 credits in history. Directed research.

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

G 596 Independent Study Variable cr. (R-12)

G 597 Research in History Variable cr. (R-9)

G 598 Internship Variable cr. (R-8) Prereq., consent of department and Internship Services office. Practical application of classroom learning in off-campus placements.

G 599 Professional Paper Variable cr. (R-6)

G 699 Thesis/Dissertation Variable cr. (R-6)

**Faculty**

**Professors**

George M. Dennison, Ph.D., University of Washington, 1968 (President)

Richard R. Drake, Ph.D., University of California, Los Angeles, 1976 (Chair)

John A. Eglin, Ph.D., Yale University, 1996

William E. Farr, Ph.D., University of Washington, 1971

Dan Flores, Ph.D., Texas A & M University, 1978 (A.B. Hammond Professor of Western History)

Linda S. Frey, Ph.D., Ohio State University, 1971

Anya 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

**Assistant Professor**

Robert H. Greene, Ph.D., University of Michigan, 2004

Jody Pavlack, Ph.D., Duke University, 2003

Kyle G. Valk, Ph.D., University of Chicago, 2007 (expected)

Jeff Wilse, Ph.D., Brandeis University, 2002

**Emeritus Professor**

David M. Emmons, Ph.D., University of Colorado, 1969

Harry W. Fritz, Ph.D., Washington University at St. Louis, 1971

Frederick W. Skinner, Ph.D., Princeton University, 1973
Human and Family Development

Paul Silverman (Professor of Psychology), Chair, Human and Family Development Minor

The Human and Family Development minor is an interdisciplinary minor concerned with the study of life-span human development and family relations, and the impact of biological, environmental and socio-cultural factors on both. The HFD minor encompasses a broad range of areas: Early Intervention, Gerontology, Early Childhood, Normal Development, Family Development, and Exceptional Development. The minor is designed to supplement the knowledge base of students by providing a human and family development specialty orientation to their fields of major interest. Students with career goals that include communications, psychology, education, social work, sociology, anthropology, pre-medical sciences, nursing, and physical therapy will benefit from the specialty orientation in human and family development. Students with other career goals also will find the program rewarding; a business major interested in family service administration or consumer economics; a radio-television major interested in children's programming; a forestry major interested in recreational management appropriate for a particular population. Human and family development encompasses a broad range of topics, all of which share the view that human growth is a valid subject of scientific study. Knowledge of the processes and contents of psychological, social and biological growth of the individual separately and within the family context will benefit the quality of life of both the student/investigator and the public. The purpose of this program is to equip students with a general knowledge of issues relevant to normal and atypical patterns of human and family development and to provide them with some practical skills and insights which will enhance their abilities in a variety of professions which deal with developmental and family issues. The minor has general, early intervention, and gerontology tracks.

The interdisciplinary curriculum reflects four specific goals: (1) to provide students with an extensive knowledge base of theory and research concerning lifespan development and the role of the family in development; (2) to train students to be critical consumers of research and evaluation results in the human and family development areas; (3) to provide students with practical experience in at least one applied 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 topic" courses are offered. Students may use these as electives with the consent of their advisors.

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

Early Childhood
C&I 330 Early Childhood Education/Curriculum
C&I 355 Child in the Family
C&I 357 Introduction to Special Education Law and Policy
C&I 367 Preschool Practicum
C&I 410 Exceptionality and Classroom Management
C&I 420 Curriculum in Early Childhood Special Education
C&I 421 Issues in Early Childhood Special Education
C&I 494 Practicum in Special Education Preschool
C&I 495 Special Topics in Special Education
HFD 498 Internship (must complete all course work prior to taking course)
HFD 413 Assessment & Program Planning
PHAR 110N Use and Abuse of Drugs
PSYC 597 Research Experience
PSYC 335 Fundamentals of Clinical Psychology

School-Age
C&I 303 Educational Psychology/Measurements
C&I 357 Introduction to Exceptionality
C&I 410 Exceptionality/Classroom Management
PHAR 110N Use and Abuse of Drugs
PSYC 335 Fundamentals of Clinical Psychology
PSYC 336S Child and Adolescent Psychological Disorders
PSYC 337 Principles of Cognitive Behavior Modification
PSYC 340 Current Topics in Developmental Psychology
SOC 321 Issues in Sociology of the Family
SOC 330 Juvenile Delinquency
SW 300 Human Behavior and Social Environment
SW 420S Child Abuse and Neglect

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

Gerontology
HS 325 Clinical Issues in Geriatrics
HS 327 Montana Gerontology Society Annual Conference
HS 495 Special Topics: Health Aspects of Aging
PSYC 245 Adult Development and Aging
SOC 495 Sociology of Aging
SW 45SS 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 Rode Island, 1990
(Professor, Psychology)
Ann Garfinkle, Ph.D., University of Washington, 1995
(Associate Professor, Education)
Shannon Guilfoyle, M.Ed., The University of Montana, 2002
(COTEACH Preschool Coordinator, Education)
Susan Harper-Whalen, Ed.M., Harvard University, 1984
(Relation 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., University of Notre Dame, 1999
(Associate Professor, Psychology)
Celia Winkler, Ph.D., University of Oregon, 1996
(Professor, Sociology)

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

Human and Family Development (HFD)

U 298 Internship Variable cr. (R-4) Prereq., consent of chair. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 398 Internship Variable cr. (R-4) Prereq., consent of chair. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 411 Infant and Toddler Development and Variability 3 cr. Offered autumn even-numbered years. Foundation of knowledge and practical experiences in infant and toddler development and its variability. Development of the child within the family and social context.

UG 412 Family Development 3 cr. Offered autumn even-numbered years. Foundation of knowledge and practical experiences in family development from an ecological, family systems perspective. Focus on families who have children with disabilities.

UG 413 Assessment and Program Planning 4 cr. Offered spring odd-numbered years. Prereq., consent of instr. Foundation of knowledge and practical experiences in child assessments and family information gathering. Primary focus on birth through two years of age.

UG 414 Community Service Delivery 1 2 cr. Offered spring odd-numbered years. Foundation of knowledge and practical experiences in early intervention service models and their theoretical orientation, roles of other agencies and professional disciplines, teaming models and techniques, support coordination models and techniques, community collaboration, and current early intervention trends and models.

UG 415 Program Development, Implementation, Evaluation and Modification 4 cr. Offered autumn odd-numbered years. Prereq., consent of instr. Foundation of knowledge and practical experiences in program planning, implementation and evaluation. Focus on birth through two years of age.

UG 416 Data-Based Decision Making 2 cr. Offered autumn odd-numbered years. Prereq., consent of instr. Foundation of knowledge and applied experience in making intervention and programmatic decisions based on data. Primary topical areas covered are (1) foundations of applied behavioral analysis; (2) technical competencies in applied behavioral analysis; (3) facilitating acquisition of skills; and (4) skill generalization for individuals across the life-span.

UG 490 Practicum in Human Development Variable cr. (R-6) Offered intermittently. Prereq., 12 credits in HFD. Supervised fieldwork in settings relevant to developmental topics, including school classrooms; child/family welfare agencies; various institutions and programs for children, juveniles, or the aged.

UG 494 Seminar in Human Development 1 cr. (R-3) Offered autumn. Discussion of selected problems in human development. Emphasis on integrating theory and practice.

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

UG 498 Internship Variable cr. (R-4) Prereq., consent of chair. Extended classroom experience which provides practical application of classroom learning during
placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

International Development Studies

Peter Koehn (Professor of Political Science), Advisor

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

Requirements for a Minor

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

Core Courses:
- ANTH 329S Social Change in Non-Western Societies
- COMM 251 International and Development Communication
- ECON 350 Economic Development
- FOR 170N International Environmental Change
- FOR 474 Sociology of Environment and Development
- FOR 424 Community Forestry and Conservation
- PSC 463S Development Administration
- SOC 270 Introduction to Rural and Environmental Change
- SOC 370S Social Change and Global Development
- SW 323 Women and Social Action in the Americas
- SW 465 Social Work in a Global Context

Content Courses:
- ANTH 330H Peoples and Cultures of Africa
- ANTH 343S Culture and Population
- ANTH 385S Indigenous Peoples and Global Development
- COMM 420 Communication and Nonprofit Organizations
- COMM 451S Intercultural Communication
- EVST 410 Environmental Justice and Sustainable Development
- ECON 1005 Introduction to Political Economy
- GEOG 101S Introduction to Human Geography
- GEOG 103S Geography of World Regions
- GEOG 202S South Asia/Land and People
- GEOG 207S Africa
- GEOG 213S The Middle East
- GEOG 214S Central Asian Culture and Civilization
- GEOG 333S Culture and Environment
- GEOG/EVST 432 Human Role in Environmental Change
- GEOG/EVST 440 Environmental Economics
- HIST 287H Latin America, 1800-1999s
- PSC 120S Introduction to Comparative Government
- PSC 130E International Relations
- PSC 325 Politics of Latin America
- PSC 326F Politics of Africa
- PSC 427 Politics of Mexico
- PSC 343 Politics of Social Movements
- PSC 430 Inter-American Relations
- PSC 431 Politics of Global Migration
- SOC 212S Southeast Asian Culture and Civilization
- SOC 322 Sociology of Poverty
- SOC 340 The Community
- SOC 346 Rural Sociology
- SW 324 Gender and the Politics of Welfare

Core Faculty

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)
Paul Haber, Ph.D., Columbia University, 1992 (Professor, Political Science)
Sarah Horton, Ph.D., University of New Mexico, 2003 (Assistant Professor, Anthropology)
Peter Koehn, Ph.D., University of Colorado, Boulder, 1973 (Professor, Political Science)
Kimber Haddix McKay, Ph.D., University of California, Davis, 1998 (Associate Professor, Anthropology)
Phyllis B. Ngai, Ed.D., The University of Montana, 2004 (Adjunct Assistant Professor, Communication Studies)
Rebecca Richards, Ph.D., Utah State University 1990 (Professor, Sociology)
Ranjana Shrestha, Ph.D., Ohio State University, 2006 (Assistant Professor, Economics)
Steve Siebert, Ph.D., Cornell University, 1990 (Professor, Forest Management)
Teresa Sobieszczuk, Ph.D., Cornell University, 2000 (Assistant Professor, Sociology)
Daniel Spencer, Ph.D., Union Theological Seminary, 1994 (Assistant Professor, Environmental Studies)
Maria Jose Bustos Fernandez (Associate Professor of Modern and Classical Languages and Literatures) Director/Advisor

The Latin American Studies program at The University of Montana-Missoula provides students an opportunity to study and research the history, culture, lands, art, geography and institutions of Spanish and Portuguese speaking nations of American through an interdisciplinary perspective. The growing importance of the United States economic, political and cultural relations with the Latin American region makes knowledge of Latin America and its people an essential part of a liberal arts education.

The Latin American Studies program is administered by the Latin American Studies steering committee. The interdisciplinary faculty who teach and direct research in the program, drawn mainly from the College of Arts and Sciences, are internationally known for their research and experience abroad. The program encourages and promotes travel and exchange with institutions of higher education in Latin America. Several study abroad options in Latin America are available both for a short period of time or for longer stays (one semester or two semester programs). Inquire at the Departments of Modern and Classical Languages and Literatures, Political Sciences and Art for details on these programs as well as at the Office of International Programs. The Latin American studies program offers a minor in Latin American Studies in conjunction with a major in another discipline. Students admitted to the program must register with the academic advisor of the Latin American Studies program who will review their course of study and advise on planning their course sequence. Students are encouraged to plan this option early in their studies to be able to participate in a study abroad program, if possible.

Students minoring in Latin American Studies will be prepared for graduate study or for employment in fields such as government, non-governmental organizations, business, industry, health and education.

Requirements for a Minor

To earn a minor in Latin American studies a student must:

1. Complete a minimum of 18 semester credits in approved Latin American studies courses (all courses listed below in addition to special offerings) in at least three different disciplines. One of these courses must be MCLG/ANTH 100H, Introduction to Latin American Studies.

2. Complete SPAN 101 through 201, or equivalent.

Note: Participation in a study abroad program is highly recommended.

Latin American Studies Core Curriculum:

MCLG/ANTH 100H Introduction to Latin American Studies 3 cr.

MCLG/LS 358 Latin American Civilization through Literature and Film 3 cr. or SPAN 359 Spanish American Civilization through Literature and Film 3 cr.

SPAN 312L Introduction to Latin American Literature 3 cr.

SPAN 450L Latin American Literature 3 cr. (R-6)

SPAN 494 Seminar Variable cr. (R-12) (when topic is related to Latin American literature such as Latin American drama, poetry, novel, short story, Argentinian literature, 19th Century Latin American Literature)

HIST 286H Colonial Latin America 3 cr.

HIST 287H Modern Latin America 3 cr.

GEOG 351 Geography of a Selected Region (when the selected region is Middle 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)
Maria José Bustos Fernandez, Ph.D., University of Colorado, Boulder, 1990 (Modem 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 Broreda, Ph.D. University of Colorado, Boulder, 1991 (Geography), Visiting

Hippolito Rafael Chacon, Ph.D., University of Chicago, 1995 (Art)

Janine Montiabnan, Ph.D., Rutgers University, 1997 (Modem and Classical Languages and Literatures)

Assistant Professors

Eduardo Chirinos, Ph.D., Rutgers University, 1997 (Modern and Classical Languages and Literatures)

Patricia O. Covarrubias, Ph.D., University of Washington, 1999 (Communication Studies)

Jody Pavilack, Ph.D., Duke University, 2003 (History)

Daniel Spencer, Ph.D., Union Theological Seminary, 1994 (Environmental Studies)

Liberal Studies

Stewart Justman, Director

The Liberal Studies curriculum is designed for the student who seeks a liberal education with emphasis on the humanities. It is not intended for the student who is undecided about a major. It includes a variety of courses in literature, philosophy, history, and cognate disciplines. The Liberal Studies program enables students to work in a combination of these fields rather than in a single one of them. 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 course work presented for LS credit on a pass/not pass basis. Upper-level students transferring into this program should have at least a C average in all credits attempted.

Special Degree Requirements

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

Following are the special requirements for the Bachelor of Arts degree with a major in liberal studies.

Major Requirements

Core Curriculum (courses numbered under 300)

English 101 Composition (coreq. or prereq. to LS 151L-152L) ........................................ 3
Foreign language (2 years of one language) .................................................. 18
Liberal Studies 151L, 152L Introduction to Humanities ........................................ 8
American Literature .................................................. 3
American History .................................................. 3-4
European literature (including British) .................................................. 3
European history (including British) .................................................. 3-4
Native American studies or African-American studies (including cross-listed and cognate courses in anthropology, geography, and sociology) .................................................. 3
Asian studies (including cross-listed courses in anthropology, geography, and sociology) .................................................. 3
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 (including anthropology, political science, sociology) .................................................. 3
Women’s studies/gender studies (includes anthropology, history, liberal studies, political science, sociology) .................................................. 3
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 Jobour, 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 more may be “content” courses. Each semester a list of these courses is published at pre-registration by the Women’s Studies office, LA 138A, (406) 243-2584.

Suggested Course of Study

The course of study for Liberal Studies majors varies greatly depending on student interest and course availability. The core curriculum typically takes more than two years to complete, while the upper-division requirements typically take less than two years. Following is one possible course of study for the first two years:

First Year

ENEX 101 Composition .................................................. 3
ENLT 221L British Literature through 18th Century or 223L British Literature 19th and 20th Centuries .................................................. 3
Foreign language 101-102 Elementary .................................................. 5
HIST 104H or 105H European Civilization .................................................. 4
LS 151L-152L Introduction to Humanities .................................................. 4
Lower-division Native American Studies course .................................................. 3

Second Year

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

Courses

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

Liberal Studies (LS)

U 119H Philosophical Perspectives on Women in the Western Hemisphere 3 cr. Offered intermittently. Same as PHIL and WS 119H. Introduction to the discipline and scope of Western philosophy focusing on women as the subject rather than men. A chronological study following the ideological development in the West of social attitudes and scientific
theses.

U 151L Introduction to the Humanities 4 cr. Offered autumn. Prereq., eligibility for ENEX 101 based on writing placement examination. General survey of the field of Humanities in Western civilization with reference to non-Western analogs, contrasting the Greco-Roman with the Jewish and Christian traditions.

U 152L Introduction to the Humanities 4 cr. Offered spring. Prereq., eligibility for ENEX 101 based on writing placement examination. General survey of the field of Humanities in Western civilization with reference to non-Western analogs, since antiquity.

U 160L Classical Mythology 3 cr. Offered every spring; offered intermittently in summer. Same as MCLG 160L. Deities and myths of the Greeks and Romans, with emphasis on Western humanities as introduced in LS 151L. Hinduism, Confucianism, Taoism and Buddhism are the primary traditions considered.

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. Same as ENFM 180. The history and development of the film medium. Emphasis on critical analysis of selected classic or significant films.

U 195 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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

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

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

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

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

U 221H Germanic Mythology and Culture 3 cr. Offered intermittently. Same as MCLG 221H. 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 GERZ 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 GERZ 361L.

U 293a Omous Wadcrs 3 cr. Offered intermittently. Prereq., consent of instr. Independent work under the University omnibus option. See index.

U 294 Seminar Variable cr. (R-6) Offered intermittently. U 295 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study Variable cr. (R-9) Offered intermittently.

U 301 Earth's Mind: Ecology and Native Peoples 3 cr. Offered intermittently. Non-western attitudes toward nature, based on the work of anthropologists, philosophers, novelists, poets, and on native oral traditions.

U 305L Introduction to Russian Literature I 3 cr. Offered autumn alternate years. Same as MCLG and RUSS 305L. A survey of Russian poetry and prose from their beginnings (medieval period) to mid-nineteenth century. Included are the works of Karamzin, Pushkin, and Lermontov.

U 306L Introduction to Russian Literature II 3 cr. Offered spring. Same as MCLG and RUSS 306L. A survey of Russian poetry and prose from the mid-nineteenth century through the Symbolist period of the early 20th century. Included are the works of Gogol, Turgenev, Dostoevsky, Tolstoy, and the Symbolists.

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

U 309 Reading the City: Rome 3 cr. Offered autumn. Same as MCLG 309. Prereq., previous acceptance in subsequentintersession 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 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 AS, CHIN, and MCLG 314L. Highlights of Chinese literature to 1800; includes philosophy, poetry, prose, and fiction.

U 321L Traditional Chinese Literature in English Translation 3 cr. Offered intermittently in spring. Same as AS, CHIN, and MCLG 314L. Highlights of Chinese literature to 1800; includes philosophy, poetry, prose, and fiction.

U 321L 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 AS, CHIN, and MCLG 314L. Highlights of Chinese literature to 1800; includes philosophy, poetry, prose, and fiction.
and GERM 303.

UG 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 301. Reading of various authors from different literary periods and cultures working in the same mode of composition (every two years, Literature of Place, Modern Drama, 19th Century Fiction, 20th Century Fiction, Lyric Poetry, Science Fiction, Autobiography; less frequently, Travel Literature, Popular Fiction, Epic, Tragedy, Satire, Romance, Comedy).

UG 352E The Roots of Western Ethics 3 cr. Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr. Same as MCLG 365E. Studies of the origins of Western ethical thinking in the original writings of Greek writers and their application to current situations.

UG 338 The French Cinema 3 cr. (R-6) Offered intermittently. Same as MCLG and FREN 338. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realism, Nouvelle Vague, etc.) With an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.

UG 340H Ancient Greek Civilization and Culture 3 cr. Offered intermittently. Prereq., ART 150H or 151H or consent of instr. Same as MCLG 360H and ART 380H. Lecture course. Ancient Greek works of art and architecture, related to and explained by contemporary ideas and values of Greek society.

UG 341H Roman and Early Christian Art in Context 3 cr. Offered intermittently. Prereq., ART 150H or 151H or consent of instr. Same as ART 381H and MCLG 361H. A survey of the various media used in Roman art; the social political, and economic contexts in which the media were developed; and the transition (technical, iconographic, and contextual) to the art of the Early Christian period.

UG 351L Exploring the Humanities in Depth 3 cr. (R-9) Offered autumn and spring. Intensive study of a specific historical period in Western humanities through its seminal literature, with an emphasis on the intellectual and ethical paradigms which form an essential component of the foundations of Western tradition.

UG 356 Studies in Literature and Other Disciplines 3 cr. (R-9) Offered autumn and spring. Prereq., nine credits in ENLT or LS or consent of instr. Same as ENLT 325. Selected works of literature studied in conjunction with works of art, music, religion, philosophy, or another discipline (every two years, Psychology and Literature, Film and Literature, The Poetry of Meditation; less frequently, British Art and Literature, Modernism, Literature and Science, Bible as Literature, Song).

UG 358 Latin American Civilization through Literature and Film 3 cr. Offered autumn odd-numbered years. The development of the traditional society of Latin American civilization through the interaction of European, Indian, and African elements. Credit not allowed for both LS/MCLG 358 and SPAN 359.

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

UG 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.

UG 375L Gender and Sexuality in 20th Century Fiction 3 cr. Offered intermittently. Same as ENLT 375L. Major 20th century novels and short stories written in English in different parts of the world and how these texts explore changing concepts of gender and sexuality.

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

UG 391 Agriculture in the Humanities and Fine Arts 1 cr. Offered autumn. Same as EVST and PHIL 391. Lecture series that accompanies cooperative education credit for students in P.E.A.S. (Program in Ecological Agriculture and Society).

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

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

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

UG 398 Internship Variable cr. Offered intermittently. Prereq., consent of director. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.


UG 455 Studies in Comparative Literature 3 cr. (R-9) Offered intermittently. Same as ENLT 430 and MCLG 440. Study of important literary ideas, genres, trends and movements. Credit not allowed for more than one course on the same topic numbered ENLT 430, MCLG 440, 494 or LS 455.

UG 460 History of Criticism and Theory 3 cr. Offered autumn or spring. Prereq., ENLT 301 and six credits in literature courses numbered 300 or higher. Same as ENLT 420. A survey of the historical development of critical theories which shaped ways of reading and writing from Plato and Aristotle to the present.

UG 461 Topics in Critical Theory 3 cr. (R-6) Offered autumn or spring. Prereq., ENLT 301 and six credits in literature courses numbered 300 or higher. Same as ENLT 421. Study and application of one or more theoretical approaches to interpreting texts (e.g., aesthetic poststructural, new historicist, classical, renaissance, romantic, narrative, psychoanalytic, formalist, neo-Marxist, feminist, gender, cultural studies and reader-response theory.)

UG 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.

UG 496 Independent Study Variable cr. (R-9) Offered intermittently.

UG 497 Research Variable cr. (R-6) Offered intermittently.

UG 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

Tully J. Thibeau, Director

Mission

Objectives. The Linguistics Program aims to train students in the scientific analysis of human languages, including the analysis of sounds (phonetics), sound patterns (phonology), words (morphology), sentences (syntax), and meaning (semantics). In addition, students learn to think about the general principles claimed to be common to all languages, and the extent to which languages can vary; how individuals acquire native languages and subsequent languages; how languages function in social contexts; and how languages are related historically. Graduate students in the Program acquire the knowledge and skills to prepare them for doctoral work in linguistics and related fields.

Indigenous and Endangered Languages. The research focus of the program includes indigenous languages of North America. Montana is the aboriginal home of speakers of languages that belong to four distinct language families: 1. Kutenai (isolate); 2. Flathead (Salish); 3 Crete, Blackfoot, Northern Cheyenne, and Gros Ventre (Algonquian); 4. Assiniboine, Sioux and Crow (Siouan). Of the approximately six thousand languages currently spoken in the world, only about five percent are projected to survive into the 22nd century. The Linguistics Program is committed to preserving and promoting the linguistic diversity of the region and the state.

Interdisciplinarity. 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 Program.

Degree Offered.

Graduate Program: The Program offers an M.A. in Linguistics. Students admitted to the Program pursue two tracks: general or applied. The program also supports students pursuing an MA degree with a Linguistics specialization through the Department of Anthropology.

Undergraduate Program: There is no linguistics major or minor. However, students may pursue a Linguistics Option while earning a BA degree through the following departments: Anthropology, English, Modern and Classical Languages and Literature. For specific course requirements, students should refer to the relevant department’s section in this catalog.

Certificate of Accomplishment in English as a Second Language (EASL)

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 474 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.

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 graduate assistant teachers who are pursuing advanced degrees in linguistics instruct academically-oriented EASL courses. Each EASL course lasts one semester and grants international students three credit hours that count toward graduation. The needs of individuals who must raise their English proficiency to gain admission to a university or college are addressed by the English Language Institute.

Teacher Preparation in English as a Second Language

Minor Teaching Field: For an endorsement in the minor teaching field of English as a Second Language, a student must complete LING 470, 471, 472, 477 or 478, 480 and 491; at least two courses from the following: LING 466, 473S, 475, 476, and 489. Students also must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see School of Education section of this catalog.) Courses in the teaching minor may not be taken on a pass-not pass basis.

Courses

U = for undergraduate credit only, 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 and 580 on the TOEFL. Grading A, B, C, D, or F.

**LINGUISTICS (LING)**

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

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

U 198 Internship Variable cr. Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

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

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

U 398 Internship Variable cr. Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 403 Applied German Linguistics 3 cr. Offered autumn. Same as GERM 403. Contrastive analysis of German phonology, morphology, and syntax.

U 405 Applied Spanish Linguistics 3 cr. Offered autumn. Same as SPAN 405. Topics and issues from various linguistic approaches, selected for their applicability to the teaching of Spanish.

U 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.

U 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.

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

U 471 Phonetics and Phonology 3 cr. Offered autumn. Prereq., LING 470. A study of phonetic and phonological 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.

U 472 Generative Syntax 3 cr. Offered autumn. Prereq., LING 470. A study of the human language sentence-formation system, the means for expressing semantic information as propositions. Emphasis on the abstraction of utterances in the form of mathematical objects.

U 473S Language and Culture 3 cr. Offered autumn even-numbered years. Prereq., LING 470. Technical study of the relationships between grammatical categories and world view.

U 474 Historical and Comparative Linguistics 3 cr. Offered autumn. Prereq., LING 470. The principles of historical reconstruction and comparative method in the analysis of linguistic variation and change.

U 475 Linguistic Field Methods 3 cr. Offered spring odd-numbered years. Prereq., LING 470. Writing up linguistic data; developing techniques for eliciting linguistic data by working with a native speaker of a non-Indo-European language.

U 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.

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

U 478 Second Language Development 3 cr. Offered spring. Prereq., LING 471 and 472 or consent of instructor. Like studies in Second Language (L2) Acquisition, this course considers Interlanguage (i.e., a language system that develops non-natively) and includes analysis of L2 data taken from naturalistic and experimental setting.

U 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.

U 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.

U 481 The ESL Professional 3 cr. Offered spring. Prereq. or coreq., LING 491; prereq., LING 480 or consent of instr. Professional development techniques for the independent language teacher: language test construction, self-critique of teaching strategies, materials development, curriculum evaluation and design, and electronic and print media resources for the language teaching professional.

U 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.

U 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 perspectives and current applications.

U 489 Languages of the World 3 cr. Offered spring. Prereq., LING 470. A survey of the grammatical features of several unrelated languages to provide the student with a broad overview of how world languages compare and contrast.

U 491 ESL Practicum 1-3 cr. Prereq., or coreq., LING 480. Offered every term. Same as ENLI 491. Students with a teaching major take the course for 3 credits; others take it for 1 credit and do one third of the work.

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

U 496 Independent Study Variable cr. (R-9) Offered every term. Prereq., consent of instr. Special projects in linguistic analysis.

U 498 Internship Variable cr. Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
G 570 Seminar in Linguistics 3 cr. (R-12) Offered autumn and spring. Prereq., LING 470. Same as ANTH 570. Advanced topics in linguistic analysis.
G 575 Preceptorship 1 cr. (R-4) Offered autumn and spring. Prereq., consent of instr. Materials development, assessment and evaluation of learners’ needs and interests in teaching English as an academic second Language to international students attending universities with English instruction.
G 595 Special Topics Variable cr. (R-9) Offered every term. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
G 596 S Independent Study 1-3 cr. (R-6) Offered every term.
G 598 Internship Variable cr. (R-6) Offered autumn and spring.
G 599 Professional Paper Variable cr. (R-6) Offered every term.
G 699 Thesis Variable cr. (R-6) Offered every term.

Faculty

Department of Mathematical Sciences

David Patterson, Chair
Mathematics is studied both as a tool and for its own sake. Its usefulness in the sciences—physical, biological, social, behavioral, and environmental—and in decision-making processes is so established as to make it an indispensable part of many curricula. Mathematics is chosen as a major area of study by individuals who find it challenging, fascinating, and beautiful. It is also appreciated by many who seek primarily to use mathematics as a tool.
A career in mathematics, except for teaching at the secondary level, generally requires a graduate degree as preparation. Careers include teaching, research, and the application of mathematics to diverse problems in institutions of higher learning, business, industry, and government.
The Bachelor of Arts, Master of Arts, and Doctor of Philosophy degrees are offered as well as a Bachelor of Science in Mathematical Sciences-Computer Science.
High School Preparation: For study of mathematics at the University, it is recommended that high school preparation include the equivalent of three years of algebra, plane geometry, trigonometry, and analytic geometry.

Special Degree Requirements
Refer to graduation requirements listed previously in the catalog. See index.
Mathematics Requirements for B.A. Degree with a Major in Mathematical Sciences
To obtain a B.A. degree with a major in Mathematical Sciences, the required courses are MATH 152, 153, 221, 251 (except for students in the Mathematics Education option), MATH 300 (except for students in the Mathematics Education option), 305 and six additional 3- or 4-credit mathematics courses numbered 300 or above (at least three of the six must be numbered 400 or above). The following courses do not count toward the six additional 3- or 4-credit courses: MATH 444 and 445, and courses numbered 390-399 and 490-499. All mathematics courses counted toward the major must be passed with a grade of C- or better and a 2.00 grade point average is required. In addition, if a special option is desired, the minimum requirements listed below for that option must be met. Additional courses should be chosen in consultation with a mathematics advisor.
Requirements for the Special Options
Pure Mathematics Option
Four courses chosen from MATH 351, 421, 422, 451, 452.
Mathematics Education Option
MATH 301, 326, 341, 406, 421, 431; one mathematics course chosen from 251, 311, 325, 381, 382 or any additional 3-4 credit 400-level mathematics course; and the completion of certification requirements for teaching in secondary schools to include C&I 430.
Statistics Option
MATH 341, 441, 442. (Additional mathematics and statistics courses chosen with advisor.)
Combinatorics and Optimization Option
MATH 381, 382, 485; and one course chosen from 341, 414, 471, or CS 332.
Applied Mathematics Option
MATH 311, 412, 414 and one of 452 or 471. (MATH 351 and 485 are recommended.)
Major Requirements in Courses Outside Mathematics
1. Except for students in the Mathematics Education option and for students presenting a second major within the University, students must either complete the foreign language requirement as specified in 1. within the Foreign Language/Symbolic Systems section under the General Education requirements or take two courses chosen from CS 101, 131, 132, 201, 207.
2. All mathematics majors, except those selecting the mathematics education option, must complete 18 credits in at most three sciences selected from astronomy, biology, chemistry, computer science, economics, forestry, geology, management, microbiology, and physics. Students selecting the mathematics education option must complete 12 credits in at most two sciences selected from astronomy, biology, chemistry, computer science, geology, microbiology and physics. An alternative to the science requirement is for the student to present a minor or second major within the University, or for the student with a mathematics education option to complete an additional teaching minor or major.
3. The upper-division writing requirement for Mathematical Sciences majors is one of the following: Math 406, or any other approved General Education upper-division Writing course, or a senior thesis (MATH 499).

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 2.00 grade point average is required in all courses which follow.

The mathematical sciences requirements are: 152-153, 221, 251, 305 (or 225), and twelve credits of 3- or 4-credit MATH electives selected from courses numbered above 305 (not including courses numbered 390-399 and 490-499). The computer science requirements are: 121, 131-132, 241-242, 281, 332 and nine credits of CS electives selected from courses numbered 300 and above. A total of at most three of the nine credits of CS electives may be in CS 398 or 498. The combined nine additional credits of computer science electives and twelve additional credits of mathematical sciences electives must include at least three 3- or 4-credit courses numbered 400 or above, with at least one chosen from each department (not including MATH 406, 444, and 445).

Other requirements are: One of the sequences BIOL 108N, 109N, 110N; CHEM 161N, 162N; or PHYS 221N-222N. In addition, FOR 220, and either COMM 111A or COMM 242. The upper-division writing requirement is one of the following: CS 415E, MATH 406, any other approved General Education upper-division writing course, or a senior thesis (CS 499 or MATH 499).

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

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<tr>
<th>Courses</th>
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<tr>
<td>MATH 152-153 Calculus I, II</td>
<td>4</td>
<td>4</td>
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<tr>
<td>ENEX 101 Composition and other General Education Courses (including two sciences courses)</td>
<td>12</td>
<td>12</td>
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Second Year

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<th>Courses</th>
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<tr>
<td>MATH 221-Linear Algebra</td>
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<tr>
<td>MATH 251 Calculus III</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>MATH 305 Introduction to Abstract Mathematics</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>General Education courses, additional science courses and electives</td>
<td>9</td>
<td>13</td>
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Requirements for a Minor

To earn a minor in mathematics the student must earn 23 credits in mathematics courses numbered 111 or higher, including: (a) MATH 150 or 153, and (b) at least three 3- or 4-credit courses at the 300 level or above. MATH 153 (Calculus II) is recommended since it is a prerequisite for many upper-division mathematics courses. All courses counted toward the minor must be passed with a grade of C- or better and a 2.00 grade point average is required. A handout with detailed advice for math minors, including suggested curricula, is available on the math department’s home page.

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 CS 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 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 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, MATH 005, and Intermediate Algebra, MATH 100.
- U 107 Contemporary Mathematics 3 cr. Offered every term. Prereq., MATH 005 with a grade of B- or better, or 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 005 with a grade of B- or better, or 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 111 College Algebra 3 cr. Offered autumn and spring. Prereq., MATH 100 or appropriate placement score. Intended to strengthen algebra skills. The study of functions and their inverses; polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both MATH 111 and any of MATH 118, MATH 120, and MATH 121.
- U 112 Functions and Trigonometry 3 cr. Offered autumn and spring. Prereq., MATH 111 or appropriate placement score. Preparation for calculus based on college algebra. Review of functions and their inverses, exponential and logarithmic functions. Trigonometric functions and identities, polar coordinates and an optional topic such as conic sections or parametric functions. Credit not allowed for both MATH 112 and any of MATH 119, MATH 120, and MATH 121.
- U 117 Probability and Linear Mathematics 3 cr. Offered every term. Prereq., MATH 005 with a grade of B- or better, or 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 MATH 117 and MATH 117.
- U 121 Precalculus 4 cr. Offered autumn and spring. Prereq., appropriate placement score. A one semester preparation for calculus (as an alternative to MATH 111-112). Functions of one real variable 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 any of MATH 110, MATH 118, MATH 120, MATH 111, or MATH 112.
- U 130 Mathematics for Elementary Teachers 5 cr. Offered
autumn and spring. Prereq., MAT 100 or appropriate placement score. Open only to elementary education majors. Topics include problem-solving, sets and logic, functions, whole numbers, integers, rational numbers, real numbers, number theory, probability and statistics.

U 131 Mathematics for Elementary Teachers 4 cr. Offered autumn and spring. Prereq., 130. Topics include introductory geometry, geometric constructions, congruence, similarity, measurement, coordinate geometry and an introduction to computer geometry.

U 150 Applied Calculus 4 cr. Offered autumn and spring. Prereq., appropriate placement score or one of MATH 111, 112, or 121. 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 112 or 121 or appropriate placement score. Differential calculus, including limits, continuous functions, Intermediate Value Theorem, tangents, linear approximation, inverse functions, implicit differentiation, extreme values and the Mean Value Theorem. Integral Calculus including antiderivatives, definite integrals, and the Fundamental Theorem of Calculus.


U 158 Applied Differential Equations 3 cr. Offered spring. Prereq., MATH 150 or 152. Solution of ordinary differential equations and systems with emphasis on applications, numerical methods and computer software.

U 195 Special Topics Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 221 Linear Algebra 4 cr. Offered autumn and spring. Prereq., MATH 153. Vectors in the plane and space, systems of linear equations and Gauss-Jordan elimination, matrices, determinants, eigenvalues and eigenvectors, vector spaces, linear transformations. Calculators and/or computers used where appropriate.

U 225 Discrete Mathematics 3 cr. Offered autumn. Prereq., MATH 150 or 152 or consent of instr. Mathematical concepts used in computer science with an emphasis on mathematical reasoning and problem-solving techniques. Functions and relations, combinatorics, mathematical induction, recursion and algorithms. Mathematics majors should take 305 instead of 225.

U 231 Topics in Geometry 3 cr. Offered intermittently. Prereq., MATH 131 or consent of instr. Geometry topics for teaching grades 6-12 mathematics. Intended primarily for students in elementary education who plan to teach middle school mathematics.

U 241 Statistics 4 cr. Offered autumn and spring. Prereq., MATH 117 or consent of instr. Introduction to major ideas of statistical inference. Emphasis is on statistical reasoning and uses of statistics.

U 251 Calculus III 4 cr. Offered autumn and spring. Prereq., MATH 153. Calculus of functions of several variables; differentiation and elementary integration. Vectors in the plane and space.

U 291 Practicum 1-3 cr. (R-3) Offered intermittently. Prereq., consent of instr.

U 294 Seminar Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance in special work for advanced students.

U 295 Special Topics Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296 Independent Study Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Guidance of an individual student in doing independent study on material not offered in a regular course.

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

U 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. Students planning to take both MATH 221 and 305 are encouraged to take MATH 221 first.


U 317 Ordinary Differential Equations Computer Lab 1 cr. Offered autumn. Coreq., MATH 311 or consent of instr. Intended primarily for student in MATH 311.

U 325 Discrete Mathematics 3 cr. Offered spring. Prereq., MATH 152 and 225 or 305. Continuation of 225 and topics from graph theory, Boolean algebra, automata theory, coding theory, computability and formal languages.

U 326 Elementary Number Theory 3 cr. Offered spring. Prereq., MATH 225 or 305. Congruences, Diophantine equations, properties of primes, quadratic residues, continued fractions, algebraic numbers.

U 341 Introduction to Probability and Statistics 3 cr. Offered autumn and spring. Prereq., MATH 150 or 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.

U 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.

U 358 Logic, sets, functions and relations, combinatorics, mathematical induction, recursion and algorithms. Mathematics majors should take 305 instead of 225.

U 375 Advanced Mathematics 5 cr. Offered autumn and spring. Prereq., MATH 225 or 305. Continuation of 225 and topics from graph theory, Boolean algebra, automata theory, coding theory, computability and formal languages.

U 381 Linear Optimization 3 cr. Offered spring. Prereq., MATH 150 or 153 (221 or 225 recommended). Intended for non-mathematics majors as well as mathematics majors. Introduction to discrete optimization and modeling techniques with applications. Topics from combinatorics and graph theory, including enumeration, graph algorithms, matching problems and networks.

U 382 Linear Optimization 3 cr. Offered autumn. Prereq., MATH 150 or 153 (221 or 225 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.

U 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
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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, combinatorial analysis, counting, graph theory, matrix representations, and finite state transition models.

G 530 Geometries for Teachers 3 cr. Offered intermittently in summer. Prereq., MATH 431 or equiv. Comparison of synthetic, analytic, vector, and transformational approaches to geometry. Includes classification of geometries, geometric representations, axiomatics, and the applications of modern geometries.

G 531 Topology 3 cr. Offered autumn even-numbered years. Prereq., MATH 451 or consent of instr. Set theory, topological spaces, metrizability, continuous mappings and selected topics.

G 532 Topology 3 cr. Offered spring odd-numbered years. Prereq., MATH 531 or consent of instr. Continuation of 531.

G 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 intermittently. Prereq., MATH 442 and consent of instr. May include theory of nonparametric statistics, generalized linear models, stochastic processes or other topics chosen by the instructor.

G 545 Theory of Linear Models 3 cr. Offered autumn odd-numbered years. Prereq., MATH 442. Multivariate normal distribution, distribution of quadratic forms, estimation and hypothesis testing in the full rank and less than full rank general linear models.

G 547 Applied Nonparametric Statistics 3 cr. Offered autumn odd-numbered years. Prereq., MATH 441 or 445 or consent of instr. Statistical estimation and inference based on ranks and elementary counting methods. Applications to a variety of situations including one- and two-sample, correlation, regression, analysis of variance, and goodness-of-fit problems. Use of the computer and real data sets integrated throughout. Intended for students in mathematics and in other fields.

G 549 Applied Sampling 3 cr. Offered autumn even-numbered years. Theory and application of methods for selecting samples from populations in order to efficiently estimate parameters of interest. Includes simple random, stratified, cluster, systematic, multistage, line transect, distance and adaptive sampling. Use of the computer and real data sets integrated throughout. Intended for students in mathematics and in other fields.

G 550 Analysis for Teachers 3 cr. Offered intermittently in summer. Prereq., MATH 251 or equiv. Notions of limits, continuity, differentiation, and integration in 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, nonlinear, 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 605 Learning Theories in Mathematics 3 cr. Prereq., graduate status. How children learn mathematical content and
processes. Models of mental development, concept formation, problem solving, reasoning, and creative thinking.

G 606 Current Topics in the History of Mathematics 3 cr.
Examination of mathematical history topics from the latter part of the 20th century. Discussions may focus on the impact of Hilbert's Problems. Research on current mathematics.

G 610 Graduate Seminar in Applied Mathematics Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 620 Graduate Seminar in Algebra Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 630 Graduate Seminar in Geometry/Topology Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 640 Graduate Seminar in Probability and Statistics Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 650 Graduate Seminar in Analysis Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 670 Graduate Seminar in Numerical Analysis Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 680 Graduate Seminar in Combinatorics and Optimization Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

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

G 691 Research Methods in Mathematics Education 3 cr. Prereq., consent of instr. Resources for learning of reported research, critical reviews of research, quantitative and qualitative processes.

G 694 Seminar Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 699 Dissertation Variable cr. (R-9) Offered autumn and spring.

Faculty

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

Assistant Professors
John Bardsley, Ph.D., Montana State University, 2002
Jennifer Halfpap, Ph.D., University of Wisconsin, 2005
Donmon Harrar, Ph.D., Bowling Green State University, 2004
Ke Wu Norman, Ph.D., University of Minnesota, 2008

Lecturers
Lauren Fern, M.S., Northern Illinois University, 1994
Regina Souza, Ph.D., Massachusetts Institute of Technology, 1990

Emeritus Professors
William R. Ballard, Ph.D., University of Chicago, 1957
Charles A. Bryan, Ph.D., University of Arizona, 1963
William R. Derrick, Ph.D., Indiana University, 1966
Rudy A. Gideon, Ph.D., University of Wisconsin, 1970
Stanley I. Grossman, Ph.D., Brown University, 1969
Glora C. Hewitt, Ph.D., University of Washington, 1962
Don O. Loftsgaarden, Ph.D., Montana State University, 1964
Johnny W. Lott, Ph.D., Georgia State University, 1973
Merle E. Manis, Ph.D., University of Oregon, 1964
Robert W. McKelvey, Ph.D., University of Wisconsin, 1954
William M. Myers, Jr., Ph.D., Ohio State University, 1952
Howard E. Reinhardt, Ph.D., University of Michigan, 1959
George F. Votruba, Ph.D., University of Michigan, 1964
I. Keith Yale, Ph.D., University of California, Berkeley, 1966

Department of Military Science

Reserve Officers Training Corps

Michael L. Hedegaard, Chair

Army ROTC (Reserve Officers' Training Corps) offers college students the opportunity to serve as commissioned officers in the U.S. Army, the Army National Guard, or the U.S. Army Reserve upon graduation. ROTC enhances a student's education by providing unique leadership and management training, along with practical leadership experience. Students develop many of the qualities basic to success while earning a college degree and an officer's commission at the same time.

Four-Year Program. The four-year Army ROTC program is divided into two parts, the Basic Course and the Advanced Course.

Basic Course. The basic course is usually taken during the first two years of college and covers 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 and health 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 offered toward the bachelor degree for contracted students. A total of 12 credits are offered toward the bachelor degree for non-contracted students.

- **U 101S American Defense Establishment 3 cr.** Offered autumn and spring. The Constitutional role of the military, military tradition, current defense posture, service roles and missions. An introduction to issues and competencies that are central to a commissioned officer's responsibilities. Establishes framework for understanding officership, leadership and army values.

- **U 102 Introduction to Leadership 3 cr.** Offered autumn and spring. Establishes foundation of basic leadership fundamentals such as problem-solving, communications, goal setting and improving listening techniques. Introduction to the principles of military leadership and organizational values through discussion, observation and practice exercises.

- **U 131 Aviation: Introduction and Ground School 3 cr.** Offered spring. Prereq., basic high school math competency. Introductory course covering the ground school material required for an FAA Private Pilot Certificate. Topics include fundamentals of flight, flight operations, aviation weather, performance and navigation, and integration of pilot knowledge and skills.

- **U 195 Special Topics Variable cr.** 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 credits earned in the HHP 100-179 and DRAM 385 activity courses and MSL 203 and 315 in the total number of credits required for graduation. 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. Con-
tinuation of the study and application of small unit leadership tasks. Advanced leadership skills taught including medical evacuation procedures, radio procedures, and increased involvement in planning and executing military operations in preparation for attendance at the Leader Development and Assessment Course at Fort Lewis, Washington. Students participate in rifle marksmanship instruction including qualification with the M16A2 rifle, rappel, and attend one weekend exercise with students from other universities in the area and the Montana Army National Guard.

U 303 Leadership Laboratory 1 cr. (R-4) Offered autumn and spring. Prereq., consent of instr. Coreq., MSL 301, 302, 401, or 402E. Practical application of skills learned in the classroom.

U 315 Drill and Conditioning 1 cr. (R-4) Offered autumn and spring. The study and application of military drill and ceremony: formation, ceremonies, and marching; the study of the fundamentals of the military physical conditioning program, and the practical application of skills learned. Physical education activity course; a maximum of four credits of activity courses may be counted toward graduation.

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

U 401 Developmental Leadership 3 cr. Offered autumn. Prereq., consent of instr.; coreq., MSL 303. The application of leadership principles and techniques involved in leading young men and women in today's Army. Students explore training management, methods of effective staff collaboration and development counseling techniques. Develops student proficiency in planning and executing complex operations, functioning as a member of a staff and mentoring subordinates. Restricted to contracted Military Science students.

U 402E Officership and Ethics 3 cr. Offered spring. Prereq., consent of instr.; coreq., MSL 303. Study includes case study of military law and practical exercises on establishing an ethical command climate. Examines the role communications, values and ethics play in effective leadership. Students complete a semester long Senior Leadership Project that requires them to plan, organize, collaborate, analyze and demonstrate their leadership skills. Restricted to contracted Military Science students.

U 404 Advanced Leadership Practicum Variable cr. (R-4) Offered every term. Prereq., consent of instr. Required study and internship in military tactics, leadership and organizational behavior. Supervised by active duty military officers.

Faculty

Professor
Michael L. Hedegaard, M.M.A.S., Leavenworth 2001 (Chair)

Assistant Professors
Zachary Allen, B.A., Political Science, Gonzaga, 1995
Alvie Benskin
Eric Rydbom, B.S., Pennsylvania State University, 1983
Dean Roberts, B.S., United States Military Academy (West Point), 1996

Robert W. Acker, Chair

Instruction is offered in the following languages and literatures: Arabic, Chinese, French, German, Greek, Italian, Japanese, Latin, Persian (Farsi), Turkish, Russian and Spanish, as well as in linguistics, foreign literatures in English translation, film, and the study of foreign cultures. Undergraduate courses have been planned to meet the needs of students who began studying a language in high school as well as those who undertake such study for the first time at the University. The courses are intended to serve several purposes: (1) Contribute to the general education of students by giving them an opportunity to gain insight into patterns of living and thinking which are different from their own: (2) Enable students to gain proficiency in the language; (3) Prepare candidates for careers in research and college teaching by providing a solid basis for graduate studies in the various languages; (4) Prepare future teachers of foreign languages; (5) Give language training requisite to careers in government, foreign commerce and library work; (6) Enable students to read foreign publications and to meet graduate foreign language requirements in their field.

A 28 position multi-media computer laboratory and a joint 40 position language laboratory with facilities for video/audio individual and group interaction, computerized language programs, and satellite TV are used to supplement regular class work, and are available to give the individual student opportunity to develop active use of the language.
at which language study should be resumed at the University (e.g. 102, 201, 202).

3. **Credit by examination:** A student with extensive language study may score high enough on the placement exam to qualify for University credits if she or he places into 202 or 301. By taking the course into which she or he placed (202 or 301) and receiving a B (3.00) or better, the student may then receive four-by-pass credits (Pass grade only) for the preceding course (201 or 202).

Students who elect not to take this exam may:
1. Satisfy the General Education Competency Requirement in Foreign Language by successfully completing a University foreign language 102 (second semester) course.
2. Estimate their placement level for further study by the approximate equating of one year of high school study to one semester of university study. Students should consult with the department in making this estimate.

**Foreign Study Programs:** The Department of Modern and Classical Languages and Literatures offers programs of accredited study in Austria, Germany, Italy, Spain, Mexico, and Russia. Each program is supervised by a University of Montana department faculty member, and is open to any student who meets the respective foreign language prerequisites. Details concerning individual programs are available from the Department of Modern and Classical Languages and Literatures. The department also sponsors graduate student exchanges with the universities in France, as well as work/study internships abroad for students in Japanese.

**Major Degree Requirements**

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

Total credits required for a major in a modern or classical language vary with the student's high school preparation or language credit transferred from another college or university. Requirements for academic majors are set forth below under the various languages. Requirements for teaching majors and minors also are listed under the School of Education. 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 160H 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 Civilization major.
5. The upper-division Writing Expectation will be fulfilled by completing 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 the instructor.

**Latin Option:**

1. Fifteen credits in Latin beyond Latin 212, Greek 101-102 may account for 4 credits.
2. Latin 402, Advanced Prose Composition.
3. MCLG 155L, MCLG 160H and either MCLG 251L or 252L.
4. MCLG 303H and 361H.
5. Nine additional credits from recommended or specially approved courses. Recommended courses are MCLG 301H, 302H, 303H, 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
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), 412 or 415, and at least 12 credits from JPN 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 JPN 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 351L, 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 from the approved list in the Academic Policies and Procedures section of this catalog. See index.
7. Spanish majors interested in Spanish-American literatures and cultures are encouraged to take MCLG 100H, 3 or 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 Spanish and earn credit toward their Spanish major or minor may wish to consider the Spanish section’s study abroad programs offered each spring semester in Mexico or Spain. (Contact the Department of Modern and Classical Languages and Literatures for further information on either the Latin American Studies minor or study abroad programs.)

Minor Degree Requirements

Minors are offered in Chinese, French, Business French, German, Japanese, Russian, Spanish, Classical Civilization, Latin and Greek.

Total credits required for a minor vary by languages. These credits also vary with a student’s high school preparation of language transferred from another college or university. For example, a student in a modern language with experience equivalent to 101-102 and 201-202 need only complete the upper-division requirements and any additional lower division courses. Students with no experience in a modern language, however, must first complete 101-102 and 201-202 before taking upper division courses. Following is a list of requirements for each language.

In French, 101, 102, 201, 202 and 15 upper-division credits.
Courses must include 301, 302, and two of the following: 306, 311, 312, 313, 338, and one 400 level course. In Chinese, 101-102, 201-202, 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, 101, 102, 201, 202 and 15 upper-division credits. Courses must include 301, 302, 311, and 312, and one of the following culture courses: 303H, 304H, 355, 361L or 362H. Students must maintain a minimum overall GPA of 2.5 in these courses. Native or near-native speakers of German must substitute two 400-level courses for 301 and 302.

In Japanese, 101-102, 201-202 and JPN 210H, as well as 9 credits in Japanese literature or other courses from among the following: JPN 306, 311L, 312L, 386, 390 (up to 3 credits only), 393 (up to 3 credits only), 412, 431L, and 495. 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 Russian, 101, 102, 201, 201 and 12 upper division credits. In Spanish, 101, 102, 201, 202 and 18 upper-division credits. 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 101, 102 or Greek 101, 102; LS 151L, MCLG 160L, and PHIL 251H; three (3) credits from MCLG 301H, 302H, 303H; and nine additional credits from: MCLG 155L, 251L, 252L, 301H, 302H, 303H, 360H, 361H, 362H, 365E; LAT 211, 212, 300; GRK 211, 212, 300 . . . . . .

Teacher Preparation in Modern and Classical Languages

General Requirements for an Endorsement in the Extended Major, Minor, 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.

German qualifies for a single-field endorsement. However, there is a limited demand in the majority of Montana high schools for teachers with a single endorsement in German. Students are encouraged to complete the requirements for a second teaching endorsement (major or minor) in another field in more demand in high schools.

Minor Teaching Field of German: For an endorsement in the minor teaching field of German, a student must complete GERM 101-102, GERM 201-202, GERM 301, 302; one of the following German culture courses: 303H, 304H, 355, 361L or 362H; GERM 403, LING 270, and MCLG 410. Study in a German-language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required.

Major Teaching Field of Latin: For an endorsement in the major teaching field of Latin, a student must complete the requirements for the B.A. with a major in Classics, Latin option, and in addition, MCLG 410.

Minor Teaching Field of Latin: For an endorsement in the minor teaching field of Latin, a student must complete LAT 101-102, LAT 211-212, 6 credits of LAT 300, LAT 402, and MCLG 410.

Major Teaching Field of Russian: For an endorsement in the major teaching field of Russian, a student must complete the requirements for the B.A. with a major in Russian including RUSS 301-302 and MCLG 410.

Minor Teaching Field of Russian: For an endorsement in the minor teaching field of Russian, a student must complete RUSS 101-102, RUSS 201-202, RUSS 301-302, 306L, and MCLG 410.

Extended Major Teaching Field of Spanish: For an endorsement in the extended major teaching field of Spanish, a student must complete the requirements for the B.A. with a major in Spanish including SPAN 301, 302, 405, 408 and MCLG 415. Study in a Spanish-language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required.

Spanish qualifies for a single-field endorsement. However, there is a limited demand in the majority of Montana high schools for teachers with a single endorsement in Spanish. Students are encouraged to complete the requirements for a second teaching endorsement (major or minor) in another field in more demand in high schools.

Minor Teaching Field of Spanish: For an endorsement in the minor teaching field of Spanish, a student must complete SPAN 101-102, SPAN 201-202, SPAN 301-302, SPAN 311L or 312L, SPAN 405 and MCLG 410. Study in a Spanish-language country, provided either through the University's Study Abroad Program or an experience considered to be equivalent, also is required.

Suggested Course of Study

The following is a sample first-year program to aid students in planning their first year before they arrive on campus and have the opportunity to work out a full four-year course plan with their academic advisor. Each student intending to major or minor in a foreign language must consult with an advisor before registering. For any further information contact the Secretary, Department of Modern and Classical Languages and Literatures.

For freshmen without previous training in the major language (French, German, Russian, Spanish):

First Year

Specific Recommendations:

Major language 101-102 Elementary .......... 5 5
LS 151L-152L Introduction to the Humanities .... 4 4
HIST 104H-105H European Civilization ........ 4 4
ENEX 101 Composition .......................... 3 -

Suggested electives:

ENLT 120L-121L The Contemporary Imagination/
Introduction to Poetry ............................. (3) (3)
MCLG 160L Classical Mythology .................... (3) (3)
General Education courses in
Perspectives 1, 4, or 5 .............................. 0-3 3-6

Courses

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

General (MCLG)

These courses are given in English for the general student body and do not require knowledge of a foreign Language. They do not count as language credit toward a B.A. degree in any given foreign language. For clarity, they are arranged below according to the section in which they are offered.

Classical Civilization

U 155L Survey of Greek and Roman Literature 3 cr.
Offered intermittently. An introduction to the literature of classical Greece and Rome. Readings in English translations of ancient works by Homer, Sophocles, Herodotus, Plato, Cicero, Vergil, Livy, and Ovid (and/or similar authors).

U 160L Classical Mythology 3 cr. Offered every spring; offered intermittently in summer. Same as LS 160L. Deities and myths of the Greeks and Romans, with emphasis on those of most importance to Western literature and art.

U 170 Myth Seminar: Honors 1 cr. Offered every spring. Same as LS 170. Coreq., MCLG/LS 160L. Research, writing, and discussion about the mythologies of the Greeks and Romans in a small group setting.

U 251L The Epic 3 cr. (R-6) Offered intermittently. Same as LS 251L. Reading, study and discussion of epic poems. Selections will vary from Western and non-Western traditions.

U 252L Tragedy 3 cr. (R-6) Same as LS 252L. Offered intermittently. A study of the literary, artistic and philosophical dimensions of tragedy. Selections will vary.

UG 301H Classical Greece 3 cr. Offered intermittently. Same as HIST 301H. Greek history from the earliest times through the Macedonian ascendency, 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.

Examination of the

Prereq.,

Rome. Study of the classical, medieval, and modern city.

Western ethical thinking in the original

various media used in Roman art; the social, political, and
society.

Offered intermittently. Same as ART 380H and LS 340H. A survey of the various media used in Roman art; the social political, and contextual transition (technical, iconographic, and contextual) to the art of the Early Christian period.

U 362H Ancient Greek and Roman Philosophy 3 cr.

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

U 365E The Roots of Western Ethics 3 cr. Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr. Same as LS 325E. Studies of the origins of Western ethical thinking in the original writings of Greek writers and their application to current situations.

Chinese Literature/Culture

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

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

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

U 380L Chinese Folktales 3 cr. Same as LS 311L. Offered intermittently. The study of the aspirations, desires, loves, fears, moral and aesthetic values of the Chinese people as expressed in their folk literature.


French Culture

U 338 The French Cinema 3 cr. (R-6) Offered intermittently. Same as FREN and LS 338. An historical, aesthetic, and critical survey of the French cinema, from its beginnings in 1895 through the contemporary cinema (Muet, classical, Realism, 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 alternate years. 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 alternate years. Same as LS 322H. Overview of major events and currents in German culture from 1900 to the present with emphasis on the arts, literature, and intellectual movements. Credit not allowed for MCLG 331H and GERM 304.

Japanese Literature/Culture

U 210H Japanese Culture and Civilization 3 cr. Offered intermittently. Same as AS, JPN 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 JPN 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 JPN 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 JPN 431L. Introduction to issues, literature, and criticism of Japanese literature from the postwar (1945) through the contemporary period, using texts in English translation.

Russian Literature

U 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.

U 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. Multi-disciplinary survey and introduction to Latin America from pre-Columbian times to the present.

U 315L Major Hispanic Authors and Their Times 3 cr. Offered autumn. Same as LS 315L. The intensive study of the life times, and works of a major Hispanic author.

UG 345 Introduction to Spanish Section Study Abroad
Program 3 cr. Offered autumn semester. Introduction to spring semester study abroad program in Spain or Latin America.

U 358 Latin American Civilization through Literature and Film 3 cr. Offered in autumn odd-numbered years. The development of the traditional society of Latin American civilization through the interaction of European, Indian and African elements. Credit not allowed for both LS/MCLG 358 and SPAN 359.

Other (for any language section)
U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

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

U 198 Internship Variable cr. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 293 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, 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 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.

U 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. Coreq. C&I 301 or 302. Fundamental concepts, objectives and techniques in the teaching of foreign languages.

U 440 Studies in Comparative Literature 3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Same as ENLT 430 and LS 455. The study of important literary ideas, genres, trends and movements. Credit not allowed for the same topic in more than one course numbered 440, 494, ENLT 430 or LS 455.

U 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 494 Seminar in Foreign Literatures 1-3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Specialized topics in various foreign literatures. Topics announced in class schedules. Credit not allowed for the same topic in more than one course numbered 440, 494 or LS 455.

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 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 201 Intermediate Modern Standard Arabic 5 cr. Offered autumn. Prereq., ARAB 102 or equiv. Expansion of active skills: Listening, speaking, reading, writing, plus further cultural analysis.

U 202 Intermediate Modern Standard Arabic II 5 cr. Offered spring. Prereq., ARAB 201 or equiv. Continuation of ARAB 201.

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 301 Advanced Modern Standard Arabic I 3 cr. Offered autumn. Prereq., ARAB 202 or equiv. Improves and builds upon oral and written expression in modern standard Arabic and accelerates the use of vocabulary and the Arabic root system.

U 302 Advanced Modern Standard Arabic II 3 cr. Offered spring. Prereq., ARAB 301 or equiv. Continuation of ARAB 301.

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 5 cr. Offered autumn. Emphasis on speaking, reading and writing elementary Mandarin.
U 102 Elementary Chinese II 5 cr. Prereq., CHIN 101.
Offered spring. 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 202 Intermediate Chinese II 5 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.

UG 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.
UG 496 Independent Study Variable cr. (R-9) Offered intermittently. French (FREN)
U 101 Elementary French I 5 cr. Offered autumn. Active skills: listening, speaking, reading and writing plus basic cultural analysis.
U 102 Elementary French II 5 cr. Prereq., FREN 101.
Offered spring. Continuation of 101.
U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.
U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 201 Intermediate 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 311L Survey of French Literature 3 cr. Offered autumn. Prereq., FREN 202 or equiv. French literature of the Middle Ages, Renaissance and 17th century.
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.
U 338L The French Cinema I 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, Realism, Nouvelle Vague, etc.) With an introduction to contemporary film criticism. Students taking the course for French credits are required to do research, reading, and writing in the French language.
U 355 Special Topics in French Language, Literature, and Culture 1-3 cr. (R-9) Offered intermittently. To be taken in conjunction with the French Study Abroad Program.
U 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.
U 395 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 396 Independent Study 1-3 cr. (R-3) Offered autumn and spring.
UG 401 Applied Linguistics 3 cr. Offered intermittently. Prereq., FREN 301 and 311L 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 textuality from the Renaissance to the 20th century: the play.
UG 485 Topics in the Linguistic Structure of French 3 cr. (R-6) Offered intermittently. Prereq., FREN 401L or LING 270 and consent of instr. Synchronic and diachronic topics in French phonology, morphology, syntax and lexicology.
U 493 Omnibus Variable cr. (R-9) Offered intermittently. Independent work under the University omnibus option. See index.
U 494 Seminar Variable cr. (R-12) Offered autumn and spring. Prereq., FREN 202, 311L and 312L. Studies in major University omnibus option for independent work. See index.

College of Arts and Sciences - Department of Modern and Classical Languages and Literatures - 141
authors, periods or genres or linguistic and/or pedagogical areas.

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 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. Offered autumn and 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.

G 599 Professional Paper 1-3 cr. (R-6) Offered intermittently. Prereq., graduate standing.

G 699 Thesis Variable cr. (R-9) Offered intermittently. 

German (GERM)

U 101 Elementary German I 5 cr. Offered autumn. Emphasis on oral communication, with development in all major skill areas: listening, speaking, reading, and writing.

U 102 Elementary German II 5 cr. Offered spring. Prereq., GERM 101. Emphasis on oral communication, with continuing development in all major skill areas: listening, speaking, reading, and writing.

U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

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

U 201 Intermediate German I 4 cr. Offered autumn. Prereq., GERM 102 or equiv. Continuation of active skills approach to German listening, speaking, reading, and writing.

U 202 Intermediate German II 4 cr. Offered spring. Prereq., GERM 201 or equiv. Continuation of 201.

U 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 the spring. Prereq., GERM 202 or consent of instr. Overview of major events and currents in German culture to 1900 with emphasis on the arts, literature, and intellectual movements. Lectures in English. Credit not allowed for both MCLG 330H and GERM 303.

U 304H German Culture from 1900 to the Present 3 cr. Offered intermittently in the spring. Prereq., GERM 202 or consent of instr. Overview of major events and currents in culture of German-speaking world from 1900 to the present with emphasis on the arts, literature, and intellectual movements. Lectures in English. Credit not allowed for both MCLG 331H and GERM 304.

U 305 Practicum in German Language 4 cr. Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Heidelberg, Germany and/or Vienna, Austria. Concentration on grammar topics and advanced language usage.

U 311L Introduction to German Literature: Prose 3 cr. Offered autumn. Prereq., GERM 202 or equiv.

U 312L Introduction to German Literature: Drama and Poetry 3 cr. Offered spring. Prereq., GERM 202.

U 313L Introduction to German and Austrian Theater 3 cr. Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Heidelberg, Germany and/or Vienna, Austria. Introduction to the basics of German-speaking theater. Students read, discuss, and analyze plays before seeing them performed on stage.

U 355 Introduction to German and Austrian Culture. 3 cr. Offered spring. Prereq., consent of instr. Offered as part of the Study Abroad program in Heidelberg, Germany and/or Vienna, Austria. Introduction to cultural topics, current events, and historical topics of Germany and Austria. Course content supplemented with on-site visits.

U 360 Advanced Conversation in German 3 cr. Offered intermittently. Offered in the study program in Heidelberg, Germany and/or Vienna, Austria. Development of conversational skills.

U 361L The German Cinema 3 cr. Offered intermittently. Prereq., GERM 202 or equiv. Development of the German film from its beginnings in 1895 down through the contemporary New German Cinema. Topics include Expressionism, New Objectivity, the Nazi film, the German contribution to Hollywood, the post-war film in East and West Germany, and film in unified Germany. Credit not allowed for LS 282L or MCLG 222L and GERM 361L.

U 362H Germanic Mythology and Culture 3 cr. Offered intermittently. Germanic culture and mythology from 200 B.C. to 1200 A.D. Topics include the Germanic pantheon, Germanic religious practices, Germanic migrations and major literary masterpieces. Credit not allowed for LS 221H, MCLG 231H and GERM 362H.

U 393 Omnibus Variable cr. (R-10) Offered intermittently. Prereq., consent of instr. Independent work under the university omnibus option. See index.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., GERM 202 or equiv. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study 1-9 cr. (R-9) Offered intermittently. Prereq., consent of instr.

U 398 Internship Variable cr. Offered intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of internship (198, 298, 398, 498) may count toward graduation.

UG 403 Applied Linguistics 3 cr. Offered autumn odd-numbered years. Same as LING 403. Specific problems in contrastive analysis of German phonology, morphology and syntax.

UG 431 German Literature from 1760 to 1832 3 cr. Offered autumn. Prereq., GERM 311L and 312L or consent of instr. Readings, study, and discussion of writers, texts, and contexts in German literature from 1760 to 1832, including Enlightenment, Storm and Stress, Romanticism, and Classicism.

UG 441 19th Century German Literature 3 cr. Offered autumn. Prereq., GERM 311L and 312L or consent of instr. Readings, study, and discussion of writers, texts, and contexts in German literature from 1832 to 1900.

UG 451 20th Century German Literature to 1945 3 cr. Offered spring. Prereq., GERM 311L and 312L or consent of instr.

UG 452 20th Century German Literature Since 1945 3 cr. Offered spring. Prereq., GERM 311L and 312L or consent of instr.

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., GER M 311L and 312L. Advanced studies in major topics in German literature and culture. UG 495 Special Topics 1-3 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.

G 500 Directed Readings 1-3 cr. (R-6) Offered intermittently. Prereq., undergraduate major in German.


G 594 Graduate Seminar 3 cr. (R-6) Offered intermittently. Prereq., graduate standing.

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

G 596 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., graduate standing. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 597 Independent Study Variable cr. (R-6) 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 201 Greek Readings 3 cr. Offered autumn. Prereq., GRK 102 or equiv. Attic prose and poetry, Plato, Thucydides, Euripides.

U 211 Greek Readings 3 cr. Offered spring. Prereq., GRK 211 or equiv. Readings from Homer's Iliad.

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 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.

Irish (IRSH)

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

U 102 Elementary Irish II 3 cr. Offered autumn or spring.
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. Prepr., consent of dept.
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, including philosophy, history, sociology, and the arts.
UG 415 Advanced Japanese for Professionals 3 cr. Offered spring even-numbered years. A high-level professional language course covering all coordinated reading, writing, and speaking skills. Intended for majors hoping to enter the Japanese job market and prepare for professional testing in Japan.
UG 431L Post-War Japanese Literature 3 cr. Offered spring odd-numbered years. Same as MCLG 431L. Introduction to issues, literature, and criticism of Japanese literature from the postwar (1945) through the contemporary period, using texts in English translation.
UG 495 Special Topics 1-9 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 496 Independent Study Variable cr. (R-6) Offered autumn and spring.

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.
UG 300 Major Latin Authors 3 cr. (R-18) Offered autumn and spring. Prereq., LAT 212 or equiv. Plautus, Terence, 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.
UG 402 Advanced Prose Composition 3 cr. Offered intermittently. Prereq., LAT 212 or equiv. Latin prose composition, based on the best classical models.
UG 496 Independent Study 1-12 cr. (R-12) Offered intermittently.
G 596 Independent Study 1-6 cr. (R-6) Offered intermittently.

Russian (RUSS)
U 101 Elementary Russian I 5 cr. Offered autumn.
U 102 Elementary Russian II 5 cr. Offered spring. Prereq., RUSS 101 or equiv. Continuation of 101.
U 193 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.
U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 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 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 307L 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 summer. 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.


U 430 20th Century Russian Literature Between the Wars (1914-1941) 3 cr. Offered intermittently in spring. Prereq., RUSS 202 or consent of instr. Important trends in fiction and theory later suppressed by the Social Realism.

U 431 20th Century Russian Literature: Contemporary Period 3 cr. Offered intermittently in spring. Prereq., RUSS 202 or consent of instr. Focus on post-Stalinist Russian literature and culture including the contemporary post-modern fiction and theatre.

U 440 Russian Poetry 3 cr. Offered intermittently in autumn. Prereq., RUSS 202 or consent of instr. The evolution of Russian poetry from the end of the 18th century to the early 20th century.

U 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 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 Variable cr. (R-6) Offered autumn and spring.

**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 and Phonology 3 cr. Offered once each academic year. Prereq., SPAN 202 or consent of instr. A practical and theoretical exploration of the Spanish sound system.


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 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 396 Independent Study Variable cr. (R-6) Offered autumn and spring.

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

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. (R-6) Offered autumn even-numbered years. Prereq., 311L or 312L or consent of instr.

U 430 Spanish Literature: Modern and Contemporary 3 cr. (R-6) Offered spring even-numbered years. Prereq., 311L or 312L or consent of instr.

U 450L Latin American Literature 3 cr. (R-6) Offered spring odd-numbered years. Prereq., 311L or 312L or consent of instr. Emphasis on major works of the 20th century.

U 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

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.

U 500 Directed Readings 1-3 cr. (R-6) Offered intermittently. Prereq., undergraduate major in Spanish.

U 594 Graduate Seminar 3 cr. (R-6) Offered intermittently. Prereq., graduate standing.

U 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.
Department of Native American Studies

Wade Davies, Chair

Native American studies is an academic discipline committed to examining the contemporary and past experiences and life ways of the first Americans from their perspective. The curriculum is designed to provide a study of American Indians from a holistic and humanistic viewpoint by focusing upon their cultural, historical, and contemporary life. Courses are designed for both Native American and non-Native American students so they can better understand human similarities and differences, thereby leading to the development of better communications and cross-cultural relationships. The Native American studies major supports the objectives of a liberal arts education. The curriculum helps students develop cultural breadth through the study of Native American perspectives and world view. At the same time, the tribal perspective of the major offers students a broader view of history and cultural change than is ordinarily found in the traditional liberal arts courses and is appropriate to the pluralistic society of our time. As a result, the Native American studies major is interdisciplinary, offering courses from literature to history, and provides a perspective that critically analyzes and evaluates the strengths and limitations of each contributing discipline.

Special Degree Requirements

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

For the Bachelor of Arts degree with a major in Native American Studies, students must complete a minimum of 39 credits, 30 credits in Native American studies plus nine elective credits which can be met within the department or out-of-department. The required NAS courses are: 100H, 200, 201H, 202L, 301E, 303E, 341S, or 400, two of three from 464H, 465H and 466H, and 494.
Beyond these 30 credits in NAS, students have the option to take an additional 17 credits from NAS as electives for a maximum of 47 credits in NAS courses. These electives include NAS 195, 210H, 231, 295, 300, 324H, 329, 341H, 344, 388, 394, 395, 400, 410L, one of the three 464H, 465H and 466H, 496, and 499.

The nine required elective credits may be chosen from the elective in-department courses, or from the following out-of-department courses: ANTH 102S, 323H, 330H; HIST 365, 366, and 467.

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

As part of the major's liberal arts and interdisciplinary focus, all students completing the major must complete a minor in another field. The department recommends cognate areas of study for the minor including anthropology, history, sociology, and political science. Students also are encouraged to pursue a double major. The department recommends a compatible major in one of the following disciplines: anthropology, English, modern or classical languages and literatures, history, linguistics, political science, sociology, or social work.

Students who pursue a second major are not required to complete a minor in addition to the second major.

### Suggested Course of Study

**First Year**
- A 8
- ENEX 101 Composition 3
- MATH 107 Contemporary Mathematics 3
- NAS 100H Introduction to Native American Studies 3
- NAS 201H Indian Culture as Expressed Through Language 3
- General Education 6
- Electives 6
- Total 15

**Second Year**
- NAS 200 Native American Studies Research and Writing Methods 3
- NAS 202L Oral and Written Traditions of the Native American 3
- General Education 6
- Electives 3
- Total 15

**Third Year**
- NAS 301E American Indian Religion and Philosophy 3
- NAS 303E Ecological Perspectives in Native American Traditions 3
- NAS 341S Contemporary Issues of American Indians or 400 Tribal Sovereignty 3
- Upper-division writing course 3
- Electives 9
- Total 15

**Fourth Year**
- NAS 465H History of Indian Affairs in the 19th Century (spring) or 464H History of Indian Affairs to 1776 (autumn) 3
- NAS 466H History of Indian Affairs from 1890 3
- NAS 494 Readings in Native American Studies 3
- Electives 9
- Total 15

**Requirements for a Minor**

To earn a minor in Native American studies the student must complete the following requirements:
1. Complete NAS 100H, 202L, 301E and 303E.

**Courses**

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

### Native American Studies (NAS)

**U 100H Introduction to Native American Studies 3 cr.** Survey course to acquaint the student with Native American studies by a general overview of Indian history, culture, philosophy and religious beliefs.

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

**U 198 Internship Variable cr.** (R-6) Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 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.

**U 198T Oral and Written Traditions of Native American 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.

**UG 3 Special Topics Variable cr.** (R-6) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

**UG 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.

**UG 301E American Indian Religion and Philosophy 3 cr.** Prereq., lower-division course in Perspective 5 or consent of instr. Same as RELS 301E. A study of selected ethical systems, origins, world views; religious beliefs and the way they have been affected by western civilization.

**UG 303E Ecological Perspectives in Native American Traditions 3 cr.** An examination of Native American environmental ethics and tribal and historical and contemporary use of physical environmental resources.

**UG 324H Indians of Montana Since the Reservation Era 3 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 non-reservation Indian communities in the state. Special
attention given to social and economic conditions, treaty rights,
tribal sovereignty, and legal issues.
UG 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.
UG 341S Contemporary Issues of American Indians 3 cr.
Same as ANTH 341S. An examination of the major issues that
affect the contemporary experiences of American Indians.
UG 342H Gender Studies in Native American Studies 3 cr.
Offered intermittently. Same as WS 342H. Focus on
American Indian gender relations and their cultural continuity
and historical evolution. National in scope with concentration
on certain tribes. Group analysis of contemporary gender issues
relevant to Native American peoples.
U 344 Native Americans and Film 3cr. Offered once each
year. Same as ENFM 344. Surveys the image of Native
Americans in American film with an emphasis on "revisionist,"
or "breakthrough" films. Ultimate focus will be on films
featuring Native American writers, directors and actors.
UG 367H Art of the Ancient Americas 3 cr. Prereq., consent
department. 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
type. Focus on various strategies of reading the structure and
meaning encoded in the layout of cities, stone sculpture, wall
murals, ceramics, precious metals, and textiles.
UG 368H Latin American Art 3 cr. Prereq., consent of
Department. Same as ART 368H. Offered alternate years.
Exploration of the influences and development of Latin American art from the
colonial period to the present, including Renaissance ideals in the "New World", syncretism of European, African, and
indigenous roots, the Black Legend, and the advent of such
movements as Academism, Modernism, Social Realism, Magic
Realism, and Post-Modernism.
UG 388 Native American Health and Healing 3 cr. Same as
ANTH 388. Offered alternate years. Examination of
traditional and contemporary uses of medicine in Native Ameri-
can societies. Issues discussed will be the current health status
and American Indians, the relationship between medicine and
culture, and introduction to various techniques for assessing
health status of American Indian populations.
U 394 Seminar Variable cr. (R-6) Offered alternate years.
Variable topics addressing Indian law, policy and culture
by visiting scholars.
U 395 Special Topics Variable cr. (R-6) Experimental
offerings of visiting professors, experimental offerings of new
courses, or one-time offerings of current topics.
U 398 Internship Variable cr. (R-6) Prereq., consent of
department. Extended classroom experience which provides
practical application of classroom learning during placements
off campus. Prior approval must be obtained from the faculty
supervisor and the Internship Services office. A maximum of 6
credits of Internship (198, 298, 398, 498) may count toward
graduation.
UG 400 Tribal Sovereignty 3 cr. Offered alternate years.
Same as PSC 475. An examination of the evolution of tribal
governments from a historical and political perspective.
Particular attention is devoted to the issues of tribal sovereignty
and tribal-state conflicts.
UG 403 Contemporary Tribal Resource Issues 3 cr. Same as
RSCN 403. Acquaints students with contemporary tribal
resource management and environmental policies.
UG 410L Studies in Native American Autobiography 3 cr.
Offered intermittently. Same as ENLT 429L. Prereq., ENLT
301 or ENLT/NAS 329, or consent of instr. Study of texts that
present a first-person story of an American Indian individual's
life within historical and cultural contexts, with discussion of
theories of autobiography.
UG 464H History of Indian Affairs to 1776 3cr. Offered
annually. Same as HIST 464H. A study of American Indian
relations with Europeans and the United States from first
contact to 1776.
UG 465H History of Indian Affairs in the 19th Century 3 cr.
Same as HIST 465H. A study of tribal encounters and
adjustments to the American nations in the nineteenth century.
UG 466H History of Indian Affairs from 1890 3 cr. Same as
HIST 466H. A study of tribal encounters and adjustments to the
American nation from 1890.
U 494 Reading Seminar in Native American Studies 3 cr.
(R-6) Offered spring. Prereq., NAS major or minor, 18 credits
in NAS, and junior standing or higher. Senior reading capstone
course for the review of past and current literature on and by
American Indians.
UG 495 Special Topics Variable cr. (R-6) Experimental
offerings of visiting professors, experimental offerings of new
courses or one-time offerings of current topics.
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
Professors
Richmond L. Clow, Ph.D., University of New Mexico, 1977
David R. M. Beck, Ph.D., University of Illinois at Chicago, 1994
Stephen Greymorning, Ph.D., University of Oklahoma, 1992
Associate Professors
Wade M. Davies, Ph.D., Arizona State University, 1998
Kathryn W. Stanley, Ph.D., University of Michigan, 1987
(Co-Chair)
Assistant Professor
Angelica Lawson, Ph.D., University of Arizona, 2006
Adjunct Professors
George Price, Ph.D., The University of Montana, 2006
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, grant writing, and nonprofit marketing. It is designed to complement students’ major areas of study and prepare them to enter careers in the nonprofit sector. Interested students must meet with the program director at the Office for Civic Engagement prior to declaring the minor.

Requirements for a Minor

Students must complete successfully 21 credits in the following courses:
1. PSC 466 Nonprofit Administration and Public Service, 3 cr.
2. PSC 467 Advanced Nonprofit Administration, 3 cr.
3. PSC 498 Nonprofit Internship, 3 cr.
4. Twelve credits from at least four of the following six areas:
   a. Communication Skills
      - COMM 110S, Introduction to Interpersonal Communication
      - COMM 240S Communication in Small Groups
      - COMM 421 Comm in Nonprofit Organizations
      - COMM 422 Comm & Technology
      - COMM 423 Practical Issues in Organizational Communication
      - COMM 424 Risk, Crisis, and Communication
      - COMM 451 Intercultural Communication
      - MGMT 420 Leadership & Motivation (for business majors only, MGMT 340 prereq.)
   b. Youth and Adult Development
      - PSYC 240S Child and Adolescent Development
      - PSYC 245 Adult Development and Aging
      - SOC 330S Juvenile Delinquency
      - SOC 333 Juvenile Justice System
   c. Human Resources Development and Supervision
      - PSC 460 Human Resource Management
      - RECM 380 Recreation Administration and Leadership
      - COMM 230 Intro to organizational Communication
   d. Nonprofit Program Planning
      - RECM 230 Programming in Recreation
      - RECM 485 Recreation Planning (for RECM majors only)
      - MKTG 411 Services/Relationship Marketing (for business majors only, MKTG 360 prereq.)
   e. Nonprofit Marketing
      - MKTG 363 Marketing Communications (for business majors only, MKTG 360 prereq.)
      - MKTG 412 Nonprofit Marketing (for business majors only, MKTG 360 prereq.)
   f. Nonprofit Accounting/Financial Management
      - ACCT 201 Financial Accounting (MATH 117 prereq.)

Department of Philosophy

David Sherman, Chair

Philosophy is the search for an understanding of how the world as a whole hangs together and of how we are to assume our place in the world. Philosophy pursues its goal first of all historically. It is the trustee of the heritage of great philosophical texts, and it engages those texts in 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.cas.umt.edu/phil>.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index. The following requirements must be completed for the Bachelor of Arts degree with a major in philosophy: a minimum of 33 credits including PHIL 210, 215, 251H and 252H; at least 21 credits in courses numbered 300 and above, including PHIL 300E, 480 and one course from each of the following groups: History (PHIL 452, 453, 461, 463); Value Theory (PHIL 325E, 340L, 421E, 422E, 427E, 429E, 441E, 444, 477); Continental (PHIL 465, 467); Logic and Analytic Philosophy (PHIL 410, 411, 469, 471). A PHIL 395 or 495 Special Topics course may be used to count as a course from any of the above four groups as its topic makes appropriate (consult the Department advisor).

Majors are expected to complete lower-division requirements before beginning upper-division work. No credit toward the major will be awarded for any course (including required language courses) in which the student receives a grade less than a C-. The Upper-division Writing Expectation must be met by successfully completing PHIL 300E and 480. All philosophy majors must complete at least three semesters of a foreign language (though four semesters are recommended) or certify equivalent competency. Recommended languages for philosophy are Greek, Latin, French, and German.

Suggested Course of Study

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<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>3</td>
</tr>
<tr>
<td>Foreign language</td>
<td>5</td>
</tr>
<tr>
<td>HIST 104H, 105H or 107H, 108H</td>
<td>4</td>
</tr>
<tr>
<td>European Civilization</td>
<td>4</td>
</tr>
<tr>
<td>College mathematics course</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
</tr>
</tbody>
</table>

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 Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 252H History of Modern Philosophy</td>
<td>3</td>
</tr>
<tr>
<td>PHIL 300E Moral Philosophy</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>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>14</strong></td>
</tr>
</tbody>
</table>

Students should not neglect mathematics and the physical and biological sciences in choosing elective courses. Philosophy majors are encouraged to pursue a minor in another discipline.

### Requirements for a Minor

To earn a minor in philosophy the student must complete: PHIL 210, 215, 251H, 252H, 300E, and an additional course numbered above 300.

### Courses

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

#### Philosophy (PHIL)

**U 100 Introduction to Philosophy 3 cr. (R-12)** Offered intermittently. An introduction to philosophy through examination of the thought of selected great philosophers or of traditional positions on classical philosophical problems.

**U 105 Topical Introduction to Philosophy 3 cr.** Offered intermittently. An introduction to philosophy through examination of selected themes. Themes will vary; existentialism, technology, the good life, philosophy and religion, philosophy of film, 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 Service office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

**U 200E Ethics: The Great Traditions 3 cr.** Offered every term. An examination of the Western vision of morality through the careful study of selected writings from Aristotle, Kant and Mill. Additional works in ethics may supplement primary readings.

**U 201E Political Ethics 3 cr.** Offered autumn and spring. An examination of the issues of political ethics through the careful study of selected writings from the three great Western political traditions: classical natural law theory, modern individualism, and contemporary distributive justice.

**U 202E Ethics: The Great Traditions and the Environment 3 cr.** Offered yearly. An introductory-level ethics course with a special interest in the natural environment. The course will (a) introduce students to the three classical traditions in ethics—virtue, Kantianism, and utilitarianism, (b) ground these theories in questions about the moral status of non-humans and our moral duties to non-humans, (c) include an applied section of the course that will cover animal welfare, biotechnology, and other current topics.

**U 210 Introduction to Logic: Deduction 3 cr.** Offered autumn and spring. Understanding general principles of reasoning and the habits of clear and correct thinking. Emphasis on the analysis of the logical structure of claims in natural language and the skills of elementary deductive inference.

**U 211 Introduction to Logic: Applied Logic 3 cr.** Offered spring. Prereq., PHIL 210 or equivalent, or consent of instr. Elementary principles of reasoning from evidence. Emphasis on effective evaluation of information and argument in public discourse.

**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 240H History and Philosophy of Science 3cr.** Offered intermittently. Same as HIST 240H. The epistemological and metaphysical developments of natural philosophy or science. The origins of science in ancient Greece, and its subsequent developments during the scientific revolution. Developments in biology, especially Darwinism and genetics, and developments in physics.

**U 251H History of Ancient Philosophy 3 cr.** Offered autumn. The origin of philosophy in ancient Greece and its development in the Roman Empire.

**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 Moral Philosophy 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 majors or prepared students who are 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 340L Aesthetics 3 cr.** Offered intermittently. Prereq., upper-division standing. This course examines the nature of aesthetic experience, the standards of art criticism, and the kinds of knowledge communicated by art. 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.

U 393 Omnibus Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Independent work under the University omnibus option. See index.

U 394 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

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

U 396 Independent Study Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

U 397 Research Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

U 398 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.

U 410 Formal Logic: Scope and Limits 3 cr. Offered intermittently. Prereq., PHIL 210 or equiv. A systematic study of first-order logic, including development of standard metatheory and the significance of modern formal methods.

U 411 Philosophy of Science 3 cr. Offered intermittently. Prereq., upper-division standing. A consideration of philosophical issues relating to the nature of modern physical science: method, explanation, theory, progress, space/time, causality, relation of science to philosophy.

U 412E Medical Ethics 3 cr. Offered intermittently. Prereq., upper-division standing and lower-division course in Perspective 5, or consent of instr. An examination of ethical problems raised by the practice of medicine and by recent developments in medically-related biological sciences.

U 422E Contemporary Moral and Political Theory 3 cr. Offered intermittently. Prereq., upper-division standing and PHIL 200E or 201E. Recent theories in ethics and their implications; recent work in political theory, emphasizing contemporary liberalism and its critiques.

U 427E Ethics and the Environment 3 cr. Offered spring. Prereq., PHIL 202E or PHIL 300E. Same as EVST 427E. Critical exploration of selected philosophical and literary texts pertinent to the ethics of human relationships with the natural environment.

U 429E Feminist Ethics 3 cr. Offered intermittently. Prereq., lower-division perspective 5 course or consent of instr., PHIL 200 strongly recommended. Examination of the implications for philosophic ethics of the claim that Western men and women have different moral perspectives.

U 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.

U 441E Philosophy in Literature 3 cr. Offered intermittently. Prereq., upper-division standing or consent of instr. Philosophical thought in selected works of literature.

U 443E Ethics and Public Affairs 3 cr. Offered intermittently. Prereq., lower-division perspective 5 course or consent of instr. Upper-division standing in government, journalism, education and other social institutions. Issues considered may include deception, confidentiality, conflict of interest, privacy, paternalism responsibilities in conflict with other institutions, and responsibilities across national boundaries, among others.

U 444 Topics in the Philosophy of the Arts 3 cr. (R-9) Offered intermittently. Prereq., upper-division standing. Examination of philosophical problems related to the particular arts and discussion of the nature of the arts. Topics considered may include music, visual arts, literature, and film.

U 452 Early Modern Philosophy 3 cr. (R-6) Offered every even-numbered year. Prereq., PHIL 252H or consent of instr. Intensive reading of one major philosopher from the rationalist tradition (Descartes, Spinoza, Leibniz) and one from the empiricist tradition (Locke, Berkeley or Hume).

U 453 Kant 3 cr. Offered spring even numbered years. Prereq., PHIL 252H or PHIL 452 or consent of instr. Reading and interpretation of selections from Kant.

U 461 Plato 3 cr. Offered every other spring. Prereq., PHIL 251H. General introduction to the philosophy of Plato emphasizing dialogues of the Early and Middle periods.

U 463 Aristotle 3 cr. Offered every other spring. Prereq., PHIL 251H. General introduction to Aristotle. Early biological writings, Categories, De Interpretatione, Nicomachean Ethics, selections from Physics, De Anima and Metaphysics.

U 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.

U 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.)

U 469 20th Century Analytic Philosophy 3 cr. (R-9) Offered intermittently. Prereq., upper-division standing. Readings in analytic philosophy, contemporary empiricism, and contemporary pragmatism.

U 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.

U 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.

U 480 Senior Seminar 3 cr. (R-9) Offered spring. Prereq., senior standing. Research in problems in philosophy.

U 490 Supervised Internship Variable cr. (R-12) Offered intermittently. Prereq., consent of faculty supervisor and department chair.

U 493 Omnibus Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Independent work under the University omnibus option. See index.

U 494 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

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

U 496 Independent Study Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 497 Research Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

U 498 Internship 1-6 cr. (R-6) Offered intermittently. Prereq., consent of faculty supervisor and the Internship Services office. Extended classroom experience which provides practical application of classroom learning during placements off campus. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

G 501 Topics in Epistemology, Philosophy of Technology and Philosophy of Science 3 cr. (R-6) Offered every year.

G 502 Topics in Value Theory 3 cr. (R-6) Offered every year.

G 503 Topics in the History of Philosophy 3 cr. (R-6) Offered every year.

G 504 Topics in Environmental Philosophy 3 cr. (R-9) 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. For 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

Associate Professor

David Sherman, Ph.D., University of Texas, Austin, 1999

Assistant Professors

Bridget Clarke, Ph.D., University of Pittsburgh, 2003
Armond Duwell, Ph.D., University of Pittsburgh, 2004
Stephen Grimm, Ph.D., University of Notre Dame, 2005
Paul Muench, Ph.D., University of Pittsburgh, 2006
Christopher Preston, Ph.D., University of Oregon, 1999

Adjunct Associate Professor

Mark Hanson, Ph.D., University of Virginia, 1993

Adjunct Assistant Professor

Sean O’Brien, Ph.D., University of Colorado, 1989

Emeritus Professors

Thomas Birch, Ph.D., University of Texas, 1969
Thomas P. Huff, Ph.D., Rice University, 1968
Ray Lanfear, Ph.D., Rice University, 1968.
Fred McGlynn, M.A., Northwestern University, 1965
Burke A. Townsend, Ph.D., University of Hawaii, 1976
Richard E. Walton, M.A., Claremont Graduate School, 1970

Department of Physics and Astronomy

Andrew S. Ware, 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-three credits in physics must be earned for the Bachelor of Arts degree with a major in physics. Required courses in physics are: 211N-212N or 121N-122N (213N-214N strongly recommended), 301, 311, 321, 325, 341, 375, 414, 415 (strongly recommended), 444, 461, and 480. Mathematics 152, 153, 251, and 311 also must be taken.

Physics majors must satisfy successfully the general education requirements including the following requirement in Foreign Language/Symbolic Systems: Completion of a semester of a foreign language or demonstration of equivalent skill in a foreign language in testing administered by the Counseling Center and Department of Modern and Classical Languages and Literatures, and completion of at least one computer science language course: PHYS 331 (strongly recommended), or CS 101, 131, or 201.

Recommended courses in other departments include Mathematics 317, 412, 418.

Bachelor of Arts with a major in Physics: Astronomy Option

During their first two years, students in the astronomy option should take ASTR 131N, 132N, 134N, 135N, PHYS 211N-212N or 213N-214N (normally during the sophomore year), and MATH 152, 153, and 251 (MATH 121, if necessary). Forty-seven credits in astronomy and physics courses are required for the B.A. degree in physics with an astronomy option. Required courses in physics are: 211N-212N or 213N-214N, 301, 311, 480 plus at least four courses from the following: 325, 341, 375, 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. The Foreign Language/Symbolic Systems requirements must be met as set forth above under Bachelor of Arts with a major in Physics (one semester of a foreign language and one computer language course chosen from PHYS 331, CS 101, 131, or 201).

Bachelor of Arts with a major in Physics: Computational Physics Option

The purpose of the computational physics option is to provide a thorough background in both physics and computer science and to inculcate a deeper understanding of their goals and methods. A student earns the computational physics option by completing at least 30 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 211N-212N or 213N-214N, 301, 311, 331, 341, 375, 414, and 480 (PHYS 321, 444, and 415 are highly recommended); Computer Science 131-132, 241, 332, and seven credits of Computer Science electives selected from courses numbered 200 and above (CS 242, 281, 415B, 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: 35 credits in Physics including PHYS 121N-122N or 211N-212N or 213N-214N, 301, 325, 330, 341, 371, 414, 416, and 480. Also required are Astronomy 131N-132N; Mathematics 152, 153, 241 or 341, 251 and 311; Computer Science 101 or 131 or 201; Curriculum & Instruction 426; Chemistry 151N and 485; Biology 108N or 110N or 120N or 121N; Geology 100N-101N; and EVST 101 or Science 350 or Geology 301. Students also must gain admission to Teacher Education and Student Teaching and meet the requirements for certification as a secondary teacher (see the School of Education section of this catalog).

Minor Teaching Field of Physics: For an endorsement in the minor teaching field of Physics, a student must complete Physics 121N-122N or 211N-212N or 213N-214N, 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 101, 131, or 201. 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

A

CS 101 or 131 Fundamentals of Computer Science

*ENEX 101 Composition

MATH 152-153 Calculus I, II

PHYS 211N, 212N, 213N, 214N

PHYS 321

Electives and General Education

Second Year

MATH 251 Calculus III

PHYS 301 Mathematical Methods for Physical Scientists

PHYS 311 Oscillations and Waves

PHYS 325 Optics

PHYS 341 Fundamentals of Modern Physics

Foreign Language*

Electives and General Education

Third Year

MATH 311, 412 Differential Equations

PHYS 321 Electronics for Scientists

PHYS 330 Communicating Physics

PHYS 373 Classical Mechanics

PHYS 444-415 Electromagnetism

PHYS 446 Thermo & Stat Mech

Electives and General Education

Fourth Year

PHYS 444 Advanced Physics Laboratory

PHYS 446 Thermodynamics

PHYS 461 Quantum Mechanics I

PHYS 463 Selected Topics or 462 Quantum Mechanics II

PHYS 480 Senior Seminar

Electives and General Education

*Can be waived with two years of foreign language in high school.

For physics majors with fewer than four years of college preparatory mathematics (students who begin MATH 121 in
the second semester use this suggested course of study for physics courses:

**First Year**
- ASTR 131N-132N Elementary Astronomy .......... 3
- CS 101 or 131 Fundamentals of Computer Science .......... 3
- *ENEX 101 Composition* .......... 3
- MATH 121 Precalculus .......... 4
- MATH 152 Calculus I .......... 4
- Foreign language + or General Education .......... 5
- Electives or General Education .......... 5

* 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-Calculus II .......... 4
- MATH 251-Calculus III .......... 4
- PHYS 211N, 212N, 213N, 214N
  - Fundamentals of Physics .......... 5
- Electives or General Education .......... 5
- *Student who are ready for calculus in their first year could take PHYS 221N-222N in their first year instead of a foreign language.

**Third Year**
- ASTR 351 Planetary Science or ASTR 362
  - Observational Astronomy* .......... 2-3
  - ASTR 353 Galactic Astrophysics and Cosmology* .......... 3
  - MATH 311 Ordinary Differential Equations .......... 3
  - PHYS 301 Mathematical Methods for Physical Scientists .......... 3
  - PHYS 311 Oscillations and Waves .......... 2
  - PHYS 325 Optics .......... 3
  - PHYS 350 Communicating Physics .......... 3
  - PHYS 341 Fundamentals of Modern Physics .......... 3
  - General Education or electives .......... 4
  - Electives or General Education .......... 5

**Fourth Year**
- ASTR 363-364 Stellar Astronomy and Astrophysics* .......... 3
  - PHYS 375 Classical Mechanics or PHYS 461
    - Quantum Mechanics I or PHYS 414-415 Electromagnetism I, II .......... 3
  - PHYS 480 Senior Seminar .......... 1
  - General Education or electives .......... 8
  - Electives or General Education .......... 5

*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**
- ASTR 131N-132N Elementary Astronomy .......... 3
- CS 131-132 Fundamentals of Computer Science .......... 3
- ENEX 101 Composition* .......... 3
- MATH 152-153 Calculus I, II .......... 4
- PHYS 221N-222N, 211N, 212N, 213N, 214N
  - Fundamentals of Physics with Calculus .......... 5
  - General Education .......... 4
- Electives or General Education .......... 5

* Semester of enrollment depends on beginning letter of student’s last name.

**Second Year**
- CS 241 Data Structure .......... 4
- MATH 225 Discrete Math .......... 3
- MATH 251 Calculus III .......... 4
- PHYS 301 Mathematical Methods for Physical Scientists .......... 3
- PHYS 311 Oscillations and Waves .......... 2
- PHYS 331 Introduction to Computational Physics (3)
- PHYS 341 Fundamentals of Modern Physics .......... 3
- Foreign language + or General Education .......... 5
- General Education or electives .......... 4

*Can be waived with two years of foreign language in high school.

**Third Year**
- CS 242 Programming Languages .......... 4
- CS 281 Computer Architecture and Assembly
  - Language Programming Languages .......... 3
  - MATH 311 Ordinary Differential Equations .......... 3
  - MATH 325 Discrete Math II .......... 3
  - PHYS 321 Electronics for Scientists* .......... 3
  - PHYS 331 Introduction to Computational Physics (3)
  - PHYS 375 Classical Mechanics .......... 3
  - General Education or electives .......... 5

**Fourth Year**
- CS 332 Algorithms .......... 3
- CS 415E Computers, Ethics, and Society* .......... 3
- PHYS 414-415 Electromagnetism* .......... 3
- PHYS 480 Senior Seminar .......... 1
- General Education or electives .......... 8

**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 or 131 Introduction to Programming .......... 3
- ENEX 101 Composition* .......... 3
- MATH 121 Precalculus .......... 4
- MATH 152 Calculus I .......... 4
- Foreign language + or General Education .......... 5
- Electives 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 211N, 212N, 213N, 214N
  - Fundamentals of Physics with Calculus* .......... 5
  - General Education .......... 5
  - Electives or General Education .......... 5
* 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 211N-212N or 213N-214N21; 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 211N-212N-213N-214N; 301, 311, and 375; and six credits from PHYS 325, 341, 414, 415, 446, 461 or 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 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 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 course learning during placements 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.

UG 351 Planetary Science 3 cr. Offered autumn even-numbered years. Prereq., PHYS 221N or 121N and MATH 150 or 152. Same as GEOS 309. Physical and geological characteristics of planets, satellites, asteroids, comets, and meteoroids, with an emphasis on comparative planetology.

UG 353 Galactic Astrophysics and Cosmology 3 cr. Offered spring odd-numbered years. Prereq., ASTR 132N, PHYS 222N, MATH 251. The nature of the Milky Way galaxy and other galaxies, galactic evolution, the large scale structure of the universe, active galaxies and quasars, and cosmology, including the early universe.

UG 362 Observational Astronomy 2 cr. Offered autumn even-numbered years. Prereq., ASTR 132N, PHYS 222N. Telescopes and instrumentation for the determination of the positions, brightness, colors and other properties of stars; particular attention to photometric 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.

UG 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 intermittently. Prereq., consent of department. Extended classroom experience which provides practical application of course 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., MATH 112 or 121 or equivalent. Mechanics, sound, and heat. For non-physical science majors. Satisfies medical school requirements. Credit not allowed for both PHYS 121N-122N and 211N-212N-213N-214N.

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 211N-212N-213N-214N.

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 175 Introduction to Engineering 3 cr. Offered spring. Prereq., or coreq., MATH 121 or equivalent. An introduction to engineering calculations, problem solving, and design. Students are taught to solve and present engineering problems on computers using spreadsheet and graphic software (AutoCAD). In addition, there will be discussions on engineering failures and engineering ethics. NOTE: This course may NOT be counted toward the Physics major.

U 195 Special Topics Variable cr. (R-6) Offered intermittently. 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 course 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 211N Fundamentals of Physics with Calculus I 4 cr. Offered autumn. Prereq., or coreq., PHYS 213N and MATH 152 or equiv. This course satisfies the lecture portion of medical and technical school requirements in general physics. Mechanics, fluids, waves and sound. Credit not allowed for both PHYS 211N-212N and 121N-122N.

U 212N Fundamentals of Physics with Calculus II 4 cr. Offered spring. Prereq., PHYS 211N, PHYS 214N, and prereq. or coreq., MATH 153 or equivalent. This course satisfies the lecture portion of medical and technical school requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHYS 211N-212N and 121N-122N.

U 213N Physics Laboratory I with Calculus 1 cr. Offered autumn. Coreq., PHYS 211N. This course satisfies the laboratory portion of medical and technical school requirements in general physics. Mechanics, fluids, waves, and sound. Credit not allowed for both PHYS 213N-214N and 121N-122N.
Prereq., requirements in general physics. Heat, electricity, magnetism, and light. Credit not allowed for both PHYS 213N-214N 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.

U 311 Oscillations and Waves 2 cr. Offered fall. Prereq., PHYS 212N or 122N; Prereq. or coreq. MATH 251. Detailed study of oscillations and waves at the intermediate level, to develop physical intuition and mathematical skills needed for analyzing a wide range of periodic phenomena encountered in physics.

U 321 Electronics for Scientists 3 cr. Offered autumn. Prereq., PHYS 222N or PHYS 122N. Laboratory exercises in the techniques of analog and digital electronics, including circuit design, construction, and measurement. Recommended for student who perform laboratory work in any experimental science.

U 325 Optics 3 cr. Offered spring. Prereq., PHYS 311. 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 fall even-numbered years. Prereq., PHYS 222N; coreq., any upper-division PHYS course (301 or higher). Solution of advanced problems in physics using computational methods. Students will learn a variety of numerical methods, including FORTRAN programming techniques.

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.

U 375 Classical Mechanics 3 cr. Offered spring. Prereq., PHYS 301, MATH 311. Topics in classical mechanics at the intermediate level, emphasizing Lagrangian and Hamiltonian dynamics.

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 inst. Independent research in topics of current interest in physics.

UG 414 Electromagnetism II 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 311, PHYS 341; or prereq. or coreq., MATH 311. Introduction to quantum mechanics. Topics include Schroedinger equation, piecewise constant potential, harmonic oscillator, hydrogen atom, angular momentum theory, electron spin.

UG 462 Quantum Mechanics II 3 cr. Offered spring. 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 (Chair)

Associate Professor
David B. Friend, Ph.D., University of Colorado, 1982
Daniel B. Reisenfeld, Ph.D., Harvard University, 1998

Assistant Professor
Michael L. Schneider, Ph.D., University of Wisconsin, 2003

Research Assistant Professor/Adjunct Assistant Professor
Maureen A. McGraw, Ph.D., University of California, Berkeley, 1996

Adjunct Associate Professors
Department of Political Science

James J. Lopach, Chair

From the time of Plato and Aristotle, the study of politics has been concerned with how human communities use power to shape the lives of individuals. Students of politics observe the world’s political institutions, from local governments to international organizations. They are interested in the quality of political leadership, the values which underlie public affairs, the political and legal processes used to make governmental decisions, and the wisdom of policies. Politics is the continuing dialogue about the best way for communities to govern themselves.

The department offers a varied undergraduate curriculum covering domestic, foreign, and international politics. By meeting requirements outlined below, a student may earn a bachelor degree in political science or in political science-history; a minor in political science; or a bachelor degree in political science with an option in American politics, international relations and comparative politics, public administration, or public law. A Master of Arts degree in political science and a Master of Public Administration degree are also offered.

The scope of the faculty’s interest and research is wide. They bring special insights gained through study and residence in Canada, England, Western Europe, the former Soviet Union, Africa, India, the Far East and Latin America, as well as in Montana and Washington, D.C. All members of the department teach introductory and advanced courses.

Courses offered in the department are designed to: (1) assist students to secure a broad liberal education and to equip them with the foundations for American citizenship; (2) provide undergraduate preparation for those students who propose to continue study at the graduate level with the ultimate goal of college teaching and research; (3) offer a broad program of training for those students who plan careers in government or politics; (4) assist in preparing students for careers in teaching at both the elementary and secondary levels; (5) provide a sound background for those students who intend to enroll in law and other professional schools.

The major fields of political science are: (1) American government and politics with national, state and local government, politics, and public law as sub-fields; (2) public administration; (3) political theory; (4) comparative government; (5) international relations, organization and law. Majors are eligible for membership in Pi Sigma Alpha, the national political science honorary and are active in student political activities. The Department of Political Science secures a number of legislative and administrative internships in state and local government each year. Internships and other learning opportunities in Washington, D.C., are also available.

Special Degree Requirements

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

All majors must meet the Upper-division Writing Expectation by successfully completing PSC 400.

Political Science Major: Students majoring in political science must take a minimum of 36 credits of political science, including 100S, 120S, 130E, 150E; and one 300-400 level course in four of the five major fields listed above. Twenty-one of the 36 credits must be in upper-division courses. No more than 7 credits of independent study (PSC 496) and internship (PSC 498) combined may count toward the 36 required credits. In addition, no more than 10 total credits in special topics courses (e.g., PSC 38i, 395) may count toward the 36 required credits.

Political Science Major with an Option in American Politics: A student may earn a major in political science with an option in American politics by completing 39 credits in political science, including: 100S, 120S, 130E, 150E; one 300-400 level course in four of the five major fields of political science listed previously; and five of the following courses: 341, 342, 343, 352, 364, 366, 370, 383, 387, 468, 483. Courses used to complete the upper-division requirement of this option also fulfill the 300-400 level requirement in the respective major fields of political science.

Political Science Major with an Option in International Relations and Comparative Politics: A student may earn a major 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) 211H, 212, 326H, 327, 328H, 329H, 381, 420, 481; b) 335, 336, 337, 338, 340, 413, 433, 463S, 482. Strongly recommended are: a minimum of two years of foreign language study; b) internship/study-abroad program. Courses used to complete the upper-division requirement of this option also fulfill the 300-400 level requirement in the respective major fields of political science.

Political Science Major with an Option in Public Administration: A student may earn a major in political science with an option in public administration by completing a minimum of 39 credits in political science, including: 100S, 120S, 130E, 150E; one 300-400 level course in four of the five major fields of political science listed previously; and three of the following courses: 364, 385, 460, 461, 463S, 466, 467, 468, 485. A legislative or administrative internship is strongly recommended. Courses used to complete the upper-division requirement of this option also fulfill the 300-400 level requirement in the respective major fields of political science.

Political Science Major with an Option in Public Law: A student may earn a major in political science with an option in public law by completing a minimum of 39 credits in political science, including: 100S, 120S, 130E, 150E; one 300-400 level course in four of the five major fields of political science listed previously; 370, and four of the following courses: 352, 420, 433, 460, 461, 471, 472. Courses used to complete the upper-division requirement of this option also fulfill the 300-400 level requirement in the respective major fields of political science.

Teacher Preparation in Government

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

**Teacher Preparation in Government and History**

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

**Suggested Course of Study**

**Political Science Major:**

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<tr>
<th>First Year</th>
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<tr>
<td>PSC 100S Introduction to American Government</td>
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<tr>
<td>PSC 120S Comparative Government</td>
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<tr>
<td>Seven General Education courses</td>
<td>12</td>
<td>9</td>
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<td>One elective</td>
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<th>Second Year</th>
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<tbody>
<tr>
<td>PSC 130E International Relations</td>
<td>3</td>
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<tr>
<td>PSC 150E Political Theory</td>
<td>3</td>
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<tr>
<td>Seven General Education courses</td>
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<td>One elective</td>
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<th>Third Year</th>
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<td>Four PSC 300-400-level courses</td>
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<td>Six electives</td>
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<th>Fourth Year</th>
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<tr>
<td>Four PSC 300-400-level courses</td>
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<td>Six electives</td>
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**Political Science with American Politics Option:**

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<tr>
<th>First /Second Year: same for all options</th>
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<tr>
<td>Third Year</td>
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<tr>
<td>Three 300-400-level American Politics courses</td>
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<td>3</td>
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<tr>
<td>Two other 300-400-level PSC courses</td>
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<tr>
<td>Five electives</td>
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<th>Fourth Year</th>
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<td>Two 300-400-level American Politics courses</td>
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<tr>
<td>Two other 300-400-level PSC courses</td>
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<td>Six electives</td>
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**Political Science with International Relations and Comparative Politics Option:**

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<tr>
<td>Third Year</td>
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<tr>
<td>Three 300-400-level International and Comparative courses</td>
<td>6</td>
<td>3</td>
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<tr>
<td>Two other 300-400-level PSC courses</td>
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</tr>
<tr>
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<table>
<thead>
<tr>
<th>Fourth Year</th>
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<tbody>
<tr>
<td>Three 300-400-level International and Comparative courses</td>
<td>6</td>
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**Political Science with Public Administration Option:**

<table>
<thead>
<tr>
<th>First/Second Year: same for all options</th>
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<tbody>
<tr>
<td>Third Year</td>
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<tr>
<td>PSC 361 Public Administration</td>
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<tr>
<td>One 300-400-level public administration course</td>
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<tr>
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<tr>
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<tbody>
<tr>
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<tr>
<td>PSC 460 Human Resource Management</td>
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<tr>
<td>Three other 300-400-level PSC courses</td>
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**Political Science with Public Law Option:**

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<tr>
<td>Third Year</td>
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<td></td>
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<tr>
<td>PSC 370 Courts and Judicial Politics</td>
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<tr>
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<table>
<thead>
<tr>
<th>Fourth Year</th>
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<tbody>
<tr>
<td>Two 300-400-level Public Law courses</td>
<td>3</td>
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<tr>
<td>Two other 300-400-level PSC courses</td>
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<td>3</td>
</tr>
<tr>
<td>Six electives</td>
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<td>9</td>
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</tbody>
</table>

**Requirements for a Minor**

To earn a minor in political science the student must complete a minimum of 21 credits of political science, including 100S, 120S, 130E, 150E; and three additional 300-400-level courses in three of the five major fields of political science listed previously. Nine of the 21 credits must be in 300-400-level courses.

**Courses**

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

**Political Science (PSC)**

- **U 100S Introduction to American Government 3 cr.** Offered every term. Not open to senior level political science majors except with consent of instructor. Constitutional principles, structures, and the political processes of the national government.

- **U 120S Introduction to Comparative Government 3 cr.** Offered every term. Not open to senior level political science majors except with consent of instr. Introduction to the basic political concepts, themes, values and dilemmas as they apply to the world’s diverse societies and cultures.

- **U 130E International Relations 3 cr.** Offered every term. Not open to senior level political science majors except with consent of instr. Review of the evolution of the nation-state system and survey of contemporary international actors, issues and forces for stability and change.

- **U 150E Political Theory 3 cr.** Offered spring. Analysis of the various attempts (from Plato to Marx) to explain, instruct, and justify the distribution of political power in society. Emphasis is placed upon those theories whose primary concern is to...
define the nature of the "good" society.
U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 196 Independent Study 1-6 cr. (R-6) Offered intermittently.
U 300 Writing in Political Science 1 cr. (R-3) Offered every term. Coreq.: any upper-division political science course. Designed for students seeking an approved writing course or desiring additional experience in writing.
UG 321H Politics of Western Europe 3 cr. Offered autum. Prereq.: junior standing or consent of instr. Theories about the causes, junior standing or consent of instr. Institutions and political processes of new courses, or one-time offerings of Latin American politics from both historical and contemporary politics of Mexico from the Revolution to the present.
UG 323H Politics of Mexico 3 cr. Offered spring. Prereq.: junior standing or consent of instr. A review of comparative national constitutions of Mexico from the Revolution to the present.
UG 324H Politics of China 3 cr. Offered autumn. Institutions and political development in China.
UG 325 Politics of Latin America 3 cr. Offered autum. Latin American politics from both historical and contemporary perspectives.
UG 326H Politics of Africa 3 cr. Offered autumn. Development of the political systems of sub-Saharan Africa. Analysis of the interaction between African and Western social, political, and economic forces. Consideration of African political thought.
UG 327 Politics of Mexico 3 cr. Offered spring. Prereq.: junior standing or consent of instr. A review of contemporary politics of Mexico from the Revolution to the present.
UG 328H Politics of China 3 cr. Offered autumn. 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.
U 330 International Security 3 cr. Offered autum. Theories about the causes, 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 331H American Foreign Policy 3 cr. 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 332 The Causes of War 3 cr. Offered spring. Prereq.: junior standing or consent of instr. A colloquium to clarify the definitions and philosophical problems besetting the search for the causes (and the prevention of war).
U 335 Model United Nations 3 cr. Offered autumn. Prereq.: junior standing or consent of instr. History and structure of the UN. Contemporary global problems, and the UN’s role in addressing them. Class has both active learning and service learning dimensions. Students plan, organize and run the annual Montana Model UN high school conference.
UG 341 Political Parties and Elections 3 cr. Prereq.: PSC 100S. Political party organization, nominations, campaigns and elections in the United States.
UG 342 Media and Public Opinion 3 cr. Offered intermittently. Prereq.: PSC 100S. Study of the role played by mass media in shaping public opinion, policy agendas, and governmental institutions.
UG 343 Politics of Social Movements 3 cr. Offered intermittently. Prereq.: junior standing or consent of instr. The role of social movements in shaping the politics of power, reflected in public policy, electoral politics, relations of class, race, and gender, and people's understanding of the world and their place in it.
UG 352 American Political Thought 3 cr. Offered spring. Prereq.: PSC 150E or consent of instr. The study of representative political thinkers is used to illustrate the theme of American democracy as a multifaceted experiment with self-government.
UG 354 Contemporary Issues in Political Theory 3 cr.

College of Arts and Sciences - Department of Political Science - 159
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 444 American Political Participation 3 cr. Offered intermittently. Prereq., PSC 100S. Examination of the individual and institutional factors affecting voter turnout, the influences on voter decision making, and non-electoral forms of participation in the United States.

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 451E Ancient and Medieval Political Philosophy 3 cr. Offered autumn. Prereq., PSC 150E or consent of instr. The development of the classical western tradition, beginning with the ancient Greeks, spanning the Christian era, and ending with the high Renaissance period. Examination of the political ideas/values of these different times, exploring broad questions concerning human nature, the origins of the state, and the meaning of “legitimate” authority.

UG 453 Modern Political Theory 3 cr. Offered autumn. Prereq., PSC 150E or consent of instr. Analysis of Hobbes, Locke, Rousseau, Burke, James, and John Stuart Mill, Marx and Lenin with regard to their “modern” views of the purpose(s) of political inquiry, the nature of citizenship and popular sovereignty. Particular attention to contemporary implications of ideas.

UG 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. 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. Focuses on the process of policy through the stages of the public policy cycle, including how policy is formulated in the legislative branch, implemented by the executive branch and reviewed by the judicial branch.

UG 471 American Constitutional Law 3 cr. Offered autumn. Prereq., junior standing or consent of instr. Survey of U.S. Supreme Court’s interpretation of the U.S. Constitution’s provisions on separation of powers, federalism, civil rights, and civil liberties.

UG 472 Civil Rights Seminar 3 cr. Offered spring. Prereq., PSC 471 or consent of instr. Intensive analysis, discussion, and writing about key U.S. Supreme Court constitutional cases on expression, religion, privacy, criminal justice, and discrimination.

UG 475 Tribal Sovereignty 3 cr. Offered alternate years. An examination of the evolution of tribal governments from a historical and political perspective. Particular attention is devoted to the issues of tribal sovereignty and tribal state conflicts.

UG 481 Special Topics: Comparative Politics Variable cr. (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of comparative politics.

UG 482 Special Topics: International Relations Variable cr. (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of international relations.

UG 483 Special Topics: American Government Variable cr. (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of American government.

UG 484 Special Topics: Political Theory Variable cr. (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of political theory.

UG 485 Special Topics: Public Administration or Policy Variable cr. (R-9) Offered intermittently. Experimental or one-time offerings in the subfield of public administration or policy.

U 493 Omnibus Variable cr. (R-15) Offered every term. Prereq., consent of instr. Independent work under the University omnibus option. See index.

UG 495 Special Topics in Political Science 1-3 cr. (R-9) Offered intermittently. Prereq., consent of instr. Experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study in Political Science 1-3 cr. (R-6) Offered every term. Prereq., nine credits in political science courses numbered at the 300- or 400-level and consent of instr. Research in fields appropriate to the needs and objectives of the individual student.

U 498 Internship 1-6 cr. Offered every term. Prereq., sophomore standing and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. Offered credit/no credit only. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.


G 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.

G 540 American Government 3 cr. Offered spring. Prereq.,
consent of instr. Concentrated reading and examination of
selected subject areas in the field of American government.

G 550 Political Theory 3 cr. Offered spring. Prereq., consent
of instr. Concentrated reading and examination of selected
subject areas in the field of political theory.

G 580 MA Research Design 1 cr. Selection of topic and
development of research design for MA thesis.

G 586 MA Research Project 104 cr. (R-6) Offered every
term. Prereq., consent of instructor. Offered as Credit/No
Credit only.

G 594 Seminar Variable cr. (R-9) Offered intermittently.
Topic varies.

G 595 Special Topics Variable cr. (R-9) Offered

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Pre-Engineering

Eijiro Uchimoto (Professor, Dept. of Physics and Astronomy), Advisor

Maureen McGraw, (Adjunct Assistant Professor, Dept. of Physics and Astronomy)

Adviser

The pre-engineering curriculum is for students planning to
transfer to technical engineering schools. Since engineering
curricula differ for the different divisions of engineering, the
general curriculum listed below serves only as a guide. A
student planning to transfer into a particular type of engineering
or into a particular school should work out a special program
with his or her advisor.

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>PHYS 221N-222N Fundamentals of Physics</td>
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<tr>
<td>ECON 211S or 112S Micro/Macroeconomics</td>
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<tr>
<td>ENEX 101 Composition</td>
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<tr>
<td>MATH 152-153 Calculus I, II</td>
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Second Year

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<thead>
<tr>
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<tr>
<td>CHEM 161N-162N College</td>
<td>5</td>
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<tr>
<td>Chemistry and Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>MATH 251 Calculus III</td>
<td>4</td>
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<tr>
<td>MATH 311 Ordinary Differential Equations</td>
<td>3</td>
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<tr>
<td>PHYS 295 Engineering Statics</td>
<td>3</td>
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<tr>
<td>PHYS 321 Electronics for Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 301 Vector Analysis</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>3</td>
</tr>
</tbody>
</table>

Pre-Law

Thomas Huff, Coordinator

Pre-law students are required to choose a degree major in
which they wish to 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
Pre-Nursing

Pre-Nursing Advising Program, Lomasson Center, Room 269

The pre-nursing curriculum is a two-year program which is designed to provide the basic undergraduate education needed for entry into the professional portion of a baccalaureate nursing program. Through an arrangement with the College of Nursing at Montana State University-Bozeman, The University of Montana-Missoula offers approved prerequisite courses for pre-nursing students. Students who intend to pursue the Bachelor of Science in Nursing degree offered through Montana State University can complete the 15 credits of sophomore level 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 clinical 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 classes for placement considerations at the upper-division level. Acceptance to clinical nursing is based on the average of the grades received in required prerequisite courses at the time of application. Admission is based strictly on grade prioritization. There is a competitive component to a successful application. 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

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>BIOL 110N Principles of Biology (prereq. for BIOL 312), BIOL 112 Human Form and Function I or BIOL 113 Human Form and Function</td>
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</tr>
<tr>
<td>BIOL 106N Elementary Medical Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 151N-152N General and Inorganic Chemistry/Organic and Biochemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 154N Organic and Biochemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 117 Linear Algebra and Probability (Prereq. to MATH 241)</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>SOC 110S Principles of Sociology</td>
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Second Year

<table>
<thead>
<tr>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 312-313 Anatomy and Physiology I &amp; II</td>
<td>4</td>
</tr>
<tr>
<td>HHP 236 Basic Nutrition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 240S Child and Adolescent Development</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 245 Adult Development and Aging</td>
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</tr>
<tr>
<td>General Education</td>
<td>6</td>
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</tbody>
</table>

Individual programs may differ from the suggested course of study to better fill the needs of the particular student. Students desiring admission to other schools of nursing are encouraged to obtain a catalog from the college and, in consultation with the pre-nursing advisor, develop a plan of study tailored to meet the specific course requirements of the college of their choice. In Montana the associate of science degree in nursing (ASN) can be obtained at MSU Northern, Havre; Miles Community College, Miles City; Montana Tech of the University of Montana, Butte, Salish Kootenai College, Pablo, and Colleges of Technology in Missoula, Helena, Great Falls, and Billings. 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.
Department of Psychology

Allen Szalda-Petree, Chair

Psychology is the science of the behavior of humans and other animals. The psychologist, using scientific methods, seeks to understand the causes and purposes of behavior. Psychologists pursue their research and its application in academia, business, government, health, military, and social service. The department offers the Bachelor of Arts, Master of Arts, and Doctor of Philosophy degrees.

Admission Requirements

To be admitted to either option of the psychology major, a student must satisfy the following requirements:
1) completion of 30 credits overall
2) completion of 6 credits in psychology courses, including PSYC 100S.

In addition, to be admitted to the research option of the psychology major, students also should have:
3) a minimal overall GPA of 3.0
4) a minimal Statistics 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 courses taken to fulfill requirements, including the Math course.

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

Majors are required to remain in periodic contact with departmental advisors to facilitate advanced and individual program planning, to deal with impending difficulties, and as a communication channel between student and department. Students who are particularly interested in child, adult or family development should investigate the human and family development minor. See index.

General Option

The general option is intended for students who have a major interest in psychology, but do not intend to pursue graduate training in psychology.
1) PSYC 100S Introduction to Psychology
2) PSYC 120 Introduction to Psychological Research Methods
3) PSYC 220 Psychological Statistics
4) At least two of the following:
   - PSYC 260S Fundamentals of Learning
   - PSYC 265S Cognition
   - PSYC 270N Fundamentals of Biological Psychology
5) At least four of the following:
   - PSYC 240S Child and Adolescent Development
   - PSYC 245 Adult Development and Aging
   - PSYC 330S Abnormal Psychology
   - PSYC 350S Social Psychology
   - PSYC 351S Psychology of Personality
6) At least one of the following:
   - MATH 117 Probability, Linear Mathematics
   - MATH 152 Calculus I
7) At least four other three-credit psychology courses, not to include 296, 298, 396, 398, 493, or 499.

Research Option

The research option provides the student with an adequate foundation for graduate studies in psychology.
1) PSYC 100S Introduction to Psychology
2) PSYC 120 Introduction to Psychological Research Methods
3) PSYC 220 Psychological Statistics
4) PSYC 320 Advanced Psychological Research Methods
5) PSYC 297 Supervised Research (minimum of 2 credits)
6) At least two of the following:
   - PSYC 260S Fundamentals of Learning
   - PSYC 265S Cognition
   - PSYC 270N Fundamentals of Biological Psychology
7) At least four of the following:
   - PSYC 240S Child and Adolescent Development
   - PSYC 245 Adult Development and Aging
   - PSYC 330S Abnormal Psychology
   - PSYC 350S Social Psychology
   - PSYC 351S Psychology of Personality
8) At least one of the following:
   - PSYC 335S Fundamentals of Clinical Psychology
   - PSYC 336 Child and Adolescent Psychological Disorders
   - PSYC 337 Principles of Cognitive Behavior Modification
   - PSYC 340 Current Topics in Developmental Psychology
   - PSYC 385 Family Violence
9) At least two of the following:
   - PSYC 301 Personalized Student Instruction
   - PSYC 371 Fundamentals of Human Neuropsychology
   - PSYC 372 Intermediate Behavioral Biology
   - PSYC 400 History and Systems of Psychology
10) At least one of the following:
    - MATH 117 Probability, Linear Mathematics
    - MATH 152 Calculus I

Teacher Preparation in Psychology

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

Suggested Course of Study

<table>
<thead>
<tr>
<th>First Year</th>
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</thead>
<tbody>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>PSYC 110 Careers in Psychology</td>
<td>-</td>
<td>1</td>
</tr>
<tr>
<td>PSYC 120 Introduction to Psychological Research Methods</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>MATH 117 Probability and Linear MATH or 150 or 152 Calculus</td>
<td>-</td>
<td>3-4</td>
</tr>
<tr>
<td>ENEX 101 Composition</td>
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<td></td>
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<tr>
<td>Four General Education courses</td>
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<tr>
<td>Two elective courses</td>
<td>3</td>
<td>3</td>
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<tr>
<td>Total</td>
<td>16-17</td>
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<table>
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<th>Second Year</th>
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<tr>
<td>PSYC 220 Psychological Statistics</td>
<td>3</td>
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<td>Three other 200-level psychology courses</td>
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<tr>
<td>Four General Education courses</td>
<td>6</td>
<td></td>
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<tr>
<td>Two elective courses</td>
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<td>3</td>
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<tr>
<td>Total</td>
<td>15</td>
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Third Year
PSYC courses .......................... 3 6
PSYC 297 Supervised Research ........... 2
PSYC 320 Advanced Psychological Research
Methods (upper-division writing) .......... 3 -
Electives and General Education .......... 9 7
Total ................................... 15 15

Fourth Year
PSYC courses .......................... 6 -
Electives ................................ 6 15-16
Total ................................... 12 15-16

Requirements for a Minor
To earn a minor in psychology the student must complete a minimum of 21 credits of psychology including:
1) PSYC 100S Introduction to Psychology
2) PSYC 120 Introduction to Psychological Research Methods
3) One of:
   -PSYC 240S Child and Adolescent Development
   -PSYC 350S Social Psychology
   -PSYC 351S Psychology of Personality
4) One of:
   -PSYC 335S Fundamentals of Clinical Psychology
   -PSYC 330S Abnormal Psychology
   -PSYC 336 Child and Adolescent Psychological Disorders
   -PSYC 337 Principles of Cognitive Behavior Modification
5) Two of:
   -PSYC 260S Fundamentals of Learning
   -PSYC 265S Cognition
   -PSYC 270N Fundamentals of Biological Psychology
   -PSYC 371 Fundamentals of Human Neuropsychology
   -PSYC 372 Intermediate Behavioral Biology
At least six of the 21 credits must be at the 300-level or above. All minors are required to earn a "C" (2.00) or better in all psychology classes taken to fulfill requirements.

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

Psychology (PSYC)
U 100S Introduction to Psychology 4 cr. Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSY 100S and PSYC 100S.
U 110 Careers in Psychology 1 cr. Offered spring. Exploration of the various careers available in the general area of mental health research and practice.
U 113 Intergroup Dialogue 1 cr. Offered every term. 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 minimum 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 spring. Prereq., PSYC 100S; recommended prerequisites PSYC 220 and 330S. Exploration of the 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, spouse abuse, 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.

UG 485 Counseling Theories in Context 3 cr. Offered autumn. Prereq., PSYC 100. Same as COUN 485 and SW 485. This course introduces students to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies and diversity issues. U 493 Onsite Clinical Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Academic credit for non-traditional educational experiences. Prior approval of a Psychology Department faculty member is required. Independent work under the University omnibus option. See index.

UG 494 Senior Seminar Variable cr. (R-6) Offered intermittently. Prereq., nine credits in psychology and consent of instr. Topics of current interest with critical examination of the literature.

UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., 12 credits in psychology and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 499 Baccalaureate Thesis Variable cr. (R-6) Offered autumn and spring. Prereq., junior or senior standing and consent of instr.

G 501 Teaching of Psychology 3 cr. Offered autumn. Prereq., graduate standing in psychology and consent of instr. Exploration and practice of effective teaching techniques.

G 510 Trends in Psychological Research 1 cr. Offered autumn. Brief survey of the departmental faculty's ongoing research interests.

G 511 Professional Development and Basic Skills in Clinical Psychology 1 cr. Offered autumn. Prereq., graduate standing in clinical psychology. Introduction to the professional role and skills in the clinical psychology field.

G 512 Field Placement in Clinical Psychology 1-12 cr. (R-12) Offered every term. Prereq., graduate standing in psychology and consent of instr. Supervised assessment and intervention experience in applied clinical settings.


G 520 Advanced Psychological Statistics I 3 cr. Offered autumn. Prereq., undergraduate statistics and consent of instr. Introduction to descriptive and inferential statistics, probability distributions, null hypothesis significance testing, one and two sample techniques, analysis of variance and the general linear model.

G 521 Advanced Psychological Statistics II 4 cr. Offered spring. Prereq., PSYC 520 or consent of instr. Multiple comparisons among means, factorial ANOVA, random effects and mixed models, correlation, simple and multiple regression, analysis of covariance.


G 523 Research Design 3 cr. Offered spring. Prereq., graduate standing in psychology. The examination and application of the principles and methods of experimental and quasi-experimental research design in psychology.

G 524 Tests and Measurements 3 cr. Offered autumn. Prereq., graduate standing in psychology or education. Introduction to measurement emphasizing correspondence between research and practice. Provides a theoretical and practical basis for evaluating and using measurement data.


G 526 Psychological Evaluation II: Applications and Objective Methods 3 cr. Offered spring. Prereq., enrollment in doctoral program in psychology and consent of instr. Objective methods in psychological assessment; psychological evaluation techniques in the clinical context.

G 530 Clinical and Diagnostic Interviewing and 3 cr. Offered autumn. Prereq., graduate standing in clinical psychology, school psychology, or counseling. Microcounseling skills development through interactive practice and feedback.

G 531 Principles of Psychological Intervention 3 cr. Offered autumn. Prereq., enrollment in doctoral program in clinical or experimental psychology. The philosophical and scientific bases of major systems of psychotherapy are reviewed. Psychotherapy research methods, issues, and findings are introduced.

G 532 Advanced Psychopathology 3 cr. Offered autumn.
Prerequisites, graduate standing in psychology or consent of instr. Symptoms, etiology, diagnostic criteria and treatment of the major psychological disorders, with an emphasis on current research findings.

G 534 Applied Clinical Methodology 1-4 cr. (R-24) Offered every term. Prereq., graduate standing in the clinical program and consent of instr. Theoretical and applied work in a supervised clinical setting.

G 536 Advanced Child and Adolescent Exceptionalities 3 cr. Offered spring. Prereq., graduate standing in psychology or consent of instr. Advanced study of the characteristics, etiology, assessment, and treatment of the emotional, social, and intellectual problems covering the span from infancy through adolescence. DSM and Education Code criteria will be compared.

G 540 Advanced Developmental Psychology 3 cr. Offered intermittently. Prereq., undergraduate course in developmental psychology or consent of instr. Psychological and behavioral development through the life span.

G 545 Field Placement in Human Development 1-6 cr. (R-9) Offered autumn and spring. Prereq., PSYC 540 or equiv. Intensive, applied placement experience working with and/or observing a particular population of interest, including children, adolescents, or older adults. Involves the completion of an independent project, which may comprise program assessment, research proposal development, etc.

G 546 History and Theories of Developmental Psychology 3 cr. Offered intermittently. Prereq., PSYC 540 or equiv. History, theories, and research in developmental psychology. Consideration of selected topics.

G 550 Advanced Social Psychology 3 cr. Offered spring even-numbered years. Prereq., undergraduate course in social psychology or consent of instr. Theory and experiment in the analysis of individual behavior in relation to social stimuli.

G 551 Advanced Personality 3 cr. Offered spring odd-numbered years. Prereq., undergraduate course in personality or consent of instr. Theory and research on human personality and behavior. Emphasis on issues and topics of contemporary importance.

G 560 Advanced Learning 3 cr. Offered autumn even-numbered years. Prereq., undergraduate course in learning or consent of instr. Principles and methods pertaining to the acquisition and retention of new behavior.

G 565 Advanced Cognition 3 cr. Offered autumn odd-numbered years. Prereq., undergraduate course in perception, cognition, or learning, or consent of instr. Examination of the acquisition of knowledge through perception and learning, the retention of knowledge, and the use of knowledge through thinking and reasoning.

G 571 Advanced Physiological Psychology 3 cr. Offered autumn even-numbered years. Prereq., consent of instr. Brain mechanisms and behavior; electrophysiological correlates of behavior.

G 580 Principles and Practices of Professional School Psychology 3 cr. Offered autumn. Prereq., graduate standing in school psychology. The theory, role, and function of school psychology as a profession; includes historical precursors and fit with current systems of psychology.

G 582 Behavioral Assessment and Intervention 4 cr. Offered autumn even-numbered years. Prereq., graduate standing in psychology or consent of instr. Introduces theoretical and practical applications of behavioral assessment and intervention. Students develop skills using behavioral observation, sampling and intervention design/implementation through supervised experience in applied settings.

G 583 Educational Assessment and Intervention 4 cr. Offered spring. Prereq., graduate standing in psychology or education. Develops educational assessment and intervention skills using problem-solving strategies to make educational decisions. Students develop assessment and intervention design/implementation through supervised experience in applied settings.

G 584 Group and Crisis Intervention 3 cr. Offered spring even-numbered years. Prereq., graduate standing in psychology. The fundamental principles and evidence-based best practice in addressing child/adolescent mental health issues with implementation of group and/or crisis intervention.

G 587 School Psychology Methods 3 cr. (R-9) Offered every term. Prereq., graduate standing in school psychology and consent of instr. Applied school psychology work in a supervised setting.

G 588 School Psychology Internship Variable cr. (R-12) Offered 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 687 Seminar in Physiological Psychology 1-3 cr. (R-12) Offered spring even-numbered years. Prereq., consent of instr. Advanced treatment of specialized research topics in physiological psychology.

G 679 Seminar in Comparative Psychology 1-3 cr. (R-12) Offered intermittently. Prereq., consent of instr. Advanced treatment of specialized research topics in comparative psychology.
G 680 Consultation 3-4 cr. Offered spring even-numbered years. Prereq., graduate standing in school psychology. Theoretical background and case conceptualization in academic and behavioral consultation. Doctoral level also includes a supervised direct 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 683 Current Topics in School Psychology 1-3 cr. Offered intermittently. Prereq., graduate standing and consent of instructor. Current topics in school psychology. Each offering will have a unique title.

G 694 Seminar Variable cr. (R-12) Offered intermittently.

G 697 Advanced Research Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr. Independent research projects, other than thesis or dissertation.


Faculty

Professors

Nabil F. Haddad, Ph.D., University of Oklahoma, 1976 (Chair)
Lynne S. Koester, Ph.D., University of Wisconsin, Madison, 1976
David Schulberg, Ph.D., University of California, Berkeley, 1981
Thomas Seekins, Ph.D., University of Kansas, 1983
Paul S. Silverman, Ph.D., University of Georgia, 1977
Richard Van den Pol, Ph.D., Western Michigan University, 1981
Arlene Walker-Andrea, Ph.D., Cornell University, 1980 (Associate Provost)

Associate Professors

Ann Cook, Ph.D., The University of Montana, 2001 (Research)

Emeritus Professors

Charles K. Allen, Ph.D., Ohio State University, 1963
Laurence Berger, Ph.D., University of Washington, 1969
George C. Camp, Ph.D., University of Illinois, 1971
Frances A. Hill, Ph.D., Ohio State University, 1965
John R. Means, Ph.D., University of Colorado, 1965
David A. Strobel, Ph.D., The University of Montana, 1972
James A. Walsh, Ph.D., University of Washington, 1963
Herma A. Walters, Ph.D., Pennsylvania State University, 1962
John Watkins, Ph.D., Columbia University, 1941
Janet F. Wollersheim, Ph.D., University of Illinois, 1968

Religious Studies

Paul A. Dietrich (Professor of Liberal Studies), Director

The academic study of religions is coextensive with the broad field of human 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
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.

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

UG 370. Mysticism 3 cr. (R-6) An inquiry into the literature
and interpretation of mysticism in the major religious traditions.
Each offering will focus on a specific tradition or period.

UG 381E. Comparative Ethics 3 cr. Prereq., lower-division
course in Perspective 5 or consent of instr. An examination of
models for cross-cultural study, concentrating on the formation
and exercise of values in eastern cultures as approached from
the standpoint of western students.

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

UG 396. Independent Study Variable cr. (R-6) Prereq.,
lower-division course in Perspective 5 or consent of instr.

UG 496. Independent Studies 3 cr. (R-9) Prereq., consent of
instr. Work on selected problems by individual students under
direct faculty supervision.

Faculty

Professors
Paul A. Dietrich, Ph.D., University of Chicago, 1981 (Director)
Alan Sponberg, Ph.D., University of British Columbia, 1980

Adjunct Faculty
Thomas R. Lee, Ph.D., University of California, 1979

Russian Studies

Ona Renner-Fahey (Assistant Professor of Modern and Classical Languages and Literatures), and Robert H. Greene (Assistant Professor of History), Advisors

Students interested in Russian studies may choose a minor in Russian studies as listed below. Students will receive formal guidance for their interest in Russian studies and recognition for completing a defined program.

Requirements for a Minor

The following requirements must be successfully completed to obtain a minor in Russian studies:

1. Twelve credits of upper-division coursework 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 literature (not including the language requirement), geography, history, political science.

2. Second year proficiency in the Russian language.

Related Courses

A list of possible course selections for the minor in Russian Studies. Students are required to consult with their advisors for course suggestions appropriate to the minor.

Anthropology
385S Indigenous Peoples and Global Development 3 cr.

Business Administration-Management
348 Entrepreneurship 3cr.
368 International Business 3cr.
465 World Trade and Commerce 3 cr.

Economics
374 Comparative Economic Systems 3 cr.

Geography
351 Geography of a Selected Region 3 cr.

History
319H Contemporary Europe 3 cr.
331H Foreign Relations of the Great Powers, 1870-Present 3 cr.
332H The Global Diplomacy of the Cold War 3 cr.
344 Russia to 1881 3 cr.
345 Russia Since 1881 3 cr.
348 Eastern Europe: Past and Present 3 cr.
395 Special Topics variable cr.
445 The World of Anna Karenina 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.
331 Post-Soviet Politics 3 cr.

Russian
Science

Andrew S. Ware, (Professor and Chair, Department of Physics and Astronomy)

Science courses are designed for students desiring scientific knowledge and insight but are either majoring in non-scientific subjects or have limited science backgrounds. Enrollment in Science courses may serve as an introduction to further study in the sciences, to fulfill general requirements, or to fill specific requirements of the elementary education major.

Courses

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

Science (SCI)

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

U 198 Internship Variable cr. (R-6) Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off-campus. Prior approval must be obtained from the faculty supervisor and the Center for Work-Based Learning. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 225N General Science: Physical and Chemical Science 5 cr. Offered autumn. Prereq., MATH 100 or equiv. Integrated lectures, discussions, laboratory exercises, and demonstrations on topics in chemical and physical science for prospective elementary school teachers and the non-scientist. A two-hour laboratory session is required each week.

U 226N General Science: Earth and Life Science 5 cr. Offered spring. Prereq., SCI 225N and MATH 130 or equiv. Integrated lectures, laboratory exercises, and field trips on topics in earth and biological science for prospective elementary school teachers and the non-scientist. A two-hour laboratory session is required each week.

U 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 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.

U 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.

U 596 Independent Study Variable cr. (R-12) Offered intermittently.

Department of Sociology

James W. Burfeind, Chair

"Sociology is the study of social life, social change, and the social causes and consequences of human behavior. Sociologists investigate the structure of groups, organizations, and societies, and how people interact within these contexts. Since human behavior is shaped by social factors, the subject matter of sociology ranges from the intimate family to the hostile mob; from organized crime to religious cults; from the divisions of race, gender and social class to the shared beliefs of a common culture (American Sociological Association 2002:1). The Sociology faculty at UM bring diverse theoretical perspectives to their courses and use a wide array of methodological strategies in their research and teaching. Their interests range from social issues facing our local community and the Northern Rocky Mountain region, to national and global concerns. Faculty research addressed both theoretical issues, such as the causes of criminal behavior, and practical matters, such as the effectiveness of prison rehabilitation programs or the impact of legislation on family policy and poverty programs. In addition to a general sociology major, students may choose one of three options for structuring their course work. The general Sociology major provides a broad foundation in sociological theory and research, together with exposure to a variety of courses in the main substantive areas of the
Students interested in crime and criminal justice can choose an option in Criminology, while students concerned with the causes and consequences of social inequality can select an option in Inequality and Social Justice. Students interested in rural and environmental issues can pursue an option in Rural and Environmental Change. These options allow students to concentrate their studies in a particular area of interest while still acquiring a solid foundation in the discipline of Sociology.

### Special Degree Requirements

The general sociology major requires a minimum of 33 sociology credits. Students may choose an option in criminology, inequality and social justice, 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 coursework. See the Academic Policies and Procedures section of this catalog for other requirements.

**Upper-Division Writing Expectation:** To meet the Upper-Division Writing Expectation of the Bachelor of Arts with a major in sociology, student must successfully complete one course selected from SOC 438, 441, 460 or 488; or any other upper-division writing course approved for general education (see Academic Policies and Procedures section of the catalog).

### Required Course Work:

1) Extra-departmental requirement (3 credits):
   - CS 171 - Communicating Via Computers or
   - CS 172 - Introduction to Computer Modeling, or
   a higher-level CS course.

2) Core Courses (12 credits):
   - 110S - Principles of Sociology
   - 201 - Social Science Methods
   - 202 - Social Statistics
   - 455 - Classical Social Theory

3) Major Content—four courses, two of which must be numbered 300 or above. (12 credits):
   - 220S - Race, Gender and Class
   - 230S - Criminology or 330 - Juvenile Delinquency
   - 270 - Introduction to Rural and Environmental Change
   - 275S - Gender and Society
   - 300 - Sociology of the Family
   - 306 - Sociology of Work
   - 308 - Sociology of Education
   - 320 - Complex Organizations
   - 325 - Social Stratification
   - 340 - The Community
   - 342 - Urban/Metropolitan Sociology
   - 346 - Rural Sociology
   - 350S - Social Psychology
   - 355 - Population Problems
   - 470 - Society and Environment
   - 485 - Political Sociology

**NOTE:** Students in the criminology, inequality and social justice, and rural options may count only one course from their respective option as a major content course. 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, inequality and social justice, and rural and environmental sociology options are more stringent.

### General Sociology Major:

Students whose primary interest is in a general sociology major are urged to develop a plan of study with their advisor; they must take three electives in addition to the core courses and major content requirements listed above. Any sociology course, including courses from any of the three options may be included in your study plan. The general sociology major prepares students for positions with a bachelor's degree in one of the social science disciplines, including employment in a variety of government and private-sector agencies, or for a graduate program in sociology. It also provides valuable preparation for related fields such as law, social work, education, counseling, politics, and public administration.

### Criminology Option:

Criminology has been an area of study within sociology since the inception of the discipline at the turn of the twentieth century. Contemporary criminology examines the making of laws, the nature and extent of crime, the causes of crime, and society's efforts to control crime through the juvenile and criminal justice systems. The option builds upon the required course work in sociology and allows students to pursue extended study of crime and the criminal justice system. In addition, the option provides opportunity for practical experience in juvenile and criminal justice systems through internship placement. The criminology option prepares students for employment in public and private criminal justice agencies, as well as graduate study in sociology, criminal justice, and law.

In addition to courses required of all sociology majors in the core and content areas, students concentrating in criminology must complete the following:

- 230S - Criminology or 330 - Juvenile Delinquency
- 235 - Criminal Justice System

and any three of the following courses:

- 332 - Sociology of Law Enforcement
- 333 - Criminal Adjudication
- 334 - Sociology of Corrections
- 335 - Juvenile Justice System
- 423 - Addiction Studies
- 435 - Sociology of Law
- 438 - Seminar in Crime and Deviance
- 490 - Internship

### Inequality and Social Justice Option:

Inequality is the core of most sociological inquires. The option in inequality and social justice examines the causes and consequences of inequalities based on class, gender, race/ethnicity, disability, age, and sexual orientation. Social inequalities at the local, national, and global levels are studied, as are the political, legal, and social processes that contribute to or reduce inequalities. Ethical elements of social justice are considered with regard to inequality. An option in inequality and social justice prepares students for employment in a variety of government and private-sector agencies, especially in social services, or for graduate school in Sociology. It also provides valuable preparation for related fields such as law, social work, education, counseling, politics, and public administration.

Requirements, in addition to courses in the core and content areas, include:

- 220S - Race, Gender and Class
- 441W - Capstone: Inequality and Social Justice

and any three or the following courses:

- 275S - Gender and Society
- 322 - Sociology of Poverty
- 325 - Social Stratification
- 370S - Social Change and Global Development
- 433 - Sociology of Law
Third Year
SOC 201 Social Science Methods .................. 3
SOC 455 Classical Social Theory .................. 3
Sociology major content course .................. 3
Upper-division writing course .................... 3
Option courses (Crim, ISJ, or Rural) or electives 9

Fourth Year
SOC 460 Capstone in Rural and Environmental Change (Rural option) or SOC 441 Capstone in Inequality and Social Justice (ISJ option) .................. 3
Option courses (Crim, ISJ, or Rural) or electives 15

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 inequality and social justice option should take SOC 490 concurrent with SOC 441. 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 110S, 201, 455 and two (2) major content courses.

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

Sociology (SOC)
U 110S Principles of Sociology 3 cr. Offered every term.
Overview of the principles and concepts used in the study of human social interaction, groups, communities and societies. Required of all majors.
U 130S Sociology of Alternative Religions 3 cr. Offered autumn. Same as RELS 130S. Unconventional religious groups in American society. Topics include recruitment, conversion, commitment, defection, leadership, belief systems, organizational structure and change.
U 198 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 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 cultures, societies, and contemporary social problems 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
explorations 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, pancres, terrorism, revolutions and social movements.

UG 320 Sociology of Organizations 3 cr. Offered autumn. Prereq., SOC 110S. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.

UG 322 Sociology of Poverty 3 cr. Offered autumn. Prereq., SOC 110S. An examination of the roots, prevalence and social characteristics of poverty. Analysis of policies intended to end poverty.

UG 325 Social Stratification 3 cr. Offered intermittently. Prereq., SOC 110S. The origins, institutionalization and change of class, status, prestige, power and other forms of social inequality. Special attention to the effects of stratification on individuals.

UG 330 Juvenile Delinquency 3 cr. Offered spring. Prereq., SOC 110S. The study of juvenile delinquency as a social phenomenon, including the emergence of "juvenile delinquency" as a social and legal concept, the nature of delinquency, and theoretical explanations of delinquent behavior.

UG 332 Sociology of Law Enforcement 3 cr. Offered autumn even-numbered years. Prereq., SOC 110S, 235, and either 230S or 330. An examination of policing in society, with emphasis on the cultural context in which it occurs, its structural characteristics, and social psychological processes.

UG 333 Criminal Adjudication 3 cr. Offered spring odd-numbered years. Prereq., SOC 110S, 235 and either 230S or 330. An examination of adjudicatory processes applied to the criminally accused. Includes pretrial, trial, and sentencing practices and procedures. Special attention to the sociological dimensions of criminal adjudication: its cultural underpinnings, structural characteristics, and social psychological processes.

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 family, peer groups, neighborhoods, voluntary associations, power structures, social classes and large scale organizations as they come together in local communities.

UG 342 Urban/Metropolitan Sociology 3 cr. Offered intermittently. Prereq., SOC 110S. Classical social theories of urban growth. Contemporary urbanization in local, regional, national and global contexts. Internal urban/ metropolitan social organization in terms of race, ethnicity, social class and gender.

UG 346 Rural Sociology 3 cr. Offered autumn. Prereq., SOC 110S; SOC 201 recommended. Demographic, economic and sociocultural change in rural communities with 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. Historical and analytical study of organizations as social systems, with an emphasis on applying theoretical models to analyzing organizational behavior and change.


UG 370S Social Change and Global Development 3 cr. Offered autumn even-numbered years. Prereq., SOC 110S. Introduction to the global roots and dimensions of social change. Broad perspective on the forces that have transformed how "development" has shifted from a process of economic growth and welfare assistance organized nationally to a process of globally organized economic, political and cultural change.

UG 386 Preceptorship in Sociology 2-3 cr. Offered autumn and spring. Prereq., SOC 110S and consent of instr. Assisting a faculty member by tutoring, conducting review sessions, helping students with research projects, and carrying out other class-related responsibilities. Open to juniors and seniors with instructor's consent. Proposals must be approved by department chair.

UG 395 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of new courses or one time offerings of current topics.

UG 398 Internship Variable cr. (R-6) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 423 Addiction Studies 3 cr. Offered spring even-numbered years. Same as PSYC and SW 423. Examination of chemical dependency and behavioral compulsion, including alcohol and other drugs, gambling, eating disorders, sexual addictions. Ecosystems perspective on etiology, treatment, prevention, family dynamics, community response, and societal contributors.

UG 424 Community Forestry and Conservation 3 cr. Offered spring even-numbered years. Same as FOR 424, RSCN 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 441 Capstone in Inequality & Social Justice 3 cr. Offered autumn. Prereq., SOC 110S, 220S. One other inequality and social justice elective, and consent of instr. Research and writing on Inequality and Social Justice. Students bring together readings from other inequality content courses and/or independent readings, research methods training, and data and/or internship experience to write a final research paper on a topic of their choice within the ISJ area. Meets upper-division writing expectation for sociology majors only.

UG 444 Issues in Inequality 3 cr. Offered alternate years. Prereq., SOC 110S and 220S. Analysis of selected topics in inequality and social justice. Possible topics include Native Americans, disabilities, age, sexual orientation, and gender.

UG 455 Classical Social Theory 3 cr. Offered autumn and spring. Prereq., SOC 110S. Focus on the historical development of the field of sociology from 1850 to World War I. The classical writings of Comte, Tonnies, Weber, Durkheim, Marx, LePlay and Simmel emphasized. Required of all sociology majors.

UG 460 Capstone in Rural and Environmental Change 3 cr. Offered spring. Prereq., SOC 110S, 270 and at least 2 other rural and environmental change electives and consent of instr. Advanced study of theoretical and substantive issues related to rural, environmental, community, and development sociology; includes a substantial student research project. Meets upper-division writing expectation for sociology majors only.

UG 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.

U 490 Sociology Internship Variable cr. (R-12) Offered every term. Prereq., SOC 110S, 201 and 202; 2.75 GPA; junior standing and consent of instr. Supervised placement in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.

U 493 Omnibus Variable cr. (R-12) Offered every term. Prereq., SOC 110S and consent of instr. Independent work under the University omnibus option. See index.

UG 494 Seminar 2-3 cr. Offered intermittently. Prereq., SOC 110S and at least junior standing. Selected sociological topics. UG 495 Special Topics Variable cr. (R-6) Offered intermittently. Prereq., SOC 110S. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study 1-3 cr. (R-9) Offered every term. Prereq., SOC 110S and consent of instr. Individual work with a faculty supervisor in an area of special interest. Proposals must be approved by department chair.

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 545 Seminar in Inequality and Social Justice 3 cr. Offered spring. Advanced study of variable topics in inequality and social justice held in a small group setting that maximizes opportunities for graduate student research, discussion, and writing.

G 561 Qualitative Methods 3 cr. Offered spring. Prereq., SOC 110S and 201. Introduction to the basic methods used to conduct qualitative studies including ethnography, focus group, interview and observation. Includes hands-on fieldwork projects, data coding and analysis, and research ethics. Draws on examples and literature from sociology.

G 562 Quantitative Methods 3 cr. Offered autumn. Prereq., SOC 110S, 201 and 202. Introduction to the basic methods used to conduct quantitative sociological research and program evaluation including proposal development, survey design, sampling techniques, data analysis, and dissemination of findings.

G 563 Social Data Analysis 3 cr. Offered spring. Prereq., SOC 110S, 201, and 202. A hands-on introduction to preparing sociological reports and documents, performing research and statistical tasks common to the field. Presumes no previous knowledge of microcomputers.

G 571 Seminar: Rural and Environmental Change 3 cr. Offered autumn. Utilizing a critical perspective, students examine rural and environmental transitions and their implications for policies and debates on managing growth, development and natural resources in rural areas.

G 590 Sociology Internship Variable cr. (R-6) Offered every term. Prereq., consent of instr. Supervised placement for graduate students in an agency or business which involves work experience related to criminology, sociology, rural and environmental change and/or inequality and social justice.

G 594 Graduate Seminar 3 cr. (R-9) Offered intermittently. Selected sociological topics.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of instr. Work with a faculty supervisor in an area of special interest.

G 597 Graduate Research 2-3 cr. (R-9) Offered every term. Directed research. Student must develop a specific research or evaluation proposal which is approved by the instructor prior to registration. Those students electing the professional paper option may apply three credits of 597 toward graduation.

G 598 Internship Variable cr. (R-6) Offered autumn and spring. Prereq., consent of department. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Thesis/Professional Paper Variable cr. (R-6) Offered every term. Students may apply six credits of 599 toward graduation.
Women's and Gender Studies Program

Ione Crummy and Anya Jabour, Co-Directors

Women's and Gender Studies, an interdisciplinary program founded in 1990, encourages the production, discussion, and dissemination of knowledge about women's experiences, oppressions, and achievements in Montana, the U.S., and the world. In the last decade this focus has broadened to include study of the social and cultural construction of gender, sex, and sexualities. By fostering awareness of cultural and international diversity, as well as of the circulations of power mediated by race, class, age, and sexual orientation, Women's and Gender Studies encourages students to think critically and to envision justice for all peoples.

The Women's and Gender Studies program is administered by the directors, with assistance from the program coordinator, in consultation with the Women's and Gender Studies Steering Committee, an interdisciplinary group of faculty and professional associates with teaching, research, and scholarly interests in women and gender.

Students may include Women's and Gender Studies in their studies in two ways. They can major in Women's and Gender Studies or they can complete the Women's and Gender Studies minor. Students may select coursework from a wide variety of courses offered in the humanities, social sciences, natural sciences, law, education and other disciplines. Women's and Gender Studies offers scholarships and sponsors or co-sponsors a variety of events including lectures, discussions, and performances that make a vibrant contribution to both the campus and the Missoula community life.

To be admitted, students must register with the Women's and Gender Studies directors, who will explain option or minor requirements and supervise their program.

Special Degree Requirements

For the Women's and Gender Studies option under the Liberal Studies major, the following requirements must be met (not necessarily in sequence):

1) Completion of Liberal Studies core curriculum. (See the Liberal Studies section of this catalog.)
2) Completion of WGS 119H or approved alternative.
3) At least 21 credits of course work in relevant, advisor-approved courses numbered above 299. At least 12 of these credits must be designated as "focus" courses and 9 more may be either focus or content courses. Each semester a list of these courses is published at pre-registration by the Women's and Gender Studies office, LA 138A, (406) 243-2584. Typical choices are listed below, but may vary from year to year. WGS 398 (internships) may be applied toward these credits.

**Group I: Examples of Focus Courses**

- ANTH 201 Human Sexuality
- ANTH 327 Anthropology of Gender
- ART 480H Women Artists and Art History
- COMM 380 Gender and Communication
- COMM 480 The Rhetorical Construction of "Woman"
- COMM 481 The Rhetoric of US Women's Activism, 1960-Present
- ENLT 321-324* Women's Literature
- ENLT 336 African American Literature
- ENLT 372 Gay and Lesbian Studies
- ENLT 375L African American and African Literature
- ENLT 376 American Women Writers
- HIST/WGS 370H Women in America: to the Civil War
- HIST/WGS 371H Women in America: Civil War to the Present
- HIST 470 Women and Slavery
- HIST 471 Southern Women in Black and White
- HIST 420 History through Literature
- LS/MCLG 320 Women in Antiquity
- LS 381* Women and Film
- NAS 370W Gender Studies in Native American Studies
- PSYC 385 Psychology of Family Violence
- RELS 370* Mysticism
- SW 323 Women and Social Action in the Americas
- SW 324 Gender and the Politics of Welfare
- SOC 300 Sociology of the Family

**Group II: Examples of Content Courses**

- ANTH 329 Social Change in Non-Western Societies
- ENLT 301* Applied Literary Criticism
- ENLT 372 Gay and Lesbian Studies
- ENLT/NAS 329 Native American Literature
- FREN 311L French Literature: Medieval, Renaissance, and 17th Century
- GERM 441 19th Century German Literature
- HIST 300* The Historian's Craft
- HIST 350* Human Rights
- HIST 351* Colonial America
- HIST 384 Work, Workers, and the Working Classes in America
- HIST 387 Iran Between Two Revolutions
- HIST 485 Piety and Power in Latin America and Imperial Spain
- HHP 371 Introduction to Peer Health Education
- MCLG 302H/HIST 302H Classical Greece II: Individual, Family and Civic Life in Ancient Greece
- PSC 343 Politics of Social Movements
- PSC 411 Politics of Global Migration
- PSC 450 Utopia and Critics
- PSC 463S Development Administration
- PSC 472 Constitutional Law II: Civil Rights and Liberties
- PSYC 385 Psychology of Family Violence
RELS 336 Medieval Christian Thought
SW 410E Ethics and the Helping Professions
SW 420S Child Abuse and Child Welfare
SOC 322 Sociology of Poverty
SOC 355 Population and Human Ecology
SOC 370S Social Change and Global Development
SOC/FOR 424 Social Forestry

*These are generic courses. The specific course focus must be on women, as listed here. Check with the Women's and Gender Studies directors before enrolling. Other courses not listed here may be applied toward the option or minor if approved by the Women's and Gender Studies directors.

Requirements for a Minor
The Women's and Gender Studies minor is available to students in all majors. It consists of 20 credits. Students must complete four required courses or approved alternatives: (1) WGS 119H, Philosophical Perspectives on Women in the Western Hemisphere, or WGS 263S, Introduction to Women's and Gender Studies, (2) WGS 275, Gender and Society, (3) WGS 363, Feminist Theories and Methods, and (4) WGS 463, Women's Studies Capstone (2 credits). In addition, students must complete three upper-division (300- or 400-level) elective courses (nine credits) from the list of Women's and Gender Studies “content” and “focus” courses. Students may apply WGS 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 and Gender 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 and Gender Studies (WG5)
U 119H Philosophical Perspectives on Women in the Western Hemisphere 3 cr. Offered spring. Same as LS and PHIL 119H. Introduction to the discipline and scope of Western philosophy focusing on women as the subject rather than men. A chronological study following the ideological development in the West of social attitudes and scientific theses.

U 263S Introduction to Women's and Gender Studies 3 cr. Offered autumn. 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 annually. Same as SOC 275S. Exploration of the social construction of gender, especially in western, post-industrial societies such as the U.S. How gender ideologies affect the social definition and position of men and women in work, family, sexual 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 intermittently. 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 intermittently. Prereq., SW 100S or consent of instr. Same as SW 324. Exploration of the relationship between gender ideologies and the development of social welfare policies. Examination of historic and contemporary social welfare policies, practices and debates in the United States through a gender lens.

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

U 336 American Women Writers 3 cr. Offered spring odd-numbered years. Prereq., ENLT 301 or consent of instr. Same as ENLT 336. Consideration of political and aesthetic purposes in women's fiction through a progression of 19th century literary forms: a cautionary seduction novel, sentimental and domestic novels, realism, naturalism, and utopianism.

UG 342H Gender Studies in Native American Studies 3 cr. Offered intermittently. Same as NAS 342H. Focus on American Indian gender relations and their cultural continuity and historical evolution. National in scope with concentration on certain tribes. Group analysis of contemporary gender issues relevant to Native American peoples.

U 363 Theories and Methods of Feminist Inquiry 3 cr. Offered spring. In-depth exposure to feminist views and critique of the ethics and methods of scientific, social, and literary inquiry. Includes exposure to primary sources and current sociological and global issues and movements, research finding, and literature exemplifying these methods of inquiry and the gendered dimensions of such inquiry.

U 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.

U 371H Women in America: from the Civil War 3 cr. Offered spring. Same as HIST and LS 371H. Interpretive overview of women’s experiences in America after the Civil War. Exploration of new definitions of womanhood and "women’s sphere" emerging from women’s varied experiences in the American colonies and the American Revolution; how immigrant, poor, slave, and western women transgressed the boundaries of their sphere; and how women—from both inside and outside their assigned sphere—reshaped their roles in American society.

U 372 Gay and Lesbian Studies 3 cr. Offered intermittently. Prereq., ENLT 301 or consent of instr. Same as ENLT 372. Review of the history of the gay and lesbian movement in the twentieth century as a basis for understanding the political, social, and sexual issues that influenced homoerotic cultural representation in plays, films, and novels.

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

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

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

U 399 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 463 Women's and Gender Studies Capstone 2 cr.** Offered spring. Prereq., WGS 119H, WGS 263S, WS 275S. Capstone course for the Women's and Gender Studies minor.

**U 493 Omnibus Variable cr. (R-6)** Offered intermittently. Prereq., consent of instr. Independent work under University omnibus option. See index.

**U 494 Omnibus Variable cr. (R-6)** Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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

**U 496 Independent Study Variable cr. (R-9)** Offered intermittently.

**U 497 Research Variable cr. (R-6)** Offered intermittently. G 595 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. G 596 Independent Study 1-6 cr. (R-6) Offered intermittently. Prereq., consent of instr.

**Women's and Gender Studies Steering Committee/Faculty**

**Professors**

Betsy Bach, Ph.D., University of Washington (Communication Studies)

Casey Charles, J.D., Hastings College fo the Law, 1978; Ph.D. SUNY Buffalo, 1992 (English)

Janet L. Finn, Ph.D., University of Michigan, 1995 (Social Work and Anthropology)

Linda Rutland Gillison, Ph.D., University of Minnesota, 1975 (Classics and Liberal Studies)

Sara Hayden, Ph.D., University of Minnesota, 1994 (Communication Studies)

Anya Jabour, Ph.D., Rice University, 1995 (History)

Jennifer McNulty, Ph.D., University of North Carolina at Chapel Hill, 1993 (Mathematical Sciences)

Rita Sommers-Flanagan, Ph.D., The University of Montana, 1989 (Psychology)

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

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

**Associate Professors**

Karen Ruth Adams, Ph.D., University of California-Berkeley, 2000 (Political Science)

Hiltrudis Arens, Ph.D., University of Maryland, 1997 (German)

Jill Bergman, Ph.D., University of Illinois, Urbana, 1999 (English)

Ione Crummy, Ph.D., Stanford University, 1992 (French)

Christine Fiore, Ph.D., University of Rhode Island, 1990 (Psychology)

Ramona Grey, Ph.D., University of California, Riverside, 1991 (Political Science)

Sarah Halvorson, Ph.D., University of Colorado-Boulder, 2000 (Geography)

Kari Harris, Ph.D., University of Kansas, 1998 (Research, Psychology and Pharmacy)

Maxine Jacobson, Ph.D., University of Utah, 1997 (Social Work)

Kathleen Kane, Ph.D., University of Texas, 1997 (English)

Kimber Haddix McKay, Ph.D., University of California-Davis, 1997 (Anthropology)

Jennifer Waldz, University of Washington, 1993 (Psychology)

 Celia Winkler, Ph.D., University of Oregon, 1996 (Sociology)

Stephen Yoshimura, Ph.D., Arizona State University, 2001 (Communication Studies)

**Assistant Professors**

Heather Bruce, Ph.D., University of Utah, 1997 (English)

Bryan Cochran, Ph.D., University of Washington, 2003 (Psychology)

Jennifer Considine, Ph.D., Texas A&M, 2006 (Communication Studies)

Kelli Cummings, Ph.D., University of Oregon, 2004 (Psychology)

Lynn Itagaki, Ph.D., UCLA, 2005 (English)

Kathy Kuipers, Ph.D., Stanford University, 1999 (Sociology)

Jody Pavilack, Ph.D., Duke University, 2003 (History)

Kathleen Ryan, Ph.D., University of North Carolina-Greensboro, 2001, (English)

Teresa Sobieszczyk, Ph.D., Cornell University, 2000 (Sociology)

Christina Yoshimura, Ph.D., Arizona State University, 2004 (Communication Studies)
College of Forestry and Conservation

Perry J. Brown, Dean
James Burchfield, Associate Dean

Natural resource 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 resource disciplines into an extraordinary undergraduate experience.

The College provides four undergraduate degrees in the following majors: Forestry, Recreation Management, Resource Conservation, and Wildlife Biology. These programs are housed in three new departments: Ecosystem Sciences and Conservation, Society and Conservation, and Forest Management. These departments share responsibilities for the fulfillment of educational requirements of the aforementioned undergraduate degree programs, with the exception of the Wildlife Biology program, which is designed as a joint program with the Division of Biological Sciences.

Present day land management challenges range from intensive resource utilization to organism and ecosystem preservation. Resource professionals need a broad range of talents and perspectives to solve present day problems and quickly adapt to address an even more complex future. Our instructional programs produce both specialists and broadly trained generalists, all of whom understand the complex interrelationships between resource use and quality of human environment.

All instructional programs emphasize interaction with practicing professionals and opportunities to observe and participate in current field resource management situations. Field trips are offered in many courses. In addition, students in several options may obtain intensive field experience through on-site course offerings in a camp setting at the Lubrecht Experimental Forest.

High School Preparation: Students planning to enter the College of Forestry and Conservation should attain a sound high school background in English, social studies, mathematics, biology, and other sciences.

Entering freshmen and non-resident transfer students will be admitted to the College of Forestry and Conservation in accordance with general university admissions requirements listed previously in the catalog. See index.

Resident transfer students must have a grade point average of 2.0 or above to be admitted to the College of Forestry and Conservation.

University students wanting to change their major to the College of Forestry and Conservation must have a grade point average of 2.0 or above.

Students are required to consult with their advisors before each registration period. New students needing an advisor and current students who wish to change advisors should contact the Dean's Office. Students are paired with an advisor who matches their academic and professional interests but 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, WBIO 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)
   - Forest Operations and Applied Restoration Option in Forestry (BSF)
   - Range Resources Management Option in Forestry (BSF)
   - Conservation Option in Resource Conservation (BSRC)
   - Nature-based Tourism Option in Recreation Management (BSRM)
   - Recreation Resource Management Option in Recreation Management (BSRM)
   - Terrestrial Option in Wildland Restoration (BSWR)
   - Aquatic Option in Wildland Restoration (BSWR)
   - 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, REC M 370, WBIO 410, WBIO 475, or transferred equivalent)
   d) A course in multidisciplinary natural resources management planning (FOR 480 or transferred equivalent)

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

To continue coursework in the College of Forestry and Conservation beyond the freshman year, the student must maintain a cumulative grade average of 2.00 (C) or above. To graduate, the student must have a cumulative grade point average of 2.00 (C) for all forestry courses taken as well as a
cumulative 2.00 overall average (2.5 for wildlife biology), and pass all required classes with a grade of C- or higher.

**Bachelor of Science in Forestry**

This degree focuses on producing graduates who manage forests and grasslands and the multiple products and services coming from them. The degree offers options in Forest Operations and Applied Restoration, Forest Resources Management, and Range Resources Management. The Forest Resources Management option is accredited by the Society of American Foresters. Each option is focused on blending natural and management science with issues of policy and social science. Graduates are employed by a variety of public agencies and private companies and non-governmental organizations and many graduates pursue graduate studies.

**Bachelor of Science in Recreation Management**

This degree prepares graduates for professional positions nature-based recreation experiences and park resources for public land management agencies, nonprofit organizations, or the nature-based tourism industry. 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 compliment a focus on natural resource and tourism management. Most graduates find employment with public agencies, nonprofit organizations, or private businesses, but graduates also have the preparation needed to pursue graduate study in a variety of areas.

**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.

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**Bachelor of Science in Wild Land Restoration**

This degree provides students with the knowledge and skills needed to apply a broad spectrum of biological, physical, and social sciences to ecological restoration, which is the fastest growing area of focus and employment in natural resource management. Students completing the major in Wild Land Restoration will be qualified to work in a number of fields concentrating on restoration or ecologically-based management of forest, grassland, riverine, and riparian ecosystems in both the private and public sector. Students will be able to choose either the Aquatic or Terrestrial Restoration Ecology options. A minor in Wild Land Restoration is also offered.

**Bachelor of Science in Wildlife Biology**

The College of Forestry and Conservation cooperates with the Division of Biological Sciences in offering a degree program in wildlife biology. Wildlife biology is the study of wild vertebrate animals, their habitats and their environment. The undergraduate curriculum constitutes pre-professional training for employment in fish and game conservation, ad provides an excellent background in general ecology. Since few employment opportunities exist in wildlife management or research for students with the bachelor's degree, wildlife biology students should plan to continue their education, at least through the master's degree, to qualify for most state and federal wildlife management or research positions.

Three curricula are offered in the wildlife biology program: Terrestrial, Aquatic, and Honors. Curriculum requirements are found under the Wildlife Biology section in this catalog.

**Minor in Wilderness Studies**

Descriptions of this minor and of the Wilderness and Civilization program are found under the Wilderness Studies section of this catalog.

**Graduate Programs**

The College of Forestry and Conservation offers these graduate degrees: Master of Science in Resource Conservation, Master of Science in Forestry, Master of Ecosystem Management, Master of Science in Wildlife Biology, Master of Science in Recreation Management, and Doctor of Philosophy. For further information on these programs contact the Graduate School.

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**Bachelor of Science in Forestry**

Forest Operations and Applied Restoration Option

In addition to special degree requirements listed previously, the students selecting the Forest Operations and Applied Restoration option must complete the following required courses or their equivalent, if transferred from another college or university. Transferability and equivalency will be determined by the University and College of Forestry and Conservation. Electives may be taken at any time, keeping in mind these requirements as well as the University's General Education requirements for graduation.

**First Year**

- **Credits**
- **CHEM 151N General Chemistry** 3
- **ENEX 101 Introduction to Forestry** 3
- **MATH 121 Precalculus** 4
- **BIOL 120N General Botany (including lab)** 3
- **MATH 150 Applied Calculus** 4
- **PHYS 121 Fundamentals of Physics I** 5

**Second Year**

- **ECON 111S Introduction to Microeconomics** 3
- **FOR 180 Careers in Natural Resources or RSCN 121 Nature of Montana** 2
- **FOR 200 Natural Resources Measurements Camp** 2
- **Electives and General Education** 4

**Third and Fourth Years**

- **FOR 235 Problem Solving for Forest Operations** 4
- **FOR 201 Forest Biometrics** 3
- **FOR 210N Introductory Soils** 3
- **FOR 220 Technical Writing** 2
- **FOR 241 Dendrology** 3
- **FOR 250 Geographic Information System Practicum** 2
- **FOR 265 Elements of Ecological Restoration** 3
- **Nature and Society Elective** 3
- **Electives and General Education** 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 385</td>
<td>Watershed Hydrology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 340</td>
<td>Forest Products Manufacturing</td>
<td>2</td>
</tr>
<tr>
<td>FOR 341</td>
<td>Timber Harvesting and Forest Roads</td>
<td>3</td>
</tr>
<tr>
<td>FOR 347</td>
<td>Multiple Resource Silviculture</td>
<td>3</td>
</tr>
<tr>
<td>FOR 351</td>
<td>Photogrammetry and Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>FOR 422</td>
<td>Natural Resource Policy &amp; Administration</td>
<td>3</td>
</tr>
<tr>
<td>FOR 440</td>
<td>Timber Management I</td>
<td>3</td>
</tr>
<tr>
<td>FOR 441</td>
<td>Forest Planning</td>
<td>3</td>
</tr>
<tr>
<td>FOR 444</td>
<td>Professional Electives</td>
<td>15</td>
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<tr>
<td>FOR 455</td>
<td>Electives and General Education</td>
<td>26</td>
</tr>
<tr>
<td>FOR 457</td>
<td>Roads Capstone</td>
<td>3</td>
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<tr>
<td>FOR 460</td>
<td>Electives and General Education</td>
<td>22</td>
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<tr>
<td>EVST 167H</td>
<td>Nature and Society</td>
<td>3</td>
</tr>
<tr>
<td>EVST 225</td>
<td>Community and Environment</td>
<td>3</td>
</tr>
<tr>
<td>EVST 327E</td>
<td>Environmental Ethics I</td>
<td>3</td>
</tr>
<tr>
<td>FOR 489</td>
<td>Ethics and the Management of Public Lands</td>
<td>3</td>
</tr>
<tr>
<td>FOR 437</td>
<td>Forest Operations Evaluation and Project Planning</td>
<td>3</td>
</tr>
<tr>
<td>Capstone</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>FOR 455</td>
<td>Riparian Ecology and Management</td>
<td>3</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>EVST 167H</td>
<td>Nature and Society</td>
<td>3</td>
</tr>
<tr>
<td>EVST 225</td>
<td>Community and Environment</td>
<td>3</td>
</tr>
<tr>
<td>EVST 327E</td>
<td>Environmental Ethics I</td>
<td>3</td>
</tr>
<tr>
<td>FOR 489</td>
<td>Ethics and the Management of Public Lands</td>
<td>3</td>
</tr>
</tbody>
</table>

**Forest Resources Management Option**

In addition to special degree requirements listed previously, the students selecting the Forest Resources Management option must complete the following required courses or their equivalent. If transferred from another college or university, transfer equivalency will be determined by the University and College of Forestry and Conservation. Electives may be taken at any time, keeping in mind these requirements as well as the University's General Education requirements for graduation.

### First Year

**Credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 120N</td>
<td>General Botany</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 151N</td>
<td>General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A</td>
<td>Introduction to Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111S</td>
<td>Introduction to Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101</td>
<td>Composition</td>
<td>3</td>
</tr>
<tr>
<td>MATH 121</td>
<td>Pre-Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 150</td>
<td>Applied Calculus</td>
<td>4</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>5</td>
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</tr>
</tbody>
</table>

### Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOR 201</td>
<td>Forest Biometrics</td>
<td>3</td>
</tr>
<tr>
<td>FOR 220</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>FOR 210N</td>
<td>Introductory Soils</td>
<td>3</td>
</tr>
<tr>
<td>FOR 240</td>
<td>Tree Biology</td>
<td>3</td>
</tr>
<tr>
<td>FOR 341</td>
<td>Forest Operations Evaluation and Project Planning</td>
<td>3</td>
</tr>
<tr>
<td>FOR 250</td>
<td>Geographic Information System Practicum</td>
<td>2</td>
</tr>
</tbody>
</table>

**Social Science Restricted Elective**

(Select one course from the following list)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOC/EVST 225</td>
<td>Community and Environment</td>
<td>3</td>
</tr>
<tr>
<td>EVST 167</td>
<td>Nature and Society</td>
<td>3</td>
</tr>
<tr>
<td>RSCN 370</td>
<td>Wildland Conservation Policy and Governance</td>
<td>3</td>
</tr>
</tbody>
</table>

**Management Applications Restricted Elective**

(Select at least five credits from the following list)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>FOR 230</td>
<td>Fire Management</td>
<td>2</td>
</tr>
<tr>
<td>FOR 423</td>
<td>Montana Wilderness Policy and Politics</td>
<td>3</td>
</tr>
<tr>
<td>FOR 454</td>
<td>Community and Environment</td>
<td>3</td>
</tr>
<tr>
<td>FOR 379</td>
<td>Collaboration in Natural Resources Decisions</td>
<td>3</td>
</tr>
<tr>
<td>FOR 474</td>
<td>Sociology of the Environment and Development</td>
<td>3</td>
</tr>
<tr>
<td>FOR 425</td>
<td>Natural Resource and Environmental Economics</td>
<td>3</td>
</tr>
<tr>
<td>RSCN 370</td>
<td>Wildland Conservation Policy and Governance</td>
<td>3</td>
</tr>
<tr>
<td>RECM 481</td>
<td>Recreation Behavior</td>
<td>3</td>
</tr>
<tr>
<td>RECM 482W</td>
<td>Wilderness and Protected Area Management</td>
<td>3</td>
</tr>
<tr>
<td>RECM 485</td>
<td>Recreation Planning</td>
<td>3</td>
</tr>
</tbody>
</table>

**Range Resources Management Option**

In addition to special degree requirements listed previously, students electing the range resources management option must complete the following required courses, or their equivalent if transferred from another college or university. Transfer equivalency will be determined by the University and College of Forestry and Conservation. Electives may be taken at appropriate times, keeping in mind these requirements as well as the University's General Education requirements for graduation.

### First Year

**Credits**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 120N</td>
<td>General Botany</td>
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<td>Introduction to Public Speaking</td>
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<td>Introduction to Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101</td>
<td>Composition</td>
<td>3</td>
</tr>
<tr>
<td>GEG 102N</td>
<td>Introduction to Physical Geography</td>
<td>3</td>
</tr>
<tr>
<td>MATH 121</td>
<td>Pre-Calculus</td>
<td>4</td>
</tr>
<tr>
<td>MATH 150</td>
<td>Applied Calculus</td>
<td>4</td>
</tr>
</tbody>
</table>
Wild Land Restoration

Bachelor of Science in Wild Land Restoration

In addition to special degree requirements listed previously, the students selecting the Bachelor of Science in Wild Land Restoration must complete the following required courses or their equivalent, if transferred from another college or university. Transferance and equivalency will be determined by the University and College of Forestry and Conservation. Electives may be taken at any time, keeping in mind these requirements as well as the University's General Education requirements for graduation.

Wild Land Restoration Minor

To earn a minor in Wild Land Restoration, students must fulfill the course requirements listed below (minimum of 18 credits).
Courses

**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 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 210N Introductory Soils 3 cr.** Offered autumn and spring. Prereq., CHEM 151N. An introduction to the chemical, physical, biological and morphological properties of soils.
- **U 220 Technical Writing 2 cr.** Offered every term. Emphasis on strategy, style and tone in effective technical prose. Traditions of technical writing and how to adopt a wide range of styles and tones in writing various technical documents to diverse audiences. Focus on more effective technical sentences, paragraphs and larger writing components. Assignments include analyses, summaries, employment documents, research reports, case studies and editing/revision exercises.
- **UG 225 Forest Economics 3 cr.** Offered autumn and spring. Prereq., MATH 150; ECON 111S. Economic techniques to support decision making about the allocation of scarce resources, and management of forests for timber and other ecosystem services.
- **U 230 Forest Fire Management 2 cr.** Offered spring. Presuppression and suppression of fire and the uses of fire in management practices. Fire weather, the measurement of fire weather, the factors that influence fire behavior, and fire management decisions.
- **U 232 Forest Insects and Diseases 3 cr.** Offered spring. Identification, significance of and remedies for insect infestations and infectious and non-infectious diseases of forests and forest products.
- **U 235 Problem Solving for Forest Operations 4 cr.** Offered autumn. Prereq., MATH 150, PHYS 121, GEOS 100N strongly recommended. Introduction to problem solving including the fundamentals of statics and mechanics of materials presented in the context of forest operations.
- **U 240 Tree Biology 2 cr.** Offered autumn. Suggested coreq., FOR 241N. The physical and biological requirements for the growth and development of trees. Discussions of: identification, classification, range, and economic importance of the major tree species of North America.
- **U 241N Dendrology 3 cr.** Offered autumn and spring. Prereq., BIOL 120N; suggested coreq., FOR 240. Methods and techniques for identifying the major families of North American trees, based on gross morphological and anatomical features. Building and use of identification keys.
- **U 250 Geographic Information System Practicum 2 cr.** Offered every term. A practical introduction to the use of geographic information systems for storing, retrieving, analyzing and displaying spatial data.
- **U 275 Wildlife Conservation 2 cr.** Offered spring. Prereq., sophomore standing or consent of instr. Principles of animal ecology and framework of wildlife administration as a basis for the conservation of wild birds and animals, and biodiversity. For non-wildlife biology majors.
- **U 295 Special Topics Variable cr.** (R-6) Offered intermittently. Experimental offerings of visiting professors; major courses or one-time offerings of current topics.
- **U 298 Special Topics Variable cr.** (R-3) Offered every term. Prereq., consent of instr. Individual research at the undergraduate level.
- **U 302 Forest Mensuration 3 cr.** Offered spring. Prereq., FOR 201. The theory and practice of timber inventory and growth projection, including field measurements, sampling procedures, statistical methods, inventory compilation, and stand growth simulation under specified management prescriptions. stand growth under specified management prescriptions.
- **U 303 Introduction to Geographic Information Systems 3 cr.** Offered autumn. Introduction to the basic concepts and techniques of computerized spatial data management and analysis systems and application to natural resource assessment.
- **UG 307 Forest Vegetation Management Models 3 cr.** (R-6) Offered autumn. Prereq., FOR 202 or consent of instr. Hands-on experience in applying the common simulation models used by forest managers in forecasting the development of forest vegetation. Includes elements of model building and evaluation.
- **U 311 Field Studies in Ecological Land Human Communities 2-3 cr.** (R-12) Offered every term. Prereq., consent of instr. Via extended backcountry travel, experiential examination of the structure and function of the ecosystems occurring within the course area. Also investigates the relationship of those ecosystems with the people that manage, live, and work in the area. Offered by the Wild Rockies Field Institute.
- **UG 330 Forest Ecology 3 cr.** Offered autumn and spring. Same as RSCN 330. Prereq., BIOL 120N or BIOL 108N,
109N; prereq. or coreq., FOR 210N. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.

UG 331 Wildlife and Fuel Management 3 cr. Offered autumn. Prereq., FOR 230 or equiv. Fire ecology, western vegetation types; planning for prescribed use of fire; fuel management objectives and techniques: mechanical, chemical, prescribed fire; smoke management considerations.

UG 332 Forest Entomology 3 cr. Offered intermittently. Prereq., FOR 323. Classification, identification, life cycles, and control of insects which injure forests and forest products.

UG 335 Environmental Entomology 3 cr. Offered autumn. Prereq., BIOL 108 or equivalent. An introduction to the importance of insects in ecosystem function and process, and their use in ecological monitoring as indicators of ecological change, degradation, and the efficacy of ecological restoration efforts. Will also cover effects of climate change and biological invasions in the context of both pest and beneficial insect species.

UG 340 Forest Products Manufacturing 2 cr. Offered autumn. Prereq., junior standing or consent of instr. Survey of the manufacture of wood-based products generated from timber harvest. Laboratory field trips to several local manufacturing facilities.


UG 342 Wood Anatomy, Properties and Identification 3 cr. Offered spring. Prereq., BIOL 120N or FOR 240, 241N. Lecture and laboratory investigation of the structure, identification and physical and mechanical properties of the commercial tree species of North America.

UG 347 Multiple Resource Silviculture 3 cr. Offered autumn and spring. Prereq., FOR 330 or BIOL 340 or equiv. An introduction to the concepts and application of silvicultural techniques to forest ecosystems to meet multiple resource objectives.

UG 350 Geographic Information Systems and Applications 3 cr. Offered autumn. Prereq. or coreq., FOR 250. Introduction to the basic concepts and techniques of computerized spatial data management and analysis systems and application to natural resource management.

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. Same as RSCN 360. Prereq., junior standing or consent of instr. An introduction to rangelands and their management, grazing influences, class of animal, grazing capacity, control of livestock distribution, improvements, competition and interrelationships with wildlife. Laboratory exercises to gain on-site experience on topics and concepts presented in lectures.

UG 361 Range Forage Plants 3 cr. Offered autumn. Same as RSCN 361. Prereq., FOR 360 and BIOL 165N. Description, identification, forage value and ecology of forage plants of the western United States; important weed species, management of grazing lands, and the relationship of ecophysiology and morphology to grazing response.

UG 362 Range Livestock Production 3 cr. Offered spring odd-numbered years. Same as RSCN 362. Prereq., FOR 360 or consent of instr. An introduction to livestock production in natural systems and the role of livestock production in the world food situation; emphasizes selection, production and management principles of beef cattle systems.

UG 379 Collaboration in Natural Resources Decisions 3 cr. Offered intermittently. Same as EVST and RSCN 379. Political and social processes affecting natural resource decisions. Examination of cases of multi-party collaboration in forestry, range, and watershed management issues.

UG 385 Watershed Hydrology 3 cr. Offered autumn and spring. Same as RSCN 385. 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.

UG 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.

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 396 Independent Study 1-3 cr. (R-10) Offered every term. Prereq., consent of instr. Individual study or research problems.

UG 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, 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. Same as RSCN 422. Policy formation in the United States and a survey of the major resource policies interpreted in their historical and political contexts.

UG 424 Community Forestry and Conservation 3 cr. Offered spring. Same as SOC 424 and RSCN 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 Natural Resource and Environmental Economics 3 cr. Offered spring. Prereq., Math 150, and at least one of ECON 111, FOR 225, and FOR 320. Introduction to analytical approaches for economic analysis of management of non-renewable resources, fisheries, forests, threatened and endangered species, and the atmosphere.

UG 436 Forest Meteorology 3 cr. Offered autumn odd-numbered years. Prereq., 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.

UG 437 Advanced Timber Harvesting and Forest Road 5 cr. Offered autumn. Prereqs., FOR 235, 347, 340, 351; Coreq., FOR 436. This course covers the fundamentals of logging feasibility and cost analyses of various timber
harvesting systems including the characteristics and performance of ground vehicles, cable and aerial systems; cost factors and cost analysis procedures; safety issues; and environmental impacts of harvesting systems as well as forest road location, surveying, design, construction and maintenance, and management of existing road systems.

UG 436 Forest Operations Evaluation and Project Planning 3 cr. Offered autumn. Prereq., FOR 320. Coreq., FOR 436. This course introduces sensitivity analysis; break-even analysis; risk analysis; multistage sequential analysis; multiattribute analysis; project planning; and contracting.


UG 440 Timber Management I 3 cr. Offered autumn. Prereq., FOR 302, 336, 341. The management and manipulation of the timber resource on private lands to reach multiple objectives, with a focus on the planning of forest operations.

UG 441 Timber Management II 3 cr. Offered spring. Prereq., FOR 440 the immediately preceding autumn semester. The management and manipulation of the timber resource on private lands to reach multiple objectives, with a focus on the administration of forest operations.

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. Same as RSCN 455. 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. Same as RSCN 460. 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. Same as RSCN 462. 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. Same as RSCN 463. 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 475 Sociology of Environment and Development 3 cr. Offered annually. Same as RSCN 475. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) variably impact people of different races, classes, genders, cultures and livelihood practices.

U 476 Managing Recreation Resources in Wilderness 3 cr. Same as RECM 476. Examination of strategies to management recreation in a wilderness setting. Addresses management of visitor use and experiences, measuring and monitoring biophysical and social impacts, effective education and interpretation, and law enforcement.

UG 480 Forest and Rangeland Area Planning and Design 3 cr. Offered autumn. Prereq., senior standing, WBIO 370, RECM 310, FOR 347 or FOR 360; senior or graduate standing; or consent of instr. A multidisciplinary planning team approach to developing detailed, site-specific resource management planning for units of forest and rangeland at the area or watershed level. Includes use of geographic information systems, computer modeling, and linear programming.

UG 481 Forest Planning 3 cr. Offered spring. Prereq., FOR 422 or consent of instr. Integrated multiple use planning at the forest-wide level: defining multi-resource management goals, generating management alternatives, projecting outcomes, assessing environmental impacts, and implementing preferred option.

UG 485 Watershed Management 3 cr. Offered autumn. Same as RSCN 485. 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 490B Ethics and the Management of Public Lands 3 cr. Offered intermittently. Prereq., lower-division course in Perspective 5 or consent of instr.; senior standing. Theoretical and practical ethical issues affecting the management of natural resources in national forests and on other public lands.

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

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 resource management. Students have hands-on experience in digitizing, mapping, spatial analysis and data-base creation.

G 504 GIS: Methods and Applications II 3 cr. Offered spring. Prereq., FOR 503. Continuation of 503.

UG 505 Sampling Methods 3 cr. Offered spring. Prereq., FOR 201 or equiv.; consent of instr. Definitions, sampling with and without replacement, equal and unequal probability sampling, sample size and allocation, estimates and their variances, simple random sampling, stratification, double sampling, two-stage sampling, PPS and 3P sampling uses and precision.

G 508 Modeling Forest Dynamics 3 cr. Offered autumn odd-numbered years. Prereq., FOR 500 and some experience with statistical methods and a programming language. Introduction to the construction of simulation models for forecasting change in forest vegetation. Survey of alternative modeling approaches followed by construction of a simulator. Includes specification of conceptual model, statistical analysis of data, and programming a working simulator.

G 511 Soil Chemistry 3 cr. Offered spring odd-numbered years. Prereq., FOR 210N, 330. A series of lectures on soil chemistry in the beginning of the semester, emphasizing water and nutrient movement, followed by a series of laboratory and lecture classes on soil chemistry, emphasizing data interpretation and problem solving.

G 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 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 548 Silviculture Research 1 cr. (R-6) Offered intermittently. Prereq., graduate standing and consent of instr.; prereq. or coreq., FOR 347 or equiv. Reading and discussion of scientific literature related to silvicultural practice and science. Different topic each semester. Students become familiar with silviculture literature, develop skills for scrutinizing scientific literature, and examine silvicultural topics in detail.

G 547 Forest Vegetation Dynamics 3 cr. Offered autumn. Prereq., consent of instr. Role of disturbances, plant interactions, tree architecture, and structure on forest stand development. Laboratory provides experience with vegetation development reconstruction. Discusses even-aged, uneven-aged, single- and mixed-species stand development as well as landscape linkages.

G 548 Forest Stand Dynamics and Culture 1 cr. Offered intermittently. Prereq., FOR 347 or equiv. One-week continuing education course designed to present emerging concepts in stand dynamics and stand culture to practicing silviculturists. Topics include even- and uneven-aged stand dynamics and density control, fire management, fertilization, and stand health.

G 551 Digital Image Processing 4 cr. Offered autumn even-numbered years. Prereq., FOR 351 or equiv. and consent of instr. Fundamentals of electro-optical digital remote sensors, data compilation, preprocessing, and pattern recognition.

G 565 Advanced Problems in Restoration Ecology 3 cr. Offered autumn. Same as RSCN 565. Prereq., graduate standing and consent of instructor. This is a student-driven course that explores current topics in the theory and practice of restoration. Students will develop and implement a collaborative research project related to a current problem in restoration ecology or ecological restoration.

G 570 Political Ecology 3cr. Same as RSCN 570. Graduate seminar on key theories, issues and literature in the subfield of Political Ecology, an interdisciplinary environmental social science approach which integrates how political, economic, cultural and ecological processes interact and shape society-nature relations. Case examples are drawn from both the North and South.

G 571 International Conservation and Development 1-3 cr. (R-2) Prereq., graduate standing and consent of instructor. Critical review of selected international natural resource development, conservation and management approaches and experiences. Offered fall land spring semester, credits may vary (1-3).

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

G 582 Tropical Ecosystems and Management 3 cr. Offered spring. Prereq., graduate standing or consent of instr. Introduction to tropical forests and agroecosystems, and a critical examination of their management and conservation within the context of ecological, socioeconomic and political change.

G 586 Snow Hydrology 3 cr. Offered spring. Prereq., graduate standing or consent of instr. The physics of snow formation, distribution and ablation. Snow and forest management in the subalpine zone.

G 594 Graduate Seminar in Forestry 1 cr. (R-3) Offered autumn and spring. Prereq., graduate standing. Presentation by students, staff and visitors of issues and topics in their fields.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study 1-3 cr. (R-10) Offered every term. Prereq., consent of instr. Individual study or research problems.

G 598 Internship Variable cr. (R-15) Offered every term. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Professional Paper Variable cr. (R-15) Offered autumn and spring. Preparation of Master of Ecosystem Management professional paper.

G 622 Advanced Problems in Environmental Policy 3 cr. Offered spring even-numbered years. Examines environmental policy problems and contemporary issues in environmental policy, law, and administration. Policy tools, concepts and research resources introduced. Numerous problems, themes, and issues in environmental policy analyzed. Readings-based seminar; students lead most reviews and discussions.

G 697 Graduate Research Variable cr. (R-15) Offered every
term. Independent graduate research in forest management, wood science, soils, wildlife management, silviculture, recreation and other topic areas.  
G 699 Thesis Variable cr. (R-15) Offered every term.

Recreation Management

The B.S. in Recreation Management degree is designed to prepare students for professional positions developing and managing recreation and park resources located primarily beyond the urban fringe. Students pursuing this degree must choose between an option in Recreation Resources Management or Nature-Based Tourism. The Recreation Resources Management option provides educational background necessary for evaluating and managing lands for their aesthetic and recreational values. The Nature-Based Tourism option is designed to combine an understanding of social, cultural, political, environmental, and economic contexts surrounding tourism in a natural resource setting. All students learn the processes and conceptual skills needed to determine alternative management strategies, make management decisions and carry out management programs. Included are courses leading to an understanding of the basic ecological characteristics of recreational lands. Students also take courses dealing with human behavior and management. Emphasis is placed on presenting problems that would be encountered while managing national parks and forests, state and regional parks, wilderness areas, and other recreation resources of international and national significance. The degree and Recreation Resources Management option are accredited by the National Recreation and Parks Association and the American Association for Leisure and Recreation.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog including College of Forestry and Conservation curriculum requirements. See Index.

Students pursuing the B.S. in Recreation Management degree complete the following courses or their equivalent if transferred from another college or university. Transfers and equivalency will be determined by the University and the College of Forestry and Conservation. In addition, students are required to take a practicum in recreation management, RECM 460. This work-learning experience involves at least 10 weeks full-time equivalent of learning in a professional work environment. RECM 460 has a prerequisite of 400 previous hours of relevant work experience. Electives may be taken at any time, keeping in mind these courses as well as the University’s General Education requirements for graduation.

First Year

<table>
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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CHEM 151N General Chemistry</td>
<td>3</td>
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<tr>
<td>ECON 111S Intro to Economics</td>
<td>3</td>
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<tr>
<td>ENEX 101 Probability and Linear Mathy</td>
<td>3</td>
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<tr>
<td>RECM 110S Introduction to Recreation Management</td>
<td>3</td>
</tr>
<tr>
<td>RECM 180 Introduction to Natural Resource Issues, WBIO 195 N Wildlife and People, or RSCN 121S Nature of Montana</td>
<td>2-3</td>
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<tr>
<td>BIOL 108N Diversity of Life or BIOL 121N Introductory Ecology</td>
<td>3</td>
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<tr>
<td>Electives and General Education</td>
<td>6-9</td>
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Summer

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>FOR 200 Natural Resources Measurements Camp</td>
<td>2</td>
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<tr>
<td>Second Year</td>
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<tr>
<td>COMM 111A Public Speaking</td>
<td>3</td>
</tr>
<tr>
<td>FOR 210N Introduction to Soils</td>
<td>3</td>
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<tr>
<td>MATH 241 Statistics, FOR 201 Forest Biometrics</td>
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Electives and General Education: 3-6 credits.

Third and Fourth Years

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<tr>
<th>Course</th>
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<tbody>
<tr>
<td>FOR 330 Forest Ecology or 462 Range Ecology</td>
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</tr>
<tr>
<td>RECM 300 Recreation Behavior</td>
<td>3</td>
</tr>
<tr>
<td>RECM 310 Natural Resources Interpretation</td>
<td>3</td>
</tr>
<tr>
<td>RECM 380 Recreation Administration and Leadership</td>
<td>4</td>
</tr>
<tr>
<td>FOR 422 Natural Resource Policy or WBIO 410 Wildlife Biology and Biopolitics</td>
<td>3</td>
</tr>
<tr>
<td>RECM 450 Preparation for Professional Practice</td>
<td>1</td>
</tr>
<tr>
<td>RECM 460 Practicum in Recreation</td>
<td>9</td>
</tr>
<tr>
<td>RECM 483 Commercial Recreation, Marketing, and Tourism</td>
<td>3</td>
</tr>
</tbody>
</table>

Electives and General Education: 17-22 credits.

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.

- PSYC 100S Introduction to Psychology: 4 credits
- FOR 250 Geographic Information System Practicum: 2 credits
- FOR 385 Watershed Hydrology: 3 credits
- RECM 482 Wilderness and Protected Area Management: 3 credits
- RECM 485 Recreation Planning: 4 credits

Nature-Based Tourism Option

In addition to special degree requirements listed previously, students electing the nature-based tourism 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.

- SOC 110S Principles of Sociology: 3 credits
- BADM 201 Financial Accounting: 3 credits
- FOR 379 Collaboration in Natural Resource Decisions: 3 credits
- FOR 475 Sociology of Environment and Development: 3 credits
- MKTG 360 Marketing Principles: 3 credits
- MKTG 362 Consumer Behavior: 3 credits
- RECM 451 Tourism and Sustainability: 3 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 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 socioeconomic determinants of recreation needs and preferences. History of the development of the resources base, trends in user participation, classification of recreation lands, recreation
opportunities and needs, management objectives, economics of outdoor recreation, and definitions of leisure and recreation.

U 180 Careers in Natural Resources 2 cr. Offered autumn and spring. Same as FOR 180, WBIO 180. Subject matter and fields of study within natural resources management. Topics include forestry, wildlife biology, range, water, recreation management, forest products production and other areas of opportunity for students seeking careers in natural resources.

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

U 210 Nature-Based Tourism 3 cr. Offered autumn. Introduction to the tourism and commercial recreation industries. Provides initial link between the natural environment and business operations. Combination of introductory business philosophies, economics, and natural resource management into a framework for future reference and course work.

U 217 Wildland Recreation Management 3 cr. Offered autumn and spring. Prereq., RECM 110S or option in forest resources management. The management of land as an environment for outdoor recreation. Understanding the relationship between the visitor, resource base and management policies. Recreation planning on multiple use forest lands, parks, wilderness areas and private lands.

U 230 Programming in Recreation 3 cr. Offered autumn. Prereq., RECM 110S. Principles of program planning for organized offerings in recreation. Selection, adaptation and evaluation of activities.

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

U 300 Recreation Behavior 3 cr. Offered autumn. Prereq., RECM 217. This course provides an understanding of recreation behavior in wildland and nature-based tourism oriented settings. Students will learn about theories/conceptual frameworks from social and environmental psychology and their application to visitor management issues in the wildland recreation and nature-base tourism fields.

U 310 Natural and Cultural Resources Interpretation 3 cr. Offered spring. Prereq., one biology course; one public speaking course. Principles, concepts, techniques essential to providing high quality interpretive programs in natural or cultural history.

U 371 Wilderness Issues Lecture Series 1 cr. (R-3) Offered spring. Same as EVST 371 and RSCN 371. Explores current issues in wilderness preservation, management and research.

U 380 Recreation Administration and Leadership 4 cr. Offered spring. Prereq., RECM 110S, 217 and 230 or consent of instr. Personnel, leadership, finance, facilities, programs and public relations. Coordination with youth serving institutions, government agencies, and private or commercial organizations.

U 395 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, 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.

U 450 Pre-Practicum Professional Preparation 1 cr. Offered autumn. A pre-practicum class to provide orientation for the practicum, RECM 460, in recreation management.

U 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.

U 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.


U 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.

U 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.

U 478 Managing Recreation Resources in Wilderness 3 cr. Same as FOR 478. Examination of strategies to management recreation in a wilderness setting. Addresses management of visitor use and experiences, measuring and monitoring biophysical and social impacts, effective education and interpretation, and law enforcement.

U 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.

U 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.

U 483 Commercial Recreation, Marketing and Tourism 3 cr. Offered autumn. Prereq., RECM 217. Interactions between wildland recreation areas and the private sector are reviewed. Linkages between natural resources and the tourism industry are discussed. Principles of marketing for the private sector within this context are presented.

U 484 Recreation Management Field Techniques 3 cr. Offered 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.


U 493 Omnibus Variable cr. (R-10) Offered intermittently. Independent work under the University omnibus option. See index.

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

U 496 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of instr. Individual study of research problems.

U 497 Senior Thesis 1-3 cr. (R-3) Offered autumn and spring.

U 498 Internship Variable cr. Offered autumn and spring. Prereq., consent of instr. Extended classroom learning during placements off campus. Prior approval must be obtained from faculty advisor and Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

G 500 Recreation Research Methods 3 cr. Offered spring
odd-numbered years. Prereq., one course in statistics. Methods used in recreation research.

G 565 Advanced Problems in Restoration Ecology 3 cr.
Offered autumn. Same as FOR 565. Prereq., graduate standing and consent of instructor. This is a student-driven course that explores current topics in the theory and practice of restoration. Students will develop and implement a collaborative research project related to a current problem in restoration ecology or ecological restoration.

G 594 Graduate Seminar in Recreation 1 cr. (R-3) Offered autumn and spring. Prereq., graduate standing. Presentations by students, staff and guest speakers of issues and topics in their fields.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-10) Offered every term. Prereq., consent of instr. Individual study or research problems.


G 598 Internship Variable cr. (R-12) Offered every term. Prereq., consent of instr. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from faculty advisor and Internship Services office.

G 599 Professional Paper Variable cr. (R-15) Offered every term. Preparation of professional paper.

G 697 Research 1-15 cr. (R-15) Offered every term. Prereq., graduate standing. Independent graduate research in specified below. This is an ideal option for those students who want to specialize their undergraduate education in areas such as forest ecology, hydrology, forest soils, biometrics, fire, or remote sensing.

First Year
ENEX 101 Composition 3
COMM 111A Introduction to Public Speaking 2
CHEM 151N General Chemistry 3
CHEM 152N-154N Organic Chemistry 5
BIOL 108N-109N Diversity of Life 5
GEOG 100N General Geology or 109N 2
Environmental Geoscience 2
GEOG 101N Geology Laboratory 1
MATH 121 Precalculus 4
MATH 152 Calculus I 4
Electives and General Education 1-2

Second Year
FOR 200 Natural Resources Measurements Camp 2
FOR 210N Forest Biometrics 3
FOR 210N Forest Soils 3
FOR 220 Technical Writing 2
FOR 240 Tree Biology 2
FOR 241 Dendrology 3
PHYS 221N General Physics I 5
PHYS 222N General Physics II 5
MATH 133 Calculus II or MATH 158 Differential Equations 3
Electives and General Education 1-2

Third and Fourth Year
FOR 330 Forest Ecology 3
FOR 385 Watershed Hydrology 3
FOR 480 Project Design and Analysis 3
FOR 422 Natural Resource Policy 3
Electives and General Education 48

Land and People Option
The purpose of this curriculum is to provide a broad program of study, which focuses on the evolving relationship between people and their natural environment. The curriculum is designed to prepare people with career interests in the management of natural resources with a particular human focus involving conservation, law, business or public affairs. The core program of required courses is designed to be supplemented by electives chosen by the student in consultation with a faculty advisor. These electives must include at least two other upper-division courses in forestry, recreation, or wildlife biology.
First Year
ENEX 101 Composition ........................................... 3
COMM 111A Introduction to Public Speaking ................. 2
MATH 121 Precalculus .......................................... 3
CHEM 151N General Chemistry ................................ 3
CS 101 Introduction to Programming or CS 172 .......... 3
Introduction to Computer Modeling .......................... 3
GEOS 109N Environmental Geoscience .................... 2
BIOL 121N Introductory Ecology ............................... 4
ECON 115-115S Micro- and Macro-economics ................ 6
Electives and General Education ............................... 4
Summer
FOR 200 Natural Resources Measurements Camp .......... 2
Second Year
FOR 201 or MATH 241 or SOC 202 ......................... 3
or PSYC 220 Statistics ......................................... 3
FOR 210N Introductory Soils ................................... 3
FOR 220 Technical Writing ..................................... 2
FOR 230 Forest Fire Management ............................. 2
WBIO 275 Wildlife Conservation ................................ 2
RECM 217 Wildland Recreation Management ................ 3
Electives and General Education ............................... 13
Third and Fourth Years
FOR 320 Forest Economics ..................................... 3
FOR 330 Forest Ecology ......................................... 3
FOR 349 Mangrove Resource Silviculture .................... 3
FOR 360 Range Management .................................... 3
FOR 385 Watershed Hydrology ................................ 3
or FOR 455 Riparian Ecology and Management ............. 3
FOR 422 Natural Resource Policy ............................. 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

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.

Resource Conservation (RSCN)
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 121S Nature of Montana 3 cr. Offered fall. An exploration of the major natural resource management issues facing the people of Montana and the social processes to manage environmental conflicts. Provides an introduction to the function of ecological systems and the impacts of human uses on the environment and looks at strategies for addressing global climate change, exurban population growth, and protecting environmental quality.
U 210N Introductory Soils 3 cr. Offered autumn and spring. Same as FOR 210N. Prereq., CHEM 151N. An introduction to the chemical, physical, biological and morphological properties of soils.
U 271N Issues in Wilderness Ecology 3 cr. Offered spring. A study of forestry and wildlife issues which affect the maintenance of wilderness integrity. Topics include: global climate changes; management of wildfires, cattle grazing and noxious weeds; game management; threatened and endangered species, including grizzly bears, wolves, bird and fish species.
U 273 Wilderness and Civilization Field Studies 2 cr. (R-4) Offered every term. Field instruction in wilderness issues. Includes natural history, ecology, protected area management, field research, sustainability, and land ethics. One-day trips as well as extended backcountry trips. Part of the Wilderness and Civilization program.
U 274 Yellowstone Studies 1 cr. Offered spring. Ecological and sociopolitical perspectives on the greater Yellowstone ecosystem. Topics include winter ecology, biodiversity conservation, national park planning and management, winter recreation, fire, and wildlife. Field course in the Yellowstone area.
U 321 Field Studies of Energy Systems in Montana 2-3 cr. Offered Summer. Via an extended bicycle tour of Montana, students examine a variety of energy developments and their environmental, social, and economic implications.
UG 330 Forest Ecology 3 cr. Offered autumn and spring. Same as FOR 330. Prereq., BIOL 120N or BIOL 108N, 109N; prerequisite or coreq., FOR 210N. Examination of physical and biological factors affecting forest structure, composition, and function, including biodiversity, disturbance, and nutrient cycling. Field labs throughout Northern Rockies including developing skills in field observation, data interpretation and problem solving.
UG 360 Range Management 3 cr. Offered autumn and spring. Same as FOR 360. 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. Same as FOR 361. 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. Same as FOR 362. Prereq., FOR 360 or consent of instr. An introduction to livestock production in natural systems and the role of livestock production in the world food situation; emphasizes selection, production and management principles of beef cattle systems.
UG 370S Wildland Conservation Policy and Governance 3 cr. Offered autumn and spring. Examination of the historical, philosophical, and legislative background for development and management of our national system of wilderness areas, wild and scenic rivers, trails, and national parks; their place in our social structure.
UG 371 Wilderness Issues Lecture Series 1 cr. (R-3) Offered spring. Same as EVST 371and FOR 371. Explores current issues in wilderness preservation, management and research.
U 373 Wilderness and Civilization 3 cr. (R-6) Offered autumn and spring. Social and cultural perspectives on the wilderness idea and wildland practices. Course topics include history of wilderness and the wilderness movement, various philosophical viewpoints on wilderness, protected area management issues, and how wilderness fits into larger landscapes and societies.
UG 380S Environmental Conservation 3 cr. Offered autumn. Prereq., junior standing. The interrelationships of resource conservation problems and programs; management and conservation in the context of an expanding economy. U 385 Watershed Hydrology 3 cr. Offered autumn and spring. Same as FOR 385. 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 398 Internship Variable cr. Offered every term.
UG 422 Natural Resources Policy and Administration 3 cr.
Offered autumn and spring. Same as FOR 422. 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 and 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 455 Riparian Ecology and Management 3 cr.
Offered spring. Same as FOR 455. 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. Same as FOR 460. 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 462 Range Ecology 3 cr.
Offered spring. Same as FOR 462. Prereq., FOR/RSCN 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. Same as FOR 463. Prereq., FOR/RSCN 360. Methods of improving rangelands, including grazing systems, control of weeds, controlled burning, seeding, fertilization and mechanical soil treatments.

UG 475 Sociology of Environment and Development 3 cr.
Offered annually. Same as FOR 475. Examines key social forces that influence how individuals, groups and nation-states understand and live within their bio-physical environments, especially policies and processes relating to development, corporate capitalism, globalization, culture, class and other forms of power and social relations. Pays close attention to ways both indigenous and introduced resource use and management practices (including conservation) vary impact people of different races, classes, genders, cultures and livelihood practices.

UG 485 Watershed Management 3 cr.
Offered autumn. Same as FOR 485. Prereq., FOR/RSCN 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.

G 565 Advanced Problems in Restoration Ecology 3 cr.
Offered autumn. Same as FOR 565. Prereq., graduate standing and consent of instructor. This is a student-driven course that explores current topics in the theory and practice of restoration. Students will develop and implement a collaborative research project related to a current problem in restoration ecology or ecological restoration.

G 570 Political Ecology 3 cr.
Same as FOR 570. Graduate seminar on key theories, issues and literature in the subfield of Political Ecology, an interdisciplinary environmental social science approach which integrates how political, economic, cultural and ecological processes interact and shape society-nature relations. Case examples are drawn from both the North and South.

G 571 International Resource Management 1-3 cr.
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.

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.
**Wildlife Biology**

Daniel H. Pletscher, Professor, Wildlife Biology Director

Wildlife Biology is the study of wild animals, their habitats, and their conservation. The Bachelor of Science in Wildlife Biology degree constitutes the preprofessional training for future employment in wildlife biology and management, and provides an excellent background in general ecology. The educational requirements for certification by The Wildlife Society can be met within the framework of the undergraduate program. While employment opportunities do exist in wildlife conservation for students with the baccalaureate degree, many students plan to continue their education through the master's degree to qualify for wildlife management or research positions.

Three optional curricula are offered in the Wildlife Biology Program: terrestrial, aquatic, and honors. All three options follow the same schedule of courses for the freshman and most of the sophomore year, then pursue different curricula for the last two years. Each leads to a B.S. in Wildlife Biology. The University is well-suited for instruction in wildlife biology because of the excellent opportunities for field instruction and research, and the presence of such facilities as the Lubrecht Experimental Forest, Yellow Bay Biological Station at Flathead Lake, the Montana Forest and Conservation Experiment Station, the Montana Cooperative Wildlife Research Unit, and the Theodore Roosevelt Memorial and Bandy ranches.

**High School Preparation:** In addition to general University admission requirements, the student should elect four years of mathematics and three years of science, including biology, chemistry and physics.

**Special Degree Requirements**

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

The Upper-division Writing Expectation must be met by successfully completing BIOL 341 and two courses selected from BIOL 304, 306, 316, 366, WBIO 408, 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.

**Terrestrial and Aquatic Options**

**First Year**
- BIOL 108N Diversity of Life .................. 3
- BIOL 109N Diversity of Life Laboratory .... 2
- CHEM 151N General and Inorganic Chemistry 3
- CHEM 152N Organic and Biological Chemistry 3
- CHEM 154N Organic & Biological Chemistry Laboratory 2
- ENEX 111A Introduction to Public Speaking 2
- MATH 241 Statistics or WBIO 240 Introduction to Biostatistics 3
- FOR 220 Technical Writing or WBIO 243 Science Writing or ENEX 200, Advanced Composition 2-3
- Electives and General Education ............ 8-15

**Second Year**

*BIOL 350 is not required for the Aquatic option*

**Third Year**

Two of the following:
- BIOL 304 Ornithology 4
- BIOL 306 Mammalogy 4
- BIOL 308 Biology and Management of Fishes 4
- And one of the following:
  - FOR 347 Multiple Resource Silviculture 4
  - FOR 360 Range Management 3
  - And
  - BIOL 340 Ecology 3
  - BIOL 341 Ecology Lab 2
  - WBIO 370 Wildlife Habitat Conservation 3
  - Electives and General Education ......... 8-14

**Fourth Year**

- WBIO 446 Wildlife Physiological Ecology 3
- WBIO 470 Conservation of Wildlife Populations 3

**Specialized Options**

- **Terrestrial Option**
  - BWIO 446 Wildlife Physiological Ecology 3
  - WBIO 470 Conservation of Wildlife Populations 3

**Section A: Arts and Humanities**

- DRAM 214A Wilderness and Expression .......... 3
- EVST 301E Ethics, Beauty and the Environment ... 3
- HIST 364E Environmental History ............. 3
- LS 302L American Indian Literature .......... 3
- NAS 303E Ecological Perspectives in Native American Traditions 3
- PHIL 327E Environmental Ethics ............. 3
- and at least two courses from
  - Section B: Biophysical and Social Sciences
  - ECON 345S Economics of Wildland Preservation 3
  - EVST 101N Environmental Science ........... 3
  - FOR 271N Wilderness Ecology ............... 3
  - FOR 304 Conservation of Natural and Human Resources in Montana 3
  - RECM 370S Conservation of Wilderness, Wild Rivers and National Parks 3

- **Section B: Biophysical and Social Sciences**
  - CHEM 152N General and Inorganic Chemistry 3
  - CHEM 152N Organic and Biological Chemistry 3
  - CHEM 154N Organic & Biological Chemistry Laboratory 2
  - ENEX 111A Introduction to Public Speaking 2
  - MATH 241 Statistics or WBIO 240 Introduction to Biostatistics 3
  - FOR 220 Technical Writing or WBIO 243 Science Writing or ENEX 200, Advanced Composition 2-3
  - Electives and General Education ............ 8-15

**Summer**

- Experiential Learning 2

(For a list of options, see the Wildlife Biology Office.)
WBIO 494 Senior Seminar ........................................... 1
FOR 480 Forest/Range Plan and Design ......................... 3
And one of the following:  
WBIO 410 Wildlife Policy and Biopolitics ....................... 3
WBIO 475 Case Histories in Conservation Policy ............. 3
FOR 422 Natural Resources Policy and Administration ....... 3
Electives and General Education ................................ 16-22

Aquatic Option

Third Year
BIOL 308 Biology and Management of Fishes .................... 4
BIOL 340 Ecology .................................................. 3
BIOL 341 Ecology Lab ............................................. 2
BIOL 366 Freshwater Ecology ...................................... 5
BIOL 400-401 General Parasitology and Laboratory OR
BIOL 406 Insect Behavior and Evolution OR
WBIO 410 Insect Biology ........................................... 4
WBIO 446 Wildlife Physiological Ecology ....................... 3
Electives and General Education ................................ 5-11

Fourth Year
WBIO 494 Senior Seminar ........................................... 1
BIOL 316 Plant Form and Function ................................ 5
WBIO 408 Advanced Fisheries Science .......................... 3
FOR 385 Watershed Hydrology .................................... 3
FOR 480 Forest/Range Planning and Design ..................... 3
And one of the following:  
WBIO 410 Wildlife Policy and Biopolitics ....................... 3
FOR 422 Natural Resource Policy and Administration ....... 3
WBIO 475 Case Histories in Conservation Policy ............. 3
Electives and General Education ................................ 12-18

Wildlife Biology Honors Emphasis

The honors curriculum is designed particularly for students with strong academic records who intend to do graduate work. Entrance into this emphasis is open only to students who, at the beginning of the junior year of the wildlife biology program, have a grade-point average of 3.5 or above and who petition the faculty for entrance.

Honors students must complete either WBIO 370, 470 and 494 (terrestrial option) or BIOL 308, 366 and WBIO 494 (aquatic option). Honors students are encouraged to enroll also in WBIO 497 Senior Thesis. The balance of the coursework for the junior and senior years will be developed in consultation with the honors student's faculty advisor and committee appointed by the director of the wildlife biology program.

All students in the honors emphasis are required to meet with their faculty advisors prior to 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; WBIO 105, 180.

Courses

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

Wildlife Biology (WBIO)

U 105N Wildlife and People 3 cr. Offered autumn.
Intended for non-wildlife majors. Interactions of wildlife and people in today's society.

U 180 Careers in Natural Resources 2 cr. Offered autumn and spring. Same as FOR 180, RECM 180. Subject matter and fields of study within natural resources management. Topics include forestry, wildlife biology, range, water, recreation management, forest products production and other areas of opportunity for students seeking careers in natural resources.

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

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

U 245 Science Writing 3 cr. Offered spring. Prereq., ENEX 101 or equiv. Discussion of different types of science writing and focus on methods to achieve more fluent prose. Includes material on logic, inference, and developing arguments that rely on data.

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

UG 370 Wildlife Habitat Conservation and Management 3 cr. Offered autumn and spring. Prereq., a junior standing in wildlife biology, an ecology class, or consent of instr. Application of principles of wildlife biology to conservation and management of wild bird and mammal habitats including field applications.

UG 373 Wildlife Techniques 2 cr. Offered spring. Prereq., any statistics course; one 300-level ecology or wildlife biology course. Lab and field oriented class in commonly-used wildlife research and management techniques.

UG 374 Hunter Check Stations 1 cr. (R-2) Offered autumn.
Students learn techniques for determining species, age and sex of game animals, then work 3-5 days as volunteers at hunter check stations operated by management agencies.

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

U 396 Independent Study 1-6 cr. (R-6) Offered every term.
UG 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 408 Advanced Fisheries Science 3 cr. Offered spring.

UG 410 Wildlife Policy and Biopolitics 3 cr. Offered autumn. Overview of the laws affecting wildlife and how those laws are initiated, implemented, and enforced; impact of politics, interest groups, and agency jurisdictions.

UG 441 Field Methods in Fishery Biology and Management 1-4 cr. Offered autumn and spring. Prereq., BIOL 308 or 357; consent of instr. Same as BIOL 415. Field instruction by practicing biologists in techniques for evaluating and managing aquatic habitats and fish populations.

UG 460 International Wildlife Conservation Issues 2 cr.
Offered spring. Prereq., a course in wildlife biology and/or conservation biology. Review of major international wildlife conservation issues with emphasis on the social context of the issues and applied solutions.

UG 470 Conservation of Wildlife Populations 3 cr.
Offered autumn and spring. Prereq., 500-level animal ecology class, WBIQ 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. WBIQ 470 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.

U 496 Independent Study Variable cr. (R-10) Offered every term. Prereq., consent of instr. Original investigations or problems not related to student's thesis.

U 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.

U 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 minimum 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 Modeling 3 cr. Offered autumn, odd years. Prereq., consent of instr. A survey of theory and applications in the study of resource selection by animals.

G 570 Applied Population Ecology 3 cr. Offered spring even-numbered years. Prereq., courses in ecology, statistics, and calculus. Application of advanced population ecology tools and concepts to the evaluation of human perturbations on wildlife populations. Topics include methods to detect declining trends, the interacting components of population viability analysis, and identification of strategies to reverse declines.

G 572 Model Selection and Inference 3 cr. Offered autumn odd-numbered years. Prereq., one semester of 400-level statistics/biometry or consent of instr. Comparison and overview of statistical approaches commonly used in applied ecology, including frequentist/ANOVA models, information theoretic and Bayesian methods.

G 575 Frontiers in Conservation Research 2 cr. (R-6) Offered autumn. Prereq., upper-level course in conservation genetics or populations genetics. Same as BIOL 575. Exploration of current topics in conservation biology with emphasis on genetic issues in conservation.

G 576 Ecological Modeling and Analysis 2-3 cr. Offered every term. Prereq., consent of instr. Investigation of mathematical and statistical problems in ecology and wildlife biology. Specific material each semester is determined by student interest.

G 580 Readings in Population Dynamics 1 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Discussion of recent papers on interface of population dynamics, ecological interactions, and wildlife management.

G 594 Graduate Seminar in Wildlife Biology 1 cr. (R-3) Offered autumn and spring. Prereq., graduate standing in wildlife biology or consent of instr. Analysis of selected problems in wildlife biology and conservation.

G 595 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-10) Offered every term. Prereq., graduate standing and consent of instr. Original investigations or problems not related to student's thesis.

G 597 Research Variable cr. Offered every term. Prereq., graduate standing in wildlife biology or consent of instr. Graded pass/not pass only.

G 599 Professional Paper Variable cr. (R-6) Offered every term. Prereq., graduate standing in wildlife biology and consent of instr. Professional paper written in the area of the student's major interest based on either primary or secondary research. Subject matter must be approved by graduate committee. Graded pass/not pass only.

G 697 Research 1-15 cr. (R-15) Offered every term. Prereq., consent of instr. Investigation of a topic selected with an advisor according to needs and objectives of student. Preparation of major paper based on study or research of a topic selected with an advisor according to needs and objectives of student.


Faculty

Professors
Paul B. Alaback, Ph.D., Oregon State University, 1980
Donald J. Bedunah, Ph.D., Texas Tech University, 1982
Jill M. Belsky, Ph.D., Cornell University, 1991
William T. Borrie, Ph.D., Utah State University, 1995
L. Perry, 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)
Paul Krausman, Ph.D., University of California-Santa Cruz, 1993
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
Diana Six, Ph.D., University of California, Riverside, 1997
Ronald H. Wakimoto, Ph.D., University of California, 1978
(Chair of Society and Conservation)
Scott Woods, Ph.D., Colorado State University, 2001

Associate Professors
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
R. Neil Moisey, Ph.D., The University of Montana, 1997
David Naugle, Ph.D., South Dakota State University, 1998
Martin Nie, Ph.D., Northern Arizona, 1998
Mike Patterson, Ph.D., Virginia Polytechnic Institute and State University, 1993
Diana Six, Ph.D., University of California, Riverside, 1997

Assistant Professors
David Affleck, Ph.D., Yale University, 2006
Keith Bosak, Ph.D., University of Georgia (Athens), 2006
Woodam Chung, Ph.D., Oregon State University, 2002
Cory Cleveland, Ph.D., University of Colorado-Boulder, 2001
Solomon Dobrowski, Ph.D., University of California (Davis), 2005
Elizabeth D. Dodson, Ph.D., Oregon State University, 2004
Mark Hebblewhite, Ph.D., University of Alberta, 2006
Cara Nelson, Ph.D., University of Washington, 2004
Carl Seielstad, Ph.D., University of Montana, 2003

Tyron Venn, Ph.D., University of Queensland, 2004
Laurie Yung, Ph.D., University of Montana, 2003

Adjunct Faculty

Research Professors
Carol Brewer, Ph.D., University of Wyoming, 1993
Thomas DeLuca, Ph.D., Iowa State University, 1993
Michael Mitchell, Ph.D., North Carolina State University, 1995
Anna Sala, Ph.D., University of Barcelona, 1992

Research Associate Professors
Rich Harris, Ph.D., University of Montana, 1993
John Kimble, Ph.D., Oregon State University, 1995
Peter Kolb, Ph.D., University of Idaho, 1996
Christopher Sevheen, Ph.D., University of Montana, 1981

Research Assistant Professors
James Riddering, Ph.D., University of Montana, 2004
Kathy Tonnessen, Ph.D., University of California-Berkley, 1982

Emeritus Professors
David H. Jackson, Ph.D., University of Washington, 1975
Alan McQuillan, Ph.D., University of Montana, 1981
Stephen F. McCool, Ph.D., University of Minnesota, 1970
Thomas J. Nimlos, Ph.D., University of Wisconsin, 1959
Robert D. Pfister, Ph.D., Washington State University, 1972
Robert R. Ream, Ph.D., University of Wisconsin, 1963
Robert W. Steele, Ph.D., Colorado State University, 1975
Jack Ward Thomas, Ph.D., University of Massachusetts, 1972
Hans R. Zuuring, Ph.D., Iowa State University, 1975 (Chair of Forest Management)
College of Health Professions and Biomedical Sciences

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, and Toxicology; 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 Biomedical Sciences, Neuroscience, 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 biological, chemical, and physical 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 and Pharmaceutical 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 biological and physical 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, medicinal chemistry, pharmaceuticals, 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, 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. Students must earn grades of at least a C (not C-) in all required pre-pharmacy 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 pharmacy, other health care, or social field, and an evaluation form filled out by someone involved with the applicant in such an experience. A personal interview is also required. 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 program may be obtained from the website of the College of Health Professions and Biomedical Sciences (www.health.umt.edu). Application forms must be postmarked by February 15 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 pharmacy curriculum must maintain cumulative, professional, and pharmacy grade point averages of 2.0 or higher. The professional grade point average consists of all required course work in the professional curriculum. The pharmacy grade point average consists of all courses with a pharmacy (BMED or PHAR) prefix. Students enrolled in the professional pharmacy program must maintain satisfactory academic progress. Students must earn grades of at least C- in all required courses in the professional pharmacy curriculum. Students in the professional 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. A student will be dismissed from the professional pharmacy program if he or she is on probation for a total of three terms, not necessarily consecutive, subject to review by the dean. A student will be removed from probation when a grade point average of 2.0 has been achieved and all grades in required professional pharmacy courses are C- or better.

Students who have failed ten or more credits of required professional course work or who fail to progress in the expected manner for two consecutive years may be dismissed from the professional pharmacy program, subject to review by the Academic Standards Committee and the dean. Students dismissed from the program for substandard performance will not be readmitted, except in cases where substantiation is made to the faculty, by written petition, that the substandard performance was the result of circumstances that no longer exist, or that the student has demonstrated the capability and desire to perform satisfactory work since his or her dismissal from the program.

Students leaving the program on their own will not be 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 must be completed in four consecutive years. With appropriate justification, part-time study in the professional pharmacy program may be allowed. Students desiring to be enrolled in part-time study must make their request by petition to the Academic Standards Committee. Because the curriculum is revised periodically, students who take longer than the normal number of years to complete the professional program will be required to complete curricular changes applicable to the class in which they graduate. Because the Pharmacy program is academically intense, employment beyond the minimal, part-time work is not recommended.

**Special Degree Requirements**

Refer to graduation requirements listed previously in the catalog. See index. Degree candidates must:

1. Meet the general University requirements for graduation.
2. Earn a grade point average of 2.0 or higher in each of the following areas:
   a. all courses attempted at The University of Montana-Missoula (cumulative GPA).
   b. all courses which carry a pharmacy (BMED or PHAR) prefix (pharmacy GPA).
   c. all required courses in the professional pharmacy curriculum (professional GPA).
3. Required pharmacy course work (PHAR and BMED prefix) must be completed with a grade of C- or better.
4. Complete at least six full academic years, including pre-professional instruction, and a minimum of eight semesters of professional instruction as a full-time student registered for a minimum of twelve credits per semester.
5. Complete not less than 200 credits of course work.

**Licensure in Montana**

An applicant for licensure as a registered pharmacist in Montana must pass national examinations as required by the Montana State Board of Pharmacy. To qualify for the examinations, the applicant must be of good moral character and a graduate of an accredited school of pharmacy; however, an applicant will not receive a license until an internship is completed.

**Internship Regulations**

1. The internship requirement for licensure as a registered pharmacist in Montana is regulated by the Montana State Board of Pharmacy. Students must be registered with the Board of Pharmacy as a pharmacy intern in order to accrue internship hours.
2. Only those students who have completed the first year of the professional pharmacy curriculum may begin their internship.
3. The internship requirement consists of 1,500 hours of experience in an approved pharmacy setting. The student also may acquire hours concurrently with school attendance in courses, clinical pharmacy programs, or demonstration projects which have been approved by the Board of Pharmacy.
4. Many courses and programs currently offered by the School of Pharmacy are approved and applicable toward fulfilling the internship requirement.
5. Students will receive credit for internship time and/or courses taken if such experience is certified by the preceptor and/or instructor and approved by the Board of Pharmacy.

**Pre-Pharmacy Curriculum**

The courses shown here must be completed before entering the professional pharmacy program. The sequence of courses is illustrative and, if proper prerequisites are satisfied, the student may alter the order in which the courses are taken. In addition, applicants to the professional pharmacy program
must present proof of having completed at least 60 hours of volunteer or paid service in a pharmacy, other health care, or social field, and one letter of evaluation from someone involved with the applicant in such an experience. The Pharmacy College Admission Test (PCAT) must be taken during the second pre-pharmacy year.

### Pre-Pharmacy First Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 161N, 162N</td>
<td>College Chemistry with Laboratory</td>
<td>5</td>
</tr>
<tr>
<td>MATH 150</td>
<td>Applied Calculus (prereq. MATH 121 or appropriate placement score)</td>
<td>4</td>
</tr>
<tr>
<td>ECON 111S</td>
<td>Introduction to Microeconomics</td>
<td>4</td>
</tr>
<tr>
<td>ECON 112S</td>
<td>Introduction to Macroeconomics</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101</td>
<td>English Composition</td>
<td>3</td>
</tr>
</tbody>
</table>

### Pre-Pharmacy Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 221, 222</td>
<td>Organic Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 223</td>
<td>Organic Chemistry Laboratory</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 221</td>
<td>Cell and Molecular Biology (prereq., BIOL 110N or equiv.)</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 121N</td>
<td>General Physics</td>
<td>4</td>
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</tbody>
</table>

Communications elective chosen from: Commun 110S Interpersonal Communication or Commodities and the communications general education requirement.

### 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 the professional pharmacy program. Students are advised to complete the lower-division General Education requirement during the pre-pharmacy curriculum.

### Second Professional Year

#### Autumn/Spring Intersession

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHAR 481</td>
<td>Hospital Pharmacy Introductory Experience</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 505</td>
<td>Pharmacy Practice IV--Pharmaceutical Care</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 506</td>
<td>Pharmacy Practice V--Advanced Pharmaceutical Care</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 513</td>
<td>Pharmaceutics and Outcomes Research</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 514E</td>
<td>Pharmacy Ethics</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 550</td>
<td>Drug Literature Evaluation</td>
<td>3</td>
</tr>
<tr>
<td>PHAR 553</td>
<td>Therapeutics III and IV</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 557</td>
<td>Public Health in Pharmacy</td>
<td>2</td>
</tr>
<tr>
<td>PHAR 563</td>
<td>Pharmaceutical Care Lab V</td>
<td>1</td>
</tr>
<tr>
<td>PHAR 571</td>
<td>Integrated Studies</td>
<td>1</td>
</tr>
<tr>
<td>Electives</td>
<td></td>
<td>2</td>
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</table>

### Third Professional Year

#### Autumn/Spring Intersession

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHAR 579</td>
<td>Community Pharmacy Advanced Pharmacy Practice Experience</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 580</td>
<td>Hospital Pharmacy Advanced Pharmacy Practice Experience</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 581</td>
<td>Inpatient Advanced Pharmacy Practice Experience</td>
<td>4</td>
</tr>
<tr>
<td>PHAR 582</td>
<td>Ambulatory Care Advanced Pharmacy Practice Experience</td>
<td>8</td>
</tr>
<tr>
<td>PHAR Elective Pharmacy Practice Experience</td>
<td></td>
<td>8</td>
</tr>
</tbody>
</table>

Required credits: 200
Department of Pharmacy Practice

Michael P. Rivey, Chair

The Department of Pharmacy Practice provides academic coursework for the Doctor of Pharmacy and Masters degrees, conducts research in the broad area of health care, and provides service to the profession of pharmacy and other health care disciplines.

Courses

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

Pharmacy (PHAR)

U 110N Use and Abuse of Drugs 3 cr. Offered autumn and spring. Drug dependence and abuse.

U 195 Special Topics Variable cr. (R-16) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 309 Pharmacy Practice I: Introduction to Pharmacy 3 cr. Offered autumn. Prereq., MATH 150 and admission to the professional pharmacy program. An introduction to the prescription and pharmaceutical calculations and to the role of the pharmacist in systems involved in health care delivery.

U 310 Pharmacy Practice II: Law and Dispensing 3 cr. Offered spring. Prereq., PHAR 309. Federal and state laws and regulations pertaining to pharmacy practice. Introductory dispensing laboratory.

U 320 American Indian Health Issues 2 cr. Offered spring. Same as HS 320. An overview of the health issues, health care delivery and payment that affect American Indians.

U 324 Medicinal Plants 2-3 cr. Offered autumn. Same as BMED 324 and HS 324. Plants and other natural substances which nourish, heal, injure, or alter the conscious.

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.

UG 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 460 Pharmaceutical Care Lab II 1 cr. Offered autumn. Prereq., second professional year standing, PHAR 310. Introduction to parenteral practice application, applied patient interview assessment, and communication skills for practice.

U 471 Integrated Studies III 1 cr. Offered autumn. Prereq., second professional year standing in pharmacy. Small group conferences designed to develop professional skills while integrating material from first and second year professional pharmacy courses.

U 472 Integrated Studies IV 1 cr. Offered spring. Prereq., PHAR 471. Continuation of 471.

U 480 Community Pharmacy Introductory Pharmacy Practice Experience 3 cr. (R-6) Offered every term. Prereq., completion of first professional year. Supervised professional experience in community pharmacy.

U 481 Hospital Pharmacy Introductory Pharmacy Practice Experience 3 cr. (R-6) Offered every term. Prereq., completion of first professional year. Supervised professional experience in a hospital pharmacy.

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 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. Applications of advanced drug therapy monitoring and disease state management.

U 506 Pharmacy Practice V—Professional Practice Management 3 cr. Offered spring. Prereq., PHAR 505. Aspects of dispensing, management, communications, disease state monitoring, and legal issues related to the provision of pharmaceutical care.

UG 513 Pharmacoeconomics and Outcomes Research 3 cr. Offered spring. Prereq., third professional year standing or consent of instr. Introduction to assessing the economic, clinical and humanistic outcomes of pharmacotherapy.

U 514E Case Studies in Pharmacy Ethics 3 cr. Offered spring. Prereq., third professional year standing or consent of instr. A practical discussion of pharmacy ethics, as it relates to pharmacy practice.

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 Psychopharmacotherapeutics 2 cr. Offered autumn. Prereq., PHAR 452 or consent of instr. A discussion of the more common childhood and adult psychiatric disorders with emphasis on a pharmacologic approach to their treatment.

UG 557 Public Health in Pharmacy 2 cr. Offered autumn. Prereq., PHAR 452, 472. Discussion of the roles and responsibilities of pharmacists in public health and the role of drugs in public health programs.

U 558 Physical Assessment 2 cr. Offered spring. Coreq., PHAR 554. Basic physical assessment skills for the pharmacist’s proper interpretation of patient response to drug therapy.

U 563 Pharmaceutical Care Lab V 1 cr. Prereq., PHAR 505. Practice of professional communication and pharmaceutical care interventions and recommendations.

UG 571 Integrated Studies V 1 cr. Offered autumn. Prereq., third professional year standing in Pharm.D. program. Small group conferences designed to develop the professional skills needed to practice pharmaceutical care while integrating material from the professional pharmacy curriculum.

U 572 Integrated Studies VI 1 cr. Offered spring. Prereq., third professional year standing in Pharm.D. program. Small group conferences designed to develop professional skills while integrating material from other pharmacy courses.

U 573 Institutional Pharmacy 3 cr. Offered autumn. Prereq., PHAR 309 and BMED 331. The pharmacist's role and activities in drug distribution and control in hospitals and related institutions with an emphasis on the preparation and administration of sterile products.

U 577 Portfolio Assessment and APPE Orientation 1 cr. Offered spring. Prereq., final semester in didactic PHARM D curriculum. Preparation and assessment of the student portfolio and orientation for the final experiential year of the professional pharmacy program.

U 579 Community Pharmacy Advanced Pharmacy Practice Experience Variable cr. (R-12) Offered every term. Prereq., completion of didactic courses in the Pharm. D. program. Supervised professional experience in the patient care functions of the pharmacist in the community pharmacy setting.

U 580 Hospital Pharmacy Advanced Pharmacy Practice Experience Variable cr. (R-12) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the patient care functions of the pharmacist in the hospital pharmacy setting.

U 581 Inpatient Advanced Pharmacy Practice Experience Variable cr. (R-12) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the clinical functions of the pharmacist in the inpatient hospital setting.

U 582 Ambulatory Care Advanced Pharmacy Practice Experience Variable cr. (R-16) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the clinical functions of the pharmacist in the ambulatory care setting.

U 583 Drug Information Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the provision of drug information by the pharmacist.

U 584 Specialized Services Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in specialized practice settings, such as home infusion, compounding, and nuclear pharmacies.

U 585 Geriatric Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience with geriatric patients in the long term care and/or other pharmacy setting.

U 586 Clinical Speciality Advanced Pharmacy Practice Experience 4 cr. (R-16) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the clinical functions of the pharmacist in specialty settings or with specialized groups of patients.

U 587 Administrative Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in the administrative aspects of providing pharmaceutical care.

U 588 Research Advanced Pharmacy Practice Experience 4 cr. (R-8) Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in a research setting.

U 589 Education Advanced Pharmacy Practice Experience 4 cr. Offered every term. Prereq., completion of didactic courses in the Pharm.D. program. Supervised professional experience in teaching in a pharmacy curriculum.

U 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-Pharmacological Care 4 cr. Offered autumn. Prereq., third professional year standing in Pharm.D. program and acceptance into M.B.A. program. Aspects of dispensing, management, communications, disease state monitoring, and legal issues related to the provision of pharmaceutical care.


**Faculty**

**Professors**

Gayle A. Cochran, Pharm.D., Duquesne University, 1976

William J. Docktor, Pharm.D., University of Michigan, 1977

David S. Forbes, Ph.D., University of Wisconsin, 1973 (Dean)

Sarah Johnston Miller, Pharm.D., Mercer University, 1985
Lori J. Morin, M.B.A., The University of Montana, 1981 (Assistant Dean for Student Affairs)
Michael P. Rivey, M.S., University of Iowa, 1982 (Chair)

**Associate Professors**
Douglas R. Allington, Pharm.D., University of South Carolina, 1988
Donna G. Beall, Pharm.D., University of Florida, 1984
Jean T. Carter, Ph.D., University of Arizona, 1997
Vincent J. Colucci, Pharm.D., Idaho State University, 1995
Lawrence A. Dent, Pharm.D., Idaho State University, 1993

**Assistant Professors**
Sherrill Brown, Pharm.D., University of Missouri, Kansas

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**Department of Biomedical and Pharmaceutical Sciences**

Vernon R. Grund, Chair

The Department of Biomedical and Pharmaceutical Sciences offers a curriculum in support of the Doctor of Pharmacy (Pharm.D.) degree and graduate programs in the biomedical and pharmaceutical sciences. Degree programs include the M.S. in Neuroscience, Pharmaceutical Sciences, and Toxicology; and the Ph.D. in Neuroscience, Biomedical Sciences, and Toxicology. These programs provide education and training in pharmacology, toxicology, neurobiology, neurochemistry, medicinal chemistry, and molecular genetics. Program graduates are well prepared for careers in academia, government and industry.

**Courses**

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**Biomedical and Pharmaceutical Sciences (BMED)**

U 195 Special Topics Variable cr. (R-16) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 324 Medicinal Plants 2-3 cr. Offered autumn. Plants and other natural substances which nourish, heal, injure, or alter the conscious mind.

U 328 Antimicrobial Agents 3 cr. Offered spring. Prereq., BIOC 380, MICH 302. Chemical characteristics, biochemical mechanisms, and pharmacological properties of drugs used in treating infections caused by microorganisms.

U 331 Pharmacuetics 4 cr. Offered spring. Prereq., CHEM 222, first professional year standing. Physical pharmacy and dosage forms.

U 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.

U 361 Pharmaceutical Sciences Laboratory 1 cr. Offered autumn. Coreq., PHAR 309, BMED 341. Laboratory experience in the pharmaceutical sciences.

U 362 Pharmaceutical Sciences Laboratory 1 cr. Offered spring. Prereq., BMED 361; coreq., BMED 331 and 342. Continuation of 361.

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 401 Use of Animals in Research 2 cr. Offered intermittently. Prereq., consent of faculty supervisor. An introductory course to the care and use of laboratory animals in research. Includes lecture and some hands-on instruction with inanimate models and live animals.

UG 421 Medicinal Chemistry I 3 cr. Offered autumn. Prereq., BIOC 380. The chemistry of organic compounds used medicinally and their biochemical mechanisms of action.

UG 422 Medicinal Chemistry II 3 cr. Offered spring. Prereq., 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.

U 497 Research 1-3 cr. (R-6) Offered autumn and spring. Prereq., consent of instr. Individual participation in library or laboratory research.

G 501 Care and use of Laboratory Animals in Research 2 cr. Offered intermittently. Prereq., consent of faculty supervisor. An introductory course to the care and use of laboratory animals in research. Includes lecture and some
hands-on instruction.

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 interminently. 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., BMED 380 or 481, or consent of instr. Same as BIOL 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 neuropsychopharmacology. 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 Drug Design, Development and Discovery with lab 4 cr. Offered alternate years. Prereq., Organic Chemistry and Biochemistry or consent of instr. Introduction to the main concepts in medicinal chemistry. Laboratory experience in instrumental analysis, interpreting NMR, MS cleavage, and structure elucidation.

G 622 Drug Pharmacodynamic-Drug Receptor Interactions with lab 4 cr. Offered alternate years. Organic Chemistry and Biochemistry or consent of instr. Introduction and topical coverage of how drugs form complexes with biological targets to cause an array of responses.

G 623 Drug Diversity and Target-Oriented Synthesis 3 cr. Offered alternate years. Organic Chemistry and Biochemistry or consent of instr. Topics in chemogenomics and diversity oriented synthesis will be covered.

G 625 Drug Synthesis 3 cr. Offered intermittently. An introduction to the past and current synthetic approaches and total syntheses of biologically active drugs.

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 627 Professional Development 1 cr. Offered autumn and spring. Prereq., Organic Chemistry and Biochemistry or consent of instr. Developmental training in presentations, writing, reviewing, literature research, teaching, research methods, grant writing, ethics, and business aspects in medicinal chemistry.

G 630 Pharmacogenetics 3 cr. Offered alternate years. Prereq., BIOL 380 or 481. The genetic basis of differential drug activity.

G 632 Advanced Pharmaceutics 1-3 cr. (R-6) Offered intermittently. Advanced studies of dosage formulations, biopharmaceutics, and pharmacokinetics.

G 635 Academic Development Seminar 2 cr. Offered alternate years. Prereq., admission to graduate program. Designed to improve skills in teaching, design and implementation of hypothesis testing, and grant writing with emphasis on the biological and chemical sciences.

G 637 Topics in Biomedical Science 1-3 cr. (R-9) Offered autumn or spring. Prereq., BMED 613, or 641, or 661. Current topics in the biomedical sciences.

G 641 Toxicology I-Principles of Toxicology 3 cr. Offered autumn. Prereq., BIOL 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.
School of Physical Therapy and Rehabilitation Science

G 647 Topics in Toxicology 1-3 cr. (R-9) Offered autumn or spring. Prereq., BMED 613, or 641, or 661. Current topics in toxicology.
G 657 Topics in Immunology 1-3 cr. (R-9) Offered autumn or spring. Prereq., MICB 410 or equiv. Current topics in immunology.
G 661 Neuroscience I 4 cr. Offered autumn. Prereq., BIOC 380 or equiv. Overview of the structure and function of the nervous system.
G 667 Topics in Neurobiology 1-3 cr. (R-9) Offered every year. Prereq., BMED 661. Current topics in neuroscience.
G 697 Research 1-9 cr. (R-20) Offered every term. G 699 Dissertation 1-9 cr. (R-20) Offered every term.

Faculty

Professors
Richard J. Bridges, Ph.D., University of California, Davis, 1977 (Director, Center for Structural and Functional Neuroscience)
Vernon R. Grund, Ph.D., University of Minnesota, 1974 (Chair)
Andrih Holian, Ph.D., Montana State University, 1975 (Director, Center for Environmental Health Sciences)
Michael Kavannaugh, Ph.D., Oregon Health Sciences University-Portland, 1987
Nicholas Natale, Ph.D., Drexal University, 1978
Charles M. Thompson, Ph.D., University of California, Riverside, 1982

Associate Professors
Howard D. Beall, Ph.D., University of Florida, 1991
Fernando Cardozo-Pelaez, Ph.D., University of Southern Florida, 1996

Assistant Professors
Lilian Calderon-Garciduenas, M.D., Ph.D., University of California, Riverside, 2001
Dianne L. DeCamp, Ph.D., University of Delaware, 1988
Erica L. Woodahl, Ph.D., University of Washington, 2004

Research Associate Professors
C. Sean Esslinger, Ph.D., Colorado State University, 1992
Dianne L. DeCamp, Ph.D., University of Delaware, 1988
David J. Poulsen, Ph.D., University of Delaware, 1995

Research Assistant Professors
Kathleen M. George, Ph.D., Northwestern University, 1994
Anthony Ward, Ph.D., The University of Montana, 2001

Emeritus Professors
Todd G. Cochran, Ph.D., University of Washington, 1970
Charles L. Eyer, Ph.D., Washington State University, 1976
Rustem S. Medora, Ph.D., University of Rhode Island, 1965

Reed Humphrey, Chair
The professional program in physical therapy grants the Doctor or 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/schools/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.

The Physical Therapy Program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association.

High School Preparation:
Specific high school courses are not required but a background is recommended in mathematics, chemistry, biology, physics, English, and other communication skills.

Pre-Professional Physical Therapy Curriculum and Application Process
Students wishing to apply to the professional physical therapy program at The University of Montana-Missoula may select any major as their undergraduate major. While pre-physical therapy is not a degree-granting major at the University, prospective applicants should list pre-professional physical therapy (PPPT) as their second major. This will allow them also to receive advising from the School of Physical Therapy and Rehabilitation Science in order to assure adequate preparation for the professional program. In addition to completing a baccalaureate degree, applicants must take the following prerequisite courses and meet the additional application requirements listed. All prerequisite courses must be taken for a traditional letter grade and must be completed within three years 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.

Computer literacy is assumed. All applicants must achieve a 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 C grade (or a CR, in credit/noncredit courses) in any course may not be allowed to continue in the next semester of the professional program. The student must retake the course at the next offering. Students must maintain a minimum 2.50 grade average while in the professional D.P.T. program. Students who do not maintain this average will be on academic probation and must achieve 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. All students must comply with all school academic and professional conduct policies as outlined in the Physical Therapy Program.
Professional Physical Therapy Curriculum
First Professional Year
PT 503 Physical Therapy and Health Care System
PT 510 Applied Anatomy and Kinesiology
PT 516 Musculoskeletal Evaluation I
PT 519 Musculoskeletal Evaluation II
PT 520 Development Through the Life Span
PT 526 Physical Therapy Interventions I
PT 527 Electrophysiological Testing
PT 528 Physical Therapy Interventions II
PT 529 Biomechanics and Exercise Interventions
PT 536 Neurosciences
PT 560 Introduction to Research
PT 582 Clinical Experience I

Second Professional Year
PT 525 Clinical Medicine and Pharmacology
PT 561 Research in Physical Therapy
PT 562 Scholarly Project I
PT 563 Cardiopulmonary PT
PT 565 Physical Therapy for Children
PT 566 Advanced Anatomy Laboratory
PT 567 Neurorehabilitation I
PT 568 Neurorehabilitation II
PT 569 Orthopedic Physical Therapy I
PT 572 Practice and Administration
PT 573 Orthopedic Physical Therapy II
PT 575 Physical Therapy Interventions III
PT 576 Synthesis of Clinical Evaluation and Intervention
PT 578 Physical Therapy Interventions IV
PT 588 Clinical Project I
PT 671 Scholarly Project II

Total

Summer Session
PT 587 Clinical Internship I

Second Professional Year
PT 525 Clinical Medicine and Pharmacology
PT 561 Research in Physical Therapy
PT 562 Scholarly Project I
PT 563 Cardiopulmonary PT
PT 565 Physical Therapy for Children
PT 566 Advanced Anatomy Laboratory
PT 567 Neurorehabilitation I
PT 568 Neurorehabilitation II
PT 569 Orthopedic Physical Therapy I
PT 572 Practice and Administration
PT 573 Orthopedic Physical Therapy II
PT 575 Physical Therapy Interventions III
PT 576 Synthesis of Clinical Evaluation and Intervention
PT 578 Physical Therapy Interventions IV
PT 588 Clinical Project I
PT 671 Scholarly Project II

Total

Summer Session
PT 587 Clinical Internship I

Third Professional Year
PT 626 Primary Care in Physical Therapy
PT 627 Prevention, Wellness, and Education
PT 672 Research in Physical Therapy II
PT 570 Psychology of Illness and Disability
PT 676 Clinical Mastery in Physical Therapy
PT 679 Trend in Clinical Practice (may be repeated)
PT 690 Clinical Internship IV

Total

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

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 6 cr. Offered autumn. Coreq., PT 510, 529. Principles of physical therapy examination and evaluation including pathology, imaging, patient interviews, tests and measures.
G 519 Musculoskeletal Evaluation II 6 cr. Offered spring. Prereq., PT 510, 516. Continuation of PT 516. Physical therapy examination and evaluation including pathology, imaging, patient interviews, tests and measures.
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 528 Physical Therapy Interventions II 4 cr. Offered spring. Prereq., PT 526, 529, Coreq., PT 519. Continuation of PT 526. Basic principles of PNF. Application and prescription of therapeutic exercise to various patient problems and environments, including gait functional training, and aquatics. Emphasis on equipment analysis and patient education.
G 536 Neurosciences for the Health Professions 5 cr. Offered spring. 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 565 Physical Therapy for Children 2 cr. Offered autumn.

G 566 Advanced Anatomy Laboratory 1 cr. Offered autumn and spring. Prereq., PT 510, 511. Regional dissection and study of the back, neck, upper extremity and lower extremity, including clinical correlates.


G 570 Psychology of Illness and Disability 2 cr. Offered autumn. Psychological response to illness and disability to include patient motivation, patient/professional interaction, and treatment of persons with chronic pain.

G 572 Practice and Administration 2 cr. Offered spring. Organization and management of the physical therapy department with emphasis on the therapist's role as administrator, supervisor and consultant.

G 573 Orthopedic Physical Therapy II 2 cr. Offered spring. Prereq., PT 516, 519, 569. Patient/Client management of orthopedic conditions of the spine.


G 576 Synthesis of Clinical Evaluation and Intervention I 1 cr. Offered spring. Synthesis and analysis of PT evaluation and intervention through case reports.

G 577 Applied Clinical Teaching in Physical Therapy I 2 cr. Offered autumn. Teaching experience in practical application of clinical therapy.

G 578 Physical Therapy Interventions IV 4 cr. Offered spring. Prereq., PT 528, PT 529. Coresq., PT 578. Physical therapy assessment and interventions are addressed in the areas of occupational health, pelvic floor dysfunction, obstetric client care, advanced orthotics and activities of daily living.

G 582 Clinical Experience I 1 cr. Offered spring. Clinical experience in physical therapy departments.

G 587 Clinical Internship I 4 cr. Offered summer. Prereq., PT 582. Seven weeks of full-time clinical experience with emphasis on developing patient treatment skills.

G 588 Clinical Internship II 4 cr. Offered spring. Prereq., PT 587. Five weeks of full-time clinical experience with emphasis on patient evaluation and continuation of developing patient treatment skills.

G 589 Clinical Internship III 5 cr. Offered summer. Prereq., PT 588. Eight weeks of full-time clinical experience with emphasis on learning about administrative issues, problem-solving, time management, and communication skills. Continuation of development of patient treatment and evaluation skills.

G 594 Seminar Variable cr. (R-6) Offered autumn and spring.

G 595 Special Topics Variable cr. (R-4) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study Variable cr. (R-6) Offered autumn and spring.

G 597 Research 1-10 cr. (R-10) Offered autumn and spring. Prereq., consent of instr.

G 626 Primary Care 2 cr. Offered autumn. Differential diagnosis of system pathology including basic verbal and physical screening, laboratory tests and pharmacological intervention. Infectious diseases and cancer as related to physical therapy.

G 627 Prevention, Wellness, and Education 2 cr. Offered autumn. Nutrition, health promotion, patient and support network education, exercise/fitness, disease and injury prevention, life span emphasis.

G 671 Research in Physical Therapy I 1 cr. Offered spring. Prereq., D.P.T. student. Data collection for research/special project.

G 672 Research in Physical Therapy II 2 cr. Offered autumn. Data analysis, writing of research manuscript, presentation of project.

G 673 Advanced Practice and Administration II 2 cr. Offered spring. Topics build on content presented in PT 503 and 572. Emphasis on identifying key niches in health care and development of a business plan.

G 676 Clinical Mastery in Physical Therapy 4 cr. Offered autumn. Learner-centered course synthesizing PT examination, evaluation, diagnosis, prognosis, intervention, outcomes, reimbursement, education, delegation, and wellness.

G 679 Trends in Clinical Practice 1-2 cr. (R-4) Offered autumn. Focus on advanced clinical topics in physical therapy.

G 690 Clinical Internship IV 12 cr. Prereq., PT 589. Custom-designed clinical internship of 15 weeks. Includes writing and presentation of case study or special project.

G 696 Independent Study 1-4 cr. (R-4) Offered intermittently.

G 697 Research 1-10 cr. (R-10) Offered autumn and spring. Prereq., consent of instr.

Faculty

Professors

Richard Gajdosik, Ph.D., University of North Carolina at Chapel Hill, 1989; P.T., University of Kentucky, 1971

Reed Humphrey, Ph.D., University of Pittsburgh, 1986; P.T., Virginia Commonwealth University, 1994 (Chair)

Charles Leonard, Ph.D., Medical College of Pennsylvania, 1985; P.T., Duke University, 1978

Associate Professors

Carrie Gajdosik, M.S., University of North Carolina at Chapel Hill, 1986; P.T., University of Kentucky, 1971


James J. Laskin, Ph.D., University of Alberta, 2001; P.T., University of Saskatchewan, 1987

Assistant Professors

Steve Fehrer, Ph.D., University of Minnesota, 1984; P.T., Denver College, 1995

David L. Levison, M.H.S., Indianapolis Krannert School of Physical Therapy, 1996; P.T., University of Montana, 1986

Sheng Li, Ph.D., Pennsylvania State University, 2002

Kimberly J. Mize, D.P.T., Rocky Mountain University of Health Professions, 2006., P.T., University of Wisconsin-LaCrosse, 1996

School of Physical Therapy & Rehabilitation Science Clinics

Nora Staael Evert Physical Therapy Clinic

Brenda Mahlum, D.P.T., Rocky Mountain University of Health Professions, 2006; P.T., University of North Carolina, 1984

Mary Coar, B.S., P.T., University of Montana, 1993

New Directions Wellness Center

Susan Ostertag, B.S., P.T., University of Montana, 1993

Molly Blair, B.S., University of Montana, 2002
School of Social Work

Ryan Tolleson Knee, Chair

Social work is a human service profession concerned with the prevention of social problems, the maintenance of satisfying social relationships and the enhancement of human development. It focuses on people and their social environment. Social workers employ a range of knowledge and skills as the basis for constructive intervention on behalf of various client populations. The Bachelor of Arts and Master of Social Work degrees are offered. The Bachelor of Arts degree prepares graduates for generalist social work practice. The Master of Social Work degree prepares graduates for advanced integrated practice.

The undergraduate major in social work is available for those who wish to prepare for: (1) professional employment in the social services; (2) entry into a graduate school of social work; (3) graduate education in other helping service professions. The graduate degree in social work prepares graduates for advanced social work practice. Students can enroll in a two-year full-time program or in a part-time option. See The University of Montana Graduate Catalog for a description of the Master of Social Work program. Both the Bachelor of Arts degree and the Master of Social Work degree are fully accredited by the Council on Social Work Education.

Special Degree Requirements

Refer to graduation requirements listed previously in the catalog. See index. Thirty-seven credits in social work courses are required for the B.A. degree. The following courses must be successfully completed: SW 100S, 200, 300S, 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: SW 100S, SW 245; BIOL 100N; PSC 100S; PSYC 100S; and SOC 110S, PSYC 240S, 245; PSYC 100S, 245; BIOL 100N; ANTH 102 or SOC 220S. No fewer than six of these eight course requirements must be completed by 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 ensure 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 children, exceptional persons or the family should consider the Human and Family Development minor program, which is described elsewhere in the catalog. The School of Social Work offers a Title IV-e Child Welfare Training Program for eligible B.A. and M.S.W. students interested in a career in child protective services. The Gerontology Fellows Program is available to undergraduate students pursuing a career in gerontological or intergenerational social work. The Hartford Scholars Practicum Partnership Program is available to masters students wishing to pursue a career in gerontological or intergenerational social work. Social work majors are expected to conduct themselves according to the ethical standards of the National Association of Social Workers as well as those applicable to students of the University. Other professional expectations are described in the BSLO Student Handbook, available from the school or on web page [www.health.umt.edu/sw/bsw_pa.html]. Majors in social work are assigned a faculty advisor with whom they are required to meet at least once per semester as soon as the social work major is declared. A school advising guide is available to all students at The School of Social Work office or on web page [www.health.umt.edu/sw/default.html]. 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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<tr>
<th>Course</th>
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<tr>
<td>MATH 107 (or higher) Contemporary Mathematics</td>
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<tr>
<td>SW 100S Introduction to American Government</td>
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</tr>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>3</td>
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<tr>
<td>SOC 110S Principles of Sociology</td>
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<td>SW 100S Introduction to Social Welfare</td>
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Second Year

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<tr>
<td>SW 200 Introduction to Social Work Practice</td>
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<tr>
<td>BIOL 100N The Science of Life</td>
<td>3</td>
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<tr>
<td>ECON 100S Introduction to Political Economics</td>
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<tr>
<td>PSYC 240S Child and Adolescent Development</td>
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<tr>
<td>PSYC 245 Adult Development and Aging</td>
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<td>ANTH 102 Race and Minorities or SOC 220S Race and Ethnic Relations</td>
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<td>General Education</td>
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Third Year

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<tr>
<td>SW 300 Human Behavior and Social Environment</td>
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<tr>
<td>SW 310 Social Welfare Policy and Services</td>
<td>3</td>
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<tr>
<td>SW 350, 360 Social Work Intervention</td>
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<tr>
<td>Methods I, II</td>
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Fourth Year

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<tr>
<td>SW 400 Social Work Research</td>
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<td>SW 488 Field Work Practicum Seminar</td>
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<td>SW 489 Field Work Practicum</td>
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</table>

Minor in Gerontology

Students in the minor in Gerontology program will study issues of aging from an interdisciplinary perspective and come to understand the interplay between them, including health and medical as well as social and psychological needs of older persons. Although this interdisciplinary minor is housed in the School of Social Work, students in other majors may complete the minor in consultation with both the Chair of the Gerontology Minor and the students' academic advisors in their respective departments. Students must consult with their major advisor to select electives, practicum or volunteer experiences, and integrating courses that will meet the requirements of the minor. The minor will require successful completion of four
required core courses (12 credits), an integrating course with gerontological content within the student’s major (3 credits), one or two elective courses (3-6 credits), and a practicum course within the student’s major (3 credits) for a total of 21-24 credits. Core courses are:

- HS 325 Introduction to Gerontology 3 cr.
- SW 455 Social Gerontology 3 cr.
- PSYC 245 Adult Development and Aging 3cr.
- HS 430 Health Aspects of Aging 3 cr.

Students should contact the School of Social Work for a complete list of appropriate major and elective courses.

Courses

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

Social Work (SW)

**SW 100** 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.

**SW 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.

**SW 196** Internship Variable cr. (R-3) Offered autumn and spring. Prereq., consent of instructor. Application of classroom learning in off-campus internship placements. Prior approval must be obtained from the School of Social Work practicum coordinator and from the Center for Work-Based Learning. A maximum of 6 credits of Internship (198, 398) may count toward graduation.

**SW 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.

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

**UG 300** Human Behavior and Social Environment 4 cr. Offered autumn and spring. Prereq., SW 200. Prereq. or coreq., PSYC 240S, junior standing. Using the ecological-social systems framework, the integration of knowledge and concepts from the social and behavioral sciences for analysis and assessment of problems and issues relevant to professional social work practice.

**UG 310** Social Welfare Policy and Services 3 cr. Offered autumn and spring. Prereq., SW 200. Social welfare history, program planning and analysis with review of selected policies on the national level. Includes international comparisons. Upper-division writing course.

**UG 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 and contributions to social change in North, South and Central America in the mid-to late-20th century. Through case studies, testimonials, discussions with activists and Internet connections examine social constructions of gender, compare forms of social action in diverse cultural, political and historical contexts, link practice to theories of social participation, and reflect on lessons learned from women's experiences.

**UG 324** Gender and the Politics of Welfare 3 cr. Offered autumn even-numbered years. Prereq., SW 100S or consent of instr. Same as WS 324. Exploration of the relationship between gender ideologies and the development of social welfare policies. Examination of historic and contemporary social welfare policies, practices and debates in the United States through a gender lens.

**UG 350** Social Work Intervention Methods I 4 cr. Offered autumn and spring. Prereq., SW 200; 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 individuals and families.

**UG 360** Social Work Intervention Methods II 4 cr. Offered autumn and spring. Prereq., 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. Application of classroom learning in off-campus internship placements. Prior approval must be obtained from the School of Social Work practicum coordinator and the Center for Work-Based Learning. A maximum of 6 credits of Internship (198, 398) may count toward graduation.

**UG 400** Social Work Research 3 cr. Offered autumn and spring. Prereq., SW 360. Utilization of social research findings in social work practice. Techniques for the collection and analysis of clinical data. Special emphasis on research methodology for the assessment of practitioner and program effectiveness.

**UG 410** Ethics and the Helping Professions 3 cr. Offered spring. Prereq., completion of twelve credits in social work or related discipline or consent of instructor. Analysis of specific ethical dilemmas from personal, professional and policy perspectives. Focus on ethical issues common to the helping professions and utilizing codes of ethics as guides to decision-making. The relationship between professional ethical issues and the development of social policy.

**UG 420** 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, the legal context, programs of prevention and intervention, foster care, special needs adoptions and related issues in child welfare.

**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. Ecosystem 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. A preconception of families in Minnesota 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 theoretical perspectives 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 odd-numbered years. Prereq., upper-division or graduate standing. Examination of rural settings and how state and federal policy influence the quality and accessibility of mental health care programs and services.

UG 475 Death, Dying and Grief 3 cr. Offered intermittently. Examination of death, dying and grief from an ecological perspective, 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 490 Professional Development in Child Welfare 1 cr. Prereq., junior standing. Offered intermittently. Exploration of diverse issues related to child welfare. Designed to help students and youth workers develop an integrated knowledge base and practice skills for working with youth.

U 485 Counselling Theories in Context 3 cr. Offered spring. Prereq., PSYC 100. Same as COUN 485 and PSYC 485. This course introduces students to the primary theories that constitute the intellectual foundation for common counselling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies, and diversity issues.

U 488 Field Work Practicum Seminar 2 cr. Offered every term. Coreq., SW 489. Consideration and discussion of practice models and theories, professional development, and issues confronting the profession.

U 489 Field Work Practicum Variable cr. (R-10) Offered every term. Prereq., SW 350 and 360 and approved application to practicum coordinator. Coreq., SW 488. Practicum must be taken over two consecutive semesters for a total of 10 credits. Minimum of one credit per semester. Cumulative grade average of 2.75 or above in SW 100S, 200, 300, 350 and 360 and 3.0 grade average for SW 200, 350 and 360 are required. Supervised field work in public and private agencies and institutions. Successful completion of the field work practicum requires a passing performance on the school administered professional social work competency examination.

U 493 Orientation 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 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 Counselling Techniques and Strategies 2 cr. Offered autumn. Prereq., admission to MSW program or consent of instr. Practice-oriented course addressing strategies of clinical intervention, case studies, and philosophy of care.

G 551 Couples and Family Therapy 3 cr. Offered spring. Prereq., admission to the MSW program, SW 505, or consent of instr. Corequisite for clinical social work practice courses. Focus on current problems of clinical social work interventions with couples and families that can be applied in a variety of settings.

G 552 Psychopathology and Assessment for Social Work 3 cr. Prereq., admission to the MSW program, SW 505, or permission of instructor. Focus on current problems of
children, adolescents, and adults of all ages that can be classified as a mental disorder under the DSM of the system. Includes information on theories within the bio-psycho-social paradigm of causality of disorders/conditions; on methods of assessment, including DSM-IV; and an understanding of how social injustice, oppression and poverty impacts healthy growth and development across the life span.

G 576 Foundation Integrative Seminar I 1 cr. Prereq., admission to M.S.W. program, SW 505, 587; coreq., SW 589. Seminar accompanying first semester foundation practicum in which students discuss experience with goal of integrating theory and practice.

G 577 Foundation Integrative Seminar II 1 cr. Prereq., admission to M.S.W. program, SW 505, 587; coreq., SW 589. Seminar accompanying second semester foundation practicum in which students discuss experience with goal of integrating theory and practice.

G 578 Advanced Integrative Seminar I 1 cr. Prereq., SW 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)
Janet Finn, Ph.D., University of Michigan, 1995

Associate Professors
Ryan Tolleson Knee, Ph.D., University of Denver, 1999

Assistant Professors
Timothy Conley, Ph.D., Boston College, 2001
Jim Caringi, Ph.D., University of New York

Adjunct Assistant Professors
Doreen Antenor, J.D., The University of Montana, 1996
Tondy Baumgartner, M.S.W., Walla Walla College, 1998
Michaela Conway, M.S.W., San Diego State University, 1978
Kerrie Ghene, M.S.W., Walla Walla College, 2000
Diane Haddon, M.S.W., Michigan State University, 1977
Michael Perry, M.S.W., Eastern Washington University, 1991
Tamara Tolleson Knee, M.S.W., University of Denver, 1994
Charlie Wellenstein, M.S.W., Eastern Washington University, 1991

Instructors
Cathryn O'Day, M.S.W., A.B.D., Colorado State University

Emeritus Professors
Mary Birch, M.S.W., Columbia University, 1966
Frank Clark, Ph.D., University of Oregon, 1969
Robert Deaton, Ed.D., University of Nevada, Reno, 1980
Charles Horejsi, Ph.D., University of Denver, 1971
John Spores, Ph.D., University of Michigan, 1976

Health Sciences

Health science courses are concerned with fundamental issues in human health and disease and are, therefore, interdisciplinary in both scope and content. They have been designed not only for students anticipating careers in medicine, dentistry, nursing, public health, pharmacy, medical technology, physical therapy, cytotechnology, and numerous other health care professions and services, but for all students interested in individual and community health, the clinical and paramedical arts, and the biomedical sciences. Health sciences courses are listed under two designations: 1) Health Sciences; 2) other disciplines.

Health Science Courses
Health Sciences
195 Special Topics
201 Living Well: Health and Disability

325 Introduction to Gerontology
326 Geriatric Practicum
327 Montana Gerontology Society Meeting
389 Recent Advances in Clinical Medicine
395 Special Topics
495 Special Topics

Anthropology
265N Human Sexuality
267N Human Genetics
343S Culture and Population
388 Native American Health and Healing
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
375 Indian Health Issues
425 Drug Induced Malnutrition

Philosophy
421E Medical Ethics

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

Health Sciences (HS)
U 195 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 201 Living Well: Health and Disability 2 cr. Offered autumn and spring. The development and implementation of exercise programs for individuals with physical disabilities or chronic illness.
U 295 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 320 American Indian Health Issues 2 cr. Offered spring. Same as PHAR 320. An overview of the health issues, health care delivery and payment that affect American Indians.

UG 324 Medicinal Plants 2-3 cr. Offered autumn. Same as PHAR 324 and BMED 324. Plants and other natural substances which nourish, heal, injure, or alter the conscious mind.
U 325 Introduction to Gerontology 3 cr. Offered spring. Prereq., junior standing or consent of instr. An interdisciplinary discussion of the health and social issues of older persons, utilizing didactic presentations, clinical demonstrations, and curricular modules.
U 326 Geriatric Practicum 1-3 cr. (R-3) Offered spring. Prereq., HS 325. Service learning experience in geriatrics in a setting compatible with the student’s major and interests.
U 327 Montana Gerontology Society Meeting 1 cr. (R-3) Offered spring. Attendance and participation in the Montana Gerontology Society meeting held annually in April.
U 389 Recent Advances in Clinical Medicine 1 cr. (R-3) Offered spring. Prereq., junior or senior standing. Weekly presentations throughout the semester by local clinical medical practitioners describing in non-technical terms recent advances in their specialties.
U 395 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
UG 430 Health Aspects of Aging 3 cr. Offered spring. Same as HHP and SW 430. Overview of the health aspects of aging in the United States including biological theories of aging, normal physiological changes associated with aging systems, common pathological problems associated with aging, cultural and ethnic differences in the health of elders, health promotion and healthy aging, and the health care continuum of care for older persons.
UG 495 Special Topics Variable cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Public Health

Craig Molgaard, Professor and Chair
The School of Public and Community Health Sciences is an interdisciplinary program that offers the Master of Public Health (M.P.H.) degree and a Certificate in Public Health (C.P.H.). The program is designed to prepare individuals for public health practice who can effectively address the challenges of rural and global health. Predominantly on-line, web-based instruction allows both traditional students and working professionals to pursue a degree or certificate. This program addresses current and forecasted needs for graduate education in public health. The program’s focus on rural and global population health problems assists in promoting improvement in the health of the people of Montana and throughout the world.

Special Degree Requirements
For the M.P.H. degree, all students must successfully complete 42 graduate credits, including 36 required core credits and 6 elective credits. The following core courses are required:
PUBH 510 Introduction to Epidemiology
PUBH 520 Fundamentals of Biostatistics
PUBH 530 Administration and Management in the U.S. Health Care System
PUBH 535 Health Policy
PUBH 540 Social and Behavioral Sciences in Public Health
PUBH 550 Program Evaluation and Research Methods

For the Certificate of Public Health, students must complete any 12 pre-approved credits from the above list of core courses. Approval of a specific 12 credit program is part of the Certificate of Public Health admission process.

Courses
G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the
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 512 Neuroepidemiology 3 cr. Offered spring odd-numbered years. An overview of the fundamental considerations of the history, scope, and methods of neuroepidemiology as a subfield of epidemiology. Specific neurologic diseases and injuries will be studied as to distribution and risk factors, as well as the relationship to international public health.

G 515 Public Health Genetics 3 cr. Offered autumn. Basic principles of genetics and genomics, application to public health practices and research. Includes issues in public health genetics such as informed consent, screening for genetic susceptibility, and ethical, legal and social implications.

G 520 Fundamentals of Biostatistics 3 cr. Offered fall. Introduction to the basic vocabulary, concepts, and methods of biostatistics. Provides an introduction to how biostatistics works. Topics will include descriptive statistics, probability, random variables, probability distributions, statistical inference, chi-square analysis, linear regression, and correlation.

G 530 Administration and Management in the U.S. Health Care System 3 cr. Offered autumn. The U.S. healthcare system including the rural system. Organization, management, evaluation, and finance.

G 535 Health Policy 3 cr. Offered autumn. The intersection of international, federal, state, and local health policy and public health. (Also can be satisfied by PUBH 593 Health Policy: Informatics, taught on-line as Health Care Informatics by the Health Care Informatics Department at Montana Tech.)

G 540 Social and Behavioral Sciences in Public Health 3 cr. Offered spring. Behavioral and social factors relevant to the identification and solution of public health problems, principles of health behavior change, applications, and assessment of interventions.

G 550 Program Evaluation and Research Methods 3 cr. Offered summer odd-numbered years. 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 spring. Relationship of people to their physical environment, how this relationship impacts health, and efforts to minimize negative health effects.

G 570 Ethical Issues in Public Health 3 cr. Offered summer even-numbered years. Focus on the values and moral issues that underlie U.S. public health policies. Course examines ethical decision making in arenas such as policy development, research, environmental health, occupational health, resource allocation, and genetics.


G 591 Practicum 3 cr. Offered autumn and spring. Prereq., admission into the M.P.H. program and consent of instructor. Semester-long, supervised graduate practicum in a health science setting, followed by an oral defense.

G 593 Professional Portfolio 3 cr. Offered autumn and spring. Prereq., admission to the M.P.H. program and consent of instructor. Integrates the student’s practice experience and knowledge gained through course work, practicum, and possibly professional papers and research with the goals and learning objectives of the M.P.H. program into a portfolio. Students will present and defend their portfolio to illustrate their growth as a professional public health practitioner at the end of their M.P.H. program.

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. Offered autumn and spring. Prereq., admission to the M.P.H. program and consent of instructor. Supervised readings, research, or public health practice.

G 597 Research 3 cr. Offered autumn and spring. Prereq., admission to the M.P.H. program and consent of instructor. With the guidance of their faculty advisor, students will develop a written proposal specific to the goals of their research project, and carry out the project.

G 599 Professional Paper 3 cr. Offered autumn and spring. Prereq., admission to the M.P.H. program and consent of instructor. Students will write and submit an original research paper to a peer-reviewed public health or medical journal. Students may also fulfill the professional paper requirement by presenting a conference paper or conference poster to a local, regional, or national meeting.

Faculty

School of Public and Community Health Sciences Core Faculty

Professors
Amanda L. Golbeck, Ph.D., University of California at Berkeley, 1983 (Biostatistics); M.A., University of California at Berkeley, 1979 (Statistics); M.A., University of California at Berkeley, 1977 (Anthropology)

Craig Molgaard, Ph.D., University of California at Berkeley, 1979 (Anthropology/Health and Medical Sciences); M.P.H., University of California at Berkeley, 1982 (Epidemiology); M.A., University of California at Berkeley, 1976 (Anthropology) (Chair)

Associate Professors
Kari Harris, Ph.D., The University of Kansas, 1998 (Behavioral Psychology); M.P.H., The University of Kansas School of Medicine, 1997; M.S., Central Washington University, 1992 (Organizational Development)

School of Public and Community Health Sciences Program Faculty

Professors
Peter Koehn, Ph.D., University of Colorado, 1973 (Political Science)
K. Ann Sondag, Ph.D., Southern Illinois, Carbondale, 1988 (Health and Human Performance)
Willard O. Granath, Ph.D., Wake Forest University, 1982 (Biological Sciences)
Janet L. Finn, Ph.D., University of Michigan, 1995 (Social Work and Anthropology)
Tom Seekins, Ph.D., University of Kansas, 1983 (Department of Psychology and the Rural Institute)

Assistant Professors
Jean T. Carter, Ph.D., The University of Arizona, 1997; Pharm.D., The University of Arizona, 1993 (Pharmacy Practice)
Kimberly Haddix McKay, Ph.D., University of California at Davis, 1998 (Anthropology)
Elizabeth Putnam, Ph.D., University of Texas-Houston, 1989 (Biomedical and Pharmaceutical Sciences)
Gilbert Quintero, Ph.D., University of Arizona, 1998 (Anthropology)
Duncan Campbell, Ph.D., Washington State University, 2003
(Psychology)
Bryan Cochran, Ph.D., University of Washington, 2003
(Psychology)
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)

Research Associate Professors
Ann Cook, Ph.D., The University of Montana, 2001 (Research,
Psychology)

Research Assistant Professors
Nikole Cronk, Ph.D., University of Missouri-Columbia, 2006
(Research, Public Health)
Meg Ann Traci, Ph.D., University of Montana, 2000 (Rural
Institute)
Tony Ward, Ph.D., University of Montana, 2001 (Biomedical
and Pharmaceutical Sciences)
Lawrence L. White, M.H.A., St. Louis University, 1970
(Health Administration, School of Public and Community
Health Sciences)

Project and Research Directors
Donna Bainbridge, Ph.D., Boston University, 1990 (Rural
Institute)
Kathleen Humphries, Ph.D., the University of California at
Davis, 1995 (Rural Institute)
Rosemary Hughes, Ph.D., University of Houston, 1989 (Rural
Institute)
Craig H. Ravesloot, Ph.D., University of Montana, 1995 (Rural
Institute)

School of Public and Community Health

Sciences Faculty Affiliates
Elizabeth Ciemin, Ph.D., University of California at
Berkeley, 2003; M.P.H., University of California at Los
Angeles, 1994 (Research director, Center for Clinical
Translation Research, Billings Clinic.)
Lawrence Edward Firsch, M.D., Harvard Medical School,
1971; M.P.H. University of Washington, 1995 (Associate
Professor, Northeastern Ohio University College of Medicine
and Pharmacy; Executive Medical Director for Patient Safety
and Quality, Vancouver Island Health Authority, British
Columbia, Canada)
Suzanne Reid Hawley, Ph.D., Loma Linda University, 2002;
M.P.H., Loma Linda University, 1999 (Assistant Professor
and MPH Program Director, University of Kansas School of
Medicine-Wichita, Department of Preventive Medicine and
Public Health.
Steven D. Helgerson, M.D., University of Washington
School of Medicine, 1973; M.P.H., University of Washington
School of Public Health and Community Medicine (State
Medical Officer, Montana Department of Health and Human
Services.)
Lolem Ngong, M.P.H., University of Kansas School of
Medicine-Wichita, 2001 (WESTAT Contractor, Centers for
Disease Control and Prevention, Division of Tuberculosis
Elimination)
Angelia Paschal, Ph.D., Kent State University, 2003; M.Ed.,
University of Mississippi, 1992 (Assistant Professor,
University of Kansas School of Medicine-Wichita,
Department of Preventive Medicine and Public Health)
Lisa Pascopella, Ph.D., Albert Einstein College of Medicine,
1993; M.P.H., University of California at Berkeley, 1999
(Research Administrator and Faculty, FJ Curry national
Tuberculosis Center, University of California-San Francisco)

School of Public and Community Health

Sciences Faculty Affiliates
Elizabeth Ciemin, Ph.D., University of California at
Berkeley, 2003; M.P.H., University of California at Los
Angeles, 1994 (Research director, Center for Clinical
Translation Research, Billings Clinic.)
Lawrence Edward Firsch, M.D., Harvard Medical School,
1971; M.P.H. University of Washington, 1995 (Associate
Professor, Northeastern Ohio University College of Medicine
and Pharmacy; Executive Medical Director for Patient Safety
and Quality, Vancouver Island Health Authority, British
Columbia, Canada)
Suzanne Reid Hawley, Ph.D., Loma Linda University, 2002;
M.P.H., Loma Linda University, 1999 (Assistant Professor
and MPH Program Director, University of Kansas School of
Medicine-Wichita, Department of Preventive Medicine and
Public Health.
Steven D. Helgerson, M.D., University of Washington
School of Medicine, 1973; M.P.H., University of Washington
School of Public Health and Community Medicine (State
Medical Officer, Montana Department of Health and Human
Services.)
Lolem Ngong, M.P.H., University of Kansas School of
Medicine-Wichita, 2001 (WESTAT Contractor, Centers for
Disease Control and Prevention, Division of Tuberculosis
Elimination)
Angelia Paschal, Ph.D., Kent State University, 2003; M.Ed.,
University of Mississippi, 1992 (Assistant Professor,
University of Kansas School of Medicine-Wichita,
Department of Preventive Medicine and Public Health)
Lisa Pascopella, Ph.D., Albert Einstein College of Medicine,
1993; M.P.H., University of California at Berkeley, 1999
(Research Administrator and Faculty, FJ Curry national
Tuberculosis Center, University of California-San Francisco)
Barry Good, Dean  
Lynn Stocking, Associate Dean

The vision of the College of Technology is to be a preeminent leader and catalyst for progress in education. Supporting that vision is the mission to provide academically sound, socially responsible, current and accessible certificate and associate degree programs in response to individual, community, and economic development needs. The goals of the College:
- 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 lifelong learning

The College of Technology offers programs 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 of Applied Science 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 or one directed toward a particular baccalaureate major. The program is administered by the College of Technology Department of Applied Arts and Sciences. See also the Academic Policies and Procedures section of this catalog for specific requirements.

Bachelor of Applied Science Degree Program

A Bachelor of Applied Science degree is offered by The University of Montana-Missoula through the College of Arts and Sciences program. This degree program is available for students who have completed approved Associate of Applied Science degrees. See the College of Arts and Sciences/Applied Science section of this catalog.

Credit Applicable Toward an Associate of Arts and Baccalaureate Degrees

The following College of Technology courses have been approved to count as elective credit, and/or 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
CRT 100, 108, 121, 122E, 172, 203, 260, 270, 280
EET 232, 260
FSM 270, 271
MAT 100, 120, 117, 118, 119, 145
NUR all courses (except 295T)
PSY 100S, 110S, 201
SCN 100N, 115N, 150N, 175N, 201N, 202N

Academic Support Services

Services designed to increase the success of students enrolled at The University of Montana 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.
Department of Applied Arts and Sciences

Cathy Corr, Chair

The Department of Applied Arts and Sciences provides instruction in communication, mathematics, social science, and science, and writing. 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

To receive an Associate of Arts degree all students must successfully complete all the general education requirements for a baccalaureate degree, except for the Upper-Division Writing Proficiency Assessment and the Upper-Division Writing Expectations of a major. The minimum grade average for the 60 credits required for graduation is 2.00 in all courses taken on the traditional letter grade (A-F) basis. Courses in required general education areas must have a C- minimum. Students' course selection, in consultation with an advisor, is guided by their planned majors.

Students may enter in the autumn or spring semester. Following is a suggested first year course of study. Courses numbered below 100 or with a "D" designation and courses with a T suffix on the course number do not count toward the 60-credit requirement or general education course requirements, but do count as financial aid credits.

First Semester Course Choices:

**Academic full load 14 to 16 credits**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AASC 100 Intro to 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 Communication</td>
<td>3</td>
</tr>
<tr>
<td>COM 160A Oral Communications</td>
<td>3</td>
</tr>
<tr>
<td>WTS 101 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100 Computer Literacy OR proof of</td>
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</tr>
<tr>
<td>competence</td>
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</tr>
<tr>
<td>Math course based on placement score or</td>
<td>2</td>
</tr>
<tr>
<td>(of MAT 002T)</td>
<td></td>
</tr>
<tr>
<td>PSY 100S Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSY 100S Organizational Psychology</td>
<td>3</td>
</tr>
<tr>
<td>SCN 100 Issues in Biology</td>
<td>3</td>
</tr>
<tr>
<td>SCN 175N Intro to Physical Science (prereq</td>
<td>3</td>
</tr>
<tr>
<td>MAT 005)</td>
<td></td>
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<tr>
<td></td>
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</tr>
</tbody>
</table>

Additional semester course loads are based on mathematical literacy and English writing skills sequencing from the first semester plus general education courses and electives taken on either the College of Technology campus or/and Mountain campus. See an advisor in the first semester to develop a tentative two-year academic plan. 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 U-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. Obtaining an A.A. degree 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 develop a plan to reach academic readiness with their advisor's assistance. Students who plan to transfer from the University 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 the Paramedical Arts**

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
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<tr>
<td>BIOL 106N-107N Elementary</td>
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<tr>
<td>Medical Microbiology and Laboratory</td>
<td>4</td>
</tr>
<tr>
<td>BIOL 221 Cellular and Molecular Biology</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 151N-152N, 154N General</td>
<td>5</td>
</tr>
<tr>
<td>Chemistry and Laboratory</td>
<td>3</td>
</tr>
<tr>
<td>WTS 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>3</td>
</tr>
<tr>
<td>General Education</td>
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</table>

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
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<tr>
<td>ANTH 101H Introduction to Anthropology</td>
<td>3</td>
</tr>
<tr>
<td>WTS 115 Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td>COM 160A Oral Communication</td>
<td>3</td>
</tr>
<tr>
<td>WTS 240P Ethics and Rhetoric</td>
<td>4</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>16</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 (COM)

U 150S Interpersonal Communication 3 cr. Offered every term. Focus on communicating and listening more clearly to improve personal and professional relationships. Topics include forms of communication, communication and identity, emotion, conflict, climates, gender, and cultural diversity. Credit not allowed for both COM 150S and COMM 110S.

U 160A Oral Communications 3 cr. Offered every term. Introduction to oral communication skills, including public speaking, and small group communications. Focus is on the organization, delivery, and retention of oral messages, listening skill development, and nonverbal communication. Credit not allowed for both COM 160A and COMM 111A.

U 195T Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 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 217 A Oral Interpretation of Literature 3 cr. Offered autumn. Introduction orally presenting literature to an audience. Focus is on analyzing and performing prose, drama, poetry, and children’s literature to express point of view. U 220F 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 002D 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 and applications, exponents, factoring, and an introduction to polynomials. Credit does not count toward a certificate or degree. Credit does not count toward Associate of Arts or Baccalaureate degrees.

U 005D Introductory Algebra 3cr. 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 100D 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 does not count toward Associate of Arts or Baccalaureate degrees.

U 110T Industrial Math 3 cr. Offered autumn. Designed to provide the mathematical background necessary for success in the industrial areas. Topics covered include percent, ratio proportion, formula evaluation, basic algebra and geometry concepts, trigonometry, measurement, statistics, and graphing, markdowns, inventory turnover, and other basic formulas.

U 114T Food Production Math 3 cr. Offered intermittently. Basic mathematical processes including fractions, decimals, percents, ratios, proportions, and measures relative to menus, portions, and production costs.

U 117 Probability and Linear Math 3 cr. Offered every term. Prereq., MAT 005D with a grade of B- or better, 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 118 College Algebra 3 cr. Offered autumn and spring. Prereq., MATH 100D or appropriate placement score. Intended to strengthen algebra skills. The study of functions and their inverses: polynomial, rational, exponential, and logarithmic functions. Credit not allowed for both MAT 118 and any of MAT 120, MATH 121, or MATH 111.

U 119 Functions and Trigonometry 3 cr. Offered autumn and spring. Prereq., MATH 111 or appropriate placement score. Preparation for calculus based on college algebra. Review of functions and their inverses, exponential and logarithmic functions. Trigonometric functions and identities, polar coordinates and an optional topic such as conic sections or parametric functions. Credit not allowed for both MATH 119 and any of MAT 120, MATH 121, or MATH 112.

U 120 Elementary Functions 4 cr. Offered autumn and spring. Prereq., MAT 100 or appropriate score on the ASSET placement test. Algebraic, trigonometric, exponential/logarithmic functions of one real variable and their graphs. Inverse functions, complex numbers and polar coordinates. Conic sections. Credit not allowed for both MAT 120 and MATH 121.

U 145 Calculus with Applications 4 cr. Offered spring. Prereq., MAT 120 or appropriate score on placement exam. Introduction to differentiation and integration of elementary function. Introduction to ordinary differential equations. Emphasis is on applications in technical fields including electronics technology. Graphic calculators used. Credit not allowed for both MAT 145 and MATH 150.
U 196T Independent Study Variable cr. (R-6) Offered intermittently.

Psychology (PSY)
U 100S Introduction to Psychology 4 cr. Offered every term. Introduction to the scientific study of behavior in humans and other animals. Credit not allowed for both PSYC 100S and PSY 100S.
U 105T Work Attitudes 1 cr. Offered spring. Introduction to the working environment and the individual's responsibility to working relationships.
U 110S Organizational Psychology 3 cr. Offered autumn and spring. Foundation in the psychological processes that influence behavior of people in work settings.
U 201 Human Development Through the Life Span 3 cr. Offered autumn and spring. Prereq., PSY 100S. The study of human physical, cognitive and psychosocial development throughout the life span. Content covers major theories, the influence of genetics, and the environment from a chronological aspect.
U 195T Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 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 100N Issues in Biology 3 cr. Offered autumn and spring. An introductory course for students with little science background. This course explores several issues relating to human biology such as cancer, drug abuse, population growth, and genetic engineering. Also includes discussions of fundamental biological concepts such as evolution, biodiversity, and basic cell and molecular biology.
U 110S Organization of the Body 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 115N Anatomy 3 cr. Offered spring. Structures of the human body and their basic functions.
U 120T Technical Physics I 4 cr. Offered autumn. Prereq., Mat 100 or MATH 100. Introduction to models, measurements, vectors, motion in a straight line, motion in a plane, Newton's laws of motion, application of Newton's laws, and circular motion and gravitation.
U 121T Technical Physics II 4 cr. Offered spring. Prereq., SCN 120T. Introduction to work and energy, impulse and momentum, rotational motion, equilibrium of a rigid body, elasticity, heat, and thermodynamics.
U 125T Medical Physics 3 cr. Offered autumn. A presentation of physical principles that apply to respiratory care equipment and cardiopulmonary physiology.
U 150N Nutrition 3 cr. Offered autumn and spring. Nutritional needs throughout the life cycle and measures to assist in the meeting of these needs in health or stress/disease.
U 175N Introduction to Physical Science 3 cr. Offered every term. Prereq., or coreq., MAT 005 (MATH 100 suggested). An introduction to the basic principles of physics, chemistry, environmental and earth sciences with emphasis on the scientific method and process. (Suitable for students with little science background).
U 195T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 196T Independent Study Variable cr. (R-6) Offered intermittently.
U 201N Anatomy and Physiology I 4 cr. Offered autumn and spring. Prereq., SCN 175T or introductory science course recommended. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers tissues through nervous system. A cadaver lab is included.
U 202N Anatomy and Physiology II 4 cr. Offered autumn and spring. Prereq., SCN 201N. Continuation of 201N. Basic knowledge necessary for students in health-related programs. Emphasis on normal anatomy and physiology with presentation of basic concepts in chemistry and microbiology as they relate to human anatomy and physiology. Covers endocrine through reproductive systems. A cadaver lab is included.
U 220 Human Physiology 4 cr. Offered autumn. Prereq., SCN 201N, 202N. In-depth exploration of principles and clinical consequences of the physiology of selected human organ systems. Building upon basic concepts covered in SCN 201N and 202N, students study membrane functions, neural physiology, nervous system integration, endocrine and peripheral nervous system function and coordination, circulatory, respiratory, renal, digestive, and reproductive physiology.
U 295T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Writing Studies (WTS)
U 090T Critical Writing Skills 3 cr. Offered every term. For students with major difficulties in expository prose. Emphasis on forming, structuring, and development of ideas. Sentence level faults discussed. Traditional letter grade only. Credit does not count toward a certificate or degree.
U 100D 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 in integrating critical thinking, reading and writing before entering the required first-year writing course. Grading A-F or NC (no credit). Credit does not count toward Associate of Arts or Baccalaureate degrees.
U 101 English Composition 3 cr. Offered every term. Prereq., WTS 090T or passing score on placement test. Instruction and practice in both the expository writing and research process. Emphasis on the use of specific techniques of writing to develop style, unity, clarity, and force of ideas, and structure. Students are expected to write without major errors in sentence structure or mechanics. Credit not allowed for both WTS 101 and ENEX 101. Grading A-F, or NC.
U 115 Technical Writing 3 cr. Offered every term. Course assumes a basic computer literacy. Passing score on placement test or consent of instr. Introduction to technical writing situations with appropriate formats. Emphasis on writing with document design and graphic placement introduced. Students are expected to write without major faults in grammar or usage.
U 120L Introduction to Critical Interpretation 3 cr. Offered each term. Study of how readers make meaning of texts and how texts influence readers. Emphasis on interpreting literary texts: close reading, critical analysis, and effective writing.
U 121L Introduction to Poetry 3 cr. Offered every term. An introduction to the techniques of reading and writing about poetry with emphasis on the lyric and other shorter forms. Credit not allowed for both ENLT 121L and WTS 121L.
U 184A Beginning Creative Writing: Multiple Genre 3 cr. Offered every term. Prereq., WTS 101 or ENEX 101 or consent of instr. A beginning writing workshop 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 intermittently. Prereq., WTS 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, 101, or consent of instr. Continuation of technical writing with emphasis on technical text including editing for technical content, graphic placement, and document design as seen through the eye of the audience. Current critical issues in technical writing are discussed.

U 240E Ethics and Rhetoric: Writing Arguments on Contemporary Issues 3 cr. Offered every autumn and spring. Prereq., WTS 101. Writing-intensive course which examines perspectives on contemporary issues. Emphasis on analysis, evaluation, and synthesis; students construct arguments in response to issues raised in class.

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.

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Department of Applied Computing and Electronics

Thomas Gallagher, Chairman

The Department of Applied Computing and Electronics of The University of Montana 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://ace.cte.umt.edu.

Special Degree Requirements

General education requirements are integrated into the following programs. Refer to the Academic Policies and Procedures section of this catalog for the specific requirements.

Computer Technology-A.A.S. Degree

Students in the Computer Technology program prepare for careers in the field of information technology. The mission of the program is to prepare students to meet the needs of users within an organization and societal context through the selection, creation, application integration, and administration of information technology. The program balances technical expertise with the professional skill set needed in a dynamic society. The degree program allows students to specialize in network management or information systems through program options.

Students are accepted into the program autumn term. Prior to entering the program, students shall demonstrate proficiency in keyboarding and basic computing skills, using word processing, spreadsheets, Internet software, and file management.

The University of Montana-Missoula College of Technology is a Cisco Regional Training Center and a member of the Computer Technology Industry Association (Comp TIA). Opportunities exist for professional certification from Cisco (CCNA), Microsoft (MCT, MCSA), and Comp TIA (A+, Network+ and Security+).

Network Management Option

The Network Management option provides specialization for supporting computing in a networking environment. Students install, configure, monitor, troubleshoot, and manage network connectivity, server-based computing systems, and intranetworking technologies.

Autumn Entry:

First Year

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>BUS 103S Principles of Business</td>
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<tr>
<td>CRT 111 Fluency in Information Technology</td>
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<tr>
<td>CRT 112T Operating System Fundamentals</td>
<td>3</td>
<td></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>
<td>3</td>
<td></td>
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<tr>
<td>CRT 151T Networking Basics</td>
<td>3</td>
<td></td>
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<tr>
<td>CRT 152T Routers and Router Basics</td>
<td>3</td>
<td></td>
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<tr>
<td>CRT 172 Introduction to Computer Modeling</td>
<td>3</td>
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<tr>
<td>MAT 117 Probability and Linear Mathematics</td>
<td>3</td>
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<tr>
<td>WTS 101 English Composition</td>
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<td>Total</td>
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Second Year

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<tr>
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<tr>
<td>COM 160A Oral Communications</td>
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<td>CRT 210T Advanced Operating Systems</td>
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<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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<td>CRT 231 Object-Oriented Programming</td>
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<td>CRT 251T Switching Basics and Intermediate</td>
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<td>CRT 285T PC Hardware Support</td>
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<td>CRT 289T Professional Certification</td>
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<tr>
<td>CRT 290T Computer Technology Internship</td>
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<tr>
<td>Total</td>
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</table>

Information Systems Management Option

The Information Systems Management option provides specialization in acquiring and supporting the software and hardware used in organizations. Students analyze, design, develop, implement, and support applications and systems for businesses. Business process is modeled and requirements defined for information technology resources.

Autumn Entry:

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Grade</th>
</tr>
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<tbody>
<tr>
<td>BUS 103S Principles of Business</td>
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<tr>
<td>COM 160A Oral Communications</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CRT 111 Fluency in Information Technology</td>
<td>3</td>
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</tr>
</tbody>
</table>
Students in the Energy Technology program are introduced to the full suite of energy sources and technologies. Graduates are general practitioners equipped with skills in: design, installation, and maintenance of diverse energy technologies and systems; sales, operations, and management; regulatory compliance; basic electricity and power systems; energy storage and distribution; site assessment; basic energy economics; efficiency and conservation strategies; project management. The entire program is available on-line. Students may enter the program autumn or spring term. Further information can be found at http://ace.cte.umt.edu/energy/

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.

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 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 108 Word Processing 2 cr. Offered autumn and spring. Prereq., CRT 100 or demonstrated computer experience. 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 111 Fluency in Information Technology 3 cr. Offered autumn and spring. Prereq., CRT 100 or demonstrated computer experience. Introduces the skills and concepts of information technology, both from practical and a more theoretical point of view. During lectures and interactive computer labs, students will explore a wide range of digital and information technologies, including common PC applications, networking, databases, privacy, and security. Credit not allowed for both CRT 111 and CS 111.

U 112T Operating System Fundamentals 3 cr. Offered spring. Prereq., CRT 100 or demonstrated computer experience. Introduction to common operating systems used in modern computing. Emphasis on thorough understanding and use of command line and graphical user interfaces. Hands-on experience with single-user and multi-user/multi-access software. Focus on using, comparing, and analyzing the capabilities of existing and emerging operating systems.

U 115T Advanced Document Production 3 cr. Offered autumn and spring. Prereq., CRT 108. Analysis of the concepts of advanced work processing document production underlying mastery of the software. Business-related application projects utilizing critical thinking included. Speed and timing component to increase skills essential for employment.

U 121 Introduction to Programming 3 cr. Offered autumn and spring. Prereq., MAT 100 and demonstrated computer 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., WTS 101. Exploration of ethical issues in the field of computing. Skills needed to identify and analyze various ethical concerns. Standard ethical concepts and theories, methods of ethical analysis. Strong emphasis on practical application of the ethical process.

U 151T Networking Basics 3 cr. Offered autumn and spring. Prereq., CRT 100 or demonstrated computer experience. Introduction to networking field including terminology; protocols; local-area and wide-area networks; the OSI model; topologies; IP addressing; cabling and cabling tools; routers and router programming; Ethernet and network standards; and wireless technologies.

U 152T Routers and Routing Basics 3 cr. Offered spring. Prereq., CRT 151T and CRT 112T or consent of instr. Covers router theory and technologies including configurations, IOS software management, routine protocol configuration, TCP/IP, access-lists and introduction to LAN switching.

U 172 Introduction to Computer Modeling 3 cr. Offered autumn and spring. Prereq., CRT 100 or demonstrated 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 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 flyers; 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 Advanced Operating Systems 3 cr. Offered autumn. Prereq., CRT 112T, CRT 151T. Server technologies commonly used in local area networking. Topics include installation, administration, storage, application services, network services, security, reliability, and availability.

U 216T Network Infrastructure 3 cr. Offered spring. Prereq., CRT 210T. Principles and implementation of enterprise networking services. Topics include Protocol Binding, DNS, DHCP, WINS, Remote Access, IP Routing, IP Security, Network Address Translation, and Certificate Services.

U 222T Security Seminar 3 cr. Offered spring. Prereq., CRT 210T. Examination of general information technology security concepts. Topics include access control, authentication, attack methods, remote access, web security, wireless networks, cryptography, internal infrastructure security, and external attacks. Security procedures, organizational policies, risk management and disaster recovery addressed.

U 231 Object-Oriented Programming 3 cr. Offered autumn. Prereq., CRT 121. Design and implementation of software using object-oriented programming practices. The class framework is used to apply the object-oriented techniques of encapsulation, polymorphism, and inheritance.

U 251T Switching Basics and Intermediate Routing 3 cr. Offered autumn. Prereq., CRT 152T. Covers router
configurations including advanced IP addressing techniques, variable length subnet masking, intermediate routing protocols, Ethernet switching, virtual LANs, spanning-tree protocol, and VLAN trunking protocol.

U 252T WAN Technologies 3 cr. Offered spring. Prereq., CRT 251T. Project-based course in wide-area networking including advanced IP addressing techniques, network address translation, port address translation, DHCP, 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, multilayer switched LANs. Topics include VLANs, switching protocols, routing, redundancy, multicasting, QoS, service, security, and transparancy.

U 258T Network Troubleshooting 3 cr. Offered intermittently. Prereq., consent of instr. Network troubleshooting using baselines, configuration documentation, and a building-block approach through analysis of each layer in the OSI networking model.

U 260 Digital Publishing and Design 3 cr. Offered autumn and spring. Prereq., CRT 100 or 103T or consent of instr. A comprehensive foundation of layout and design principles to integrate digital media essential for effective print-based and web-based business publications.

U 263 Web Design and Development 3 cr. Offered autumn and spring. Prereq., CRT 100 or consent of instr. Provides a background and foundation skills required for designing and implementing Web sites for public and private organizations. Marketing and design techniques are applied using state-of-the-art software.

U 270 C++ Programming 3 cr. Offered intermittently. Prereq., CRT 121. Object oriented programming using C++. Implementation of structured programming concepts along with construction of classes to create data types for defining objects.

U 275 Database Design and Implementation 3 cr. Offered autumn. Prereq., CRT 172 or consent of instr. Relational database design including: requirements analysis, data structure, entity relationships, normalization, relational algebra and integrity. Physical implementation focusing on data storage; retrieval and modification; concurrency; optimization; security; SQL; and XML.

U 285T PC Hardware Support 3 cr. Offered autumn. Prereq., CRT 103T, CRT 112T. In-depth study of personal computer hardware. Focus on field replaceable components. Topics include: storage devices, processors, system boards, memory, ports, cabling, power supplies, multimedia devices, printers, and troubleshooting.

U 289T Professional Certification 1 cr. Offered spring. Prereq., consent of instr. Review objectives of an information technology industry-based professional certification. Certification objectives, preparation strategies, and exam strategies included. Course can be repeated for different industry-based professional certifications.

U 290T Computer Technology Internship 2 cr. Offered autumn and spring. Prereq., last semester in program, minimum of "C" in all CRT courses, and approval of program director. Not open to non-majors. On-the-job training in positions requiring information technology competencies. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of six hours each week at an approved site and attend a weekly one-hour seminar.

U 295T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 296T Independent Study 1-6 cr. (R-6) Offered intermittently.

Electronics Technology (EET)

U 111T Basic Electronics 4 cr. Offered autumn. Study of current flow, direct current circuits, alternating current circuits, and concepts of power. The introduction of time-varying currents and impedances using circuit analysis and problem solving techniques.


U 113T Circuits Kit 1 cr. Offered autumn. Coreq., EET 111T. Covers proper techniques of soldering and tool usage. Electronic technical language, hands on troubleshooting skills and basic electronic measurements are involved.

U 121T Semiconductors 4 cr. Offered spring. Coreq., EET 111T, 112T. Coverage of diode, bipolar transistors and field effect transistor circuits used in electronic amplifiers and amplification components. The study and analysis of the components and circuits used in semiconductor electronics and an introduction to operational amplifiers.

U 122T Electronics Lab II 3 cr. Offered spring. Coreq., EET 121T. Bread-boarding, troubleshooting and measuring the electronic characteristics of diodes, bipolar transistors, JFETs and operational amplifiers. The impact of impedance matching, filtering and power effects on stages of electronic circuits will be covered.

U 123T Amplifier Kit 1 cr. Offered spring. Coreq., EET 121T. An audio amplifier and dual regulated power supply will be built throughout the semester.

U 195T Special Topics 1-6 cr. (R-6) Offered 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., EET 103T. Explores digital electronic circuits and devices that make up a computer system. Topics include binary and hexadecimal number systems, Boolean algebra and digital 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 industry-standard microcomputer based on the Intel 8088/8086 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 241T Instrumentation 3 cr. Offered spring. Prereq., EET 227T. The study and analysis of industrial measuring and process control instrumentation in both analog and digital form. Proper selection, use and interpretation of measurement equipment and data.


U 260 Data Communications 3 cr. Offered autumn. Prereq., EET 103T. Explores the principles, applications, and theory of data communication systems. Topics include communication concepts and terminology, analog and digital channel characteristics, signaling techniques for analog and digital data, communication codes, transmission media, and standards and protocols for various data communication systems including computer networks, and the public switched telephone network. Includes hands-on labs.

U 270T Wireless Communications 4 cr. Offered autumn. Prereq., EET 103T. Explores audio and radio frequency (RF) circuits. Topics include AM and FM signal modulation and demodulation, RF transmitters, RF receivers, RF amplifiers, audio amplifiers, oscillators, mixers, and antennas. Includes hands-on labs.

U 280T Electronics Capstone 2 cr. Offered spring. Prereq., EET 227T. Completion of project prototypes. Includes comprehensive final project from conception to market.

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.

Energy Technology (NRG)

U 191 Practicum 2 cr. Offered summer. The practicum provides students with a supervised field experience performed at an energy production site. Students will gain hands-on experience with site-specific technologies. This opportunity increases students' occupational awareness and professionalism. Course may be repeated.

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 1-6 cr. (R-6) Offered intermittently.

U 290 Internship 2 cr. Offered spring. Students will complete a field experience at an energy-related site. This experience increases student competency in the field, prepares them for initial employment, increases occupational awareness and professionalism. A series of career development seminars and activities related to the field experience are completed in parallel.

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.

Department of Business Technology

Brian Larson, 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 of this catalog for the specific requirements.

Accounting Technology-A.A.S. Degree

Lisa Swallow, Director

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:

First Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>ACC 132T-133T Accounting I, II</td>
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<tr>
<td>ACC 134T Payroll Topics</td>
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<tr>
<td>BUS 103S Principles of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 135T Business Law</td>
<td>3</td>
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</table>

S = spring
### MAT 117

BUS 160S Issues in Sustainability ........................................... 3 -
FIN 228 Personal Financial Planning & Investment (summer only) or ACC 195T Financial Planning ........................................... 3 -
CRT 100 Computer Literacy ...................................................... 2 -
CRT 180T Spreadsheet Software ................................................ 3 -
MAT 117 Probability & Linear Math ............................................. 3 -
WTS 101 English Composition ................................................... 3 -
Total ......................................................................................... 18 16

### Second Year

ACC 232T Nonprofit Accounting ................................................. 3 -
ACC 234T Managerial Accounting .............................................. 3 -
ACC 235T Income Tax ................................................................... 3 -
ACC 237T Strategies for Business Entities ................................... 3 -
ACC 250T Accounting Capstone .................................................. 4 -
ACC 290T Accounting Internship ................................................ 2 -
COM 160A Oral Communications ................................................ 3 -
COM 210E Critical Thinking, Analysis and Problem Solving .......... 3 -
CRT 172 Introduction to Computer Modeling ................................ 3 -
ECON 111S Microeconomics ...................................................... 3 -
Total ......................................................................................... 15 15

### 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 considering this rigorous program should be analytical, technology-oriented and enjoy detail. Upon successful completion of the A.A.S.- Accounting Technology with Computer Support Option, the student will also be awarded a Computer Technician Certificate and will have had the opportunity to complete an industry-based certification exam.

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 Name</th>
<th>Credits</th>
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<tr>
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<tr>
<td>ACC 132T-133T Accounting I, II</td>
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<tr>
<td>ACC 134T Payroll Topics</td>
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<td>BUS 103S Principles of Business</td>
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<tr>
<td>CRT 111T Fluency in Information Technology</td>
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<tr>
<td>CRT 112T Operating System Fundamentals</td>
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<tr>
<td>CRT 151T Networking Basics</td>
<td>3</td>
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<tr>
<td>CRT 180T Spreadsheet Software</td>
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<tr>
<td>MAT 100 Intermediate Algebra</td>
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<td>WTS 101 English Composition</td>
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<td><strong>Total</strong></td>
<td><strong>16</strong></td>
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<tr>
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<tr>
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<tr>
<td>ACC 236T Income Tax</td>
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<tr>
<td>ACC 250T Accounting Capstone</td>
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<tr>
<td>ACC 290T Accounting Internship</td>
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<td>COM 160A Oral Communications</td>
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<tr>
<td>CRT 122E Ethics and Information Technology</td>
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<tr>
<td>CRT 172 Introduction to Computer Modeling</td>
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<td>CRT 210T Advanced Operating Systems</td>
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<td>CRT 121 Introduction to Programming</td>
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<td>CRT 289T Professional Certification A+</td>
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<td><strong>Total</strong></td>
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<table>
<thead>
<tr>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>Administrative Management - A.A.S. Degree</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Sue Olson, Director</strong></td>
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</tr>
</tbody>
</table>

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 Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BUS 103S Principles of Business</td>
<td>3</td>
</tr>
<tr>
<td>BUS 106T Records and Information Management</td>
<td>2</td>
</tr>
<tr>
<td>BUS 135T Business Law</td>
<td>3</td>
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<tr>
<td>BUS 140T Customer Service</td>
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<tr>
<td>COM 150S Interpersonal Communications</td>
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<tr>
<td>CRT 100 Computer Literacy</td>
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<td>CRT 108 Word Processing</td>
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</tr>
<tr>
<td>CRT 180T Spreadsheet Software</td>
<td>3</td>
</tr>
<tr>
<td>HMR 110T Introduction to Public Relations</td>
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<tr>
<td>MAT 100 Intermediate Algebra</td>
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<tr>
<td>PSY 110S Organizational Psychology</td>
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<tr>
<td>WTS 115 Technical Writing</td>
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<table>
<thead>
<tr>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>Second Year</strong></td>
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<tr>
<td>ACC 131T Essentials of Accounting</td>
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<tr>
<td>BUS 240T Administrative Support for the Automated Office</td>
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<tr>
<td>BUS 243T Psychology of Management and Supervision</td>
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<tr>
<td>COM 160A Oral Communications</td>
<td>3</td>
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<tr>
<td>CRT 210E Critical Thinking, Analysis and Problem Solving</td>
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</tr>
<tr>
<td>CRT 115T Advanced Document Production</td>
<td>3</td>
</tr>
<tr>
<td>CRT 172 Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>CRT 260 Digital Publishing and Design</td>
<td>3</td>
</tr>
<tr>
<td>CRT 263 Web Design and Development</td>
<td>3</td>
</tr>
<tr>
<td>HMR 290T Administrative Management Internship</td>
<td>2</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
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<table>
<thead>
<tr>
<th>Course Name</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td><strong>Customer Relations-Certificate</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Sue Olson, Director</strong></td>
<td></td>
</tr>
</tbody>
</table>

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 company image. Students develop an understanding of 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>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BUS 103S</td>
<td>Principles of Business</td>
<td>A 3 S</td>
</tr>
<tr>
<td>BUS 106T</td>
<td>Records and Information Management</td>
<td>2</td>
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<tr>
<td>BUS 135T</td>
<td>Business Law</td>
<td>3</td>
</tr>
<tr>
<td>BUS 140T</td>
<td>Customer Service</td>
<td>4</td>
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<tr>
<td>COM 150S</td>
<td>Interpersonal Communications</td>
<td>3</td>
</tr>
<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
<td>2</td>
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<tr>
<td>CRT 108</td>
<td>Word Processing</td>
<td>2</td>
</tr>
<tr>
<td>CRT 150T</td>
<td>Spreadsheet Software</td>
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<tr>
<td>HMR 110T</td>
<td>Introduction to Public Relations</td>
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</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>
<tr>
<td>WTS 115</td>
<td>Technical Writing</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>16 18</td>
</tr>
</tbody>
</table>

**Culinary Arts-Certificate**

**Tom Campbell, Director**

The Bureau of Labor Statistics indicates the hospitality field is America's number one retail employer and predicts its growth will increase 30 percent over the next two years. Students entering the Culinary Arts Certificate program or Food Service Management degree program prepare for careers in the hospitality industry. Students develop skills to seek employment in hotels, restaurants, resorts, casinos, clubs, catering, and corporate dining. Culinary careers encompass hospitality management, sales, product development, or entrepreneurship. To meet the growing demand of the hospitality industry, two program options are available. Students may earn a Culinary Arts Certificate of Completion or a Food Service Management Associate of Applied Science degree.

The Culinary Arts program is two semesters and provides an introduction to the field of culinary arts. Students prepare for an entry-level position in the expanding and challenging food service industry. This program incorporates comprehensive hands-on learning experiences complemented by supportive courses designed to prepare students for a wide range of career opportunities. This program allows a seamless transition into the Food Service Management degree.

Students are awarded a Certificate of Completion after successfully completing the program.

Students may enter the Culinary Arts certificate program autumn semester and early application is encouraged.

**Autumn Entry:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>COM 150S</td>
<td>Interpersonal Communication or PSY 110S</td>
<td>A 3 S</td>
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<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
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<tr>
<td>CUL 151T</td>
<td>Introduction to Food Service Industry</td>
<td>5</td>
</tr>
<tr>
<td>CUL 175T</td>
<td>Food Service Sanitation</td>
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<tr>
<td>FSM 180T</td>
<td>Nutritional Cooking</td>
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<tr>
<td>MAT 100D</td>
<td>Intermediate Algebra</td>
<td>3</td>
</tr>
<tr>
<td>Food Station Experience from following courses:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CUL 156T</td>
<td>Dining Room Procedures</td>
<td></td>
</tr>
<tr>
<td>CUL 157T</td>
<td>Pantry and Garde-Manger</td>
<td></td>
</tr>
<tr>
<td>CUL 158T</td>
<td>Short Order Cookery</td>
<td></td>
</tr>
<tr>
<td>CUL 160T</td>
<td>Soups, Stocks, and Sauces</td>
<td></td>
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</tbody>
</table>

**Food Service Management-A.A.S. Degree**

**Tom Campbell, Director**

The Food Service Management program culminates in an Associate of Applied Science Degree. This program combines theory, practical training, and industry experience to prepare students for entry-level and management positions in the diverse and dynamic hospitality industry. The degree program is designed to continue principles taught in the culinary arts certificate program. The spectrum of learning is expanded to include more in-depth professional studies thereby enhancing employment options. Accreditation by the American Culinary Federation ensures graduates' eligibility for certification as an ACF "Certified Culinary".

Technical subject areas include introduction to the industry, basic baking, patisserie, cost control, dining room service, garde manger, nutritional cooking, fundamental cooking principles, short order cookery, a la carte stations, menu planning, supervised internship, and the recognized sanitation certificate awarded by the National Restaurant Association Educational Foundation.

The Associate of Applied Science degree is awarded upon successful completion of the program.

Students entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

**Autumn Entry:**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>COM 150S</td>
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<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
<td>2</td>
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<tr>
<td>CUL 151T</td>
<td>Introduction to Food Service Industry</td>
<td>5</td>
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<tr>
<td>CUL 175T</td>
<td>Food Service Sanitation</td>
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<tr>
<td>FSM 180T</td>
<td>Nutritional Cooking</td>
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<td>MAT 100D</td>
<td>Intermediate Algebra</td>
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<tr>
<td>PSY 110S</td>
<td>Organizational Psychology</td>
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**Second Year**

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<tr>
<td>BUS 234T</td>
<td>Psychology of Management and Supervision</td>
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<td>CRT 205T</td>
<td>Food Service Management Computer Applications</td>
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<td>FSM 270</td>
<td>Purchasing and Cost Controls</td>
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<td>FSM 271</td>
<td>Food Service Management Capstone</td>
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<td>FSM 275</td>
<td>Patisserie</td>
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<td>FSM 290T</td>
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<tr>
<td>Food Station Experience from following courses:</td>
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<tr>
<td>CUL 156T</td>
<td>Dining Room Procedures</td>
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<tr>
<td>CUL 157T</td>
<td>Pantry and Garde-Manger</td>
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<td>CUL 158T</td>
<td>Short Order Cookery</td>
<td></td>
</tr>
<tr>
<td>CUL 160T</td>
<td>Soups, Stocks, and Sauces</td>
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</table>

CUL 158T Short Order Cookery  
CUL 160T Soups, Stocks, and Sauces  
CUL 161T Meats and Vegetables  
WTS 115 Technical Writing
Management-A.A.S. Degree

Brian Larson, Director

The Management program provides graduates with the skills required to own and operate their own businesses or become sales representatives and managers of retail organizations.

Entrepreneurship Option

Students selecting the Entrepreneurship option will focus on venture initiation, constructing business plans, generating financing, and beginning operations. Areas of study focus on the critical factors involved in accounting, sales strategy, advertising and marketing issues, and 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.

<table>
<thead>
<tr>
<th>Autumn Entry:</th>
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<tbody>
<tr>
<td><strong>First Year</strong></td>
<td></td>
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<tr>
<td>ACC 132T-133T Accounting I, II</td>
<td>A 8</td>
</tr>
<tr>
<td>BUS 112T Professional Sales</td>
<td>A 4</td>
</tr>
<tr>
<td>BUS 113T Psychology of Selling</td>
<td>A 3</td>
</tr>
<tr>
<td>BUS 125T Principles of Marketing</td>
<td>A 3</td>
</tr>
<tr>
<td>CRT 100 Computer Literacy</td>
<td>A 2</td>
</tr>
<tr>
<td>CRT 172 Introduction to Computer Modeling</td>
<td>3</td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
<td>A 3</td>
</tr>
<tr>
<td>PSY 110S Organizational Psychology</td>
<td>A 3</td>
</tr>
<tr>
<td>WTS 101 English Composition</td>
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<tr>
<td>ACC 134T Payroll Topics</td>
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</tr>
<tr>
<td>BUS 135T Business Law</td>
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</tr>
<tr>
<td>BUS 224T Advertising and Promotion</td>
<td>A 3</td>
</tr>
<tr>
<td>BUS 243T Psychology of Management and Supervision</td>
<td>A 4</td>
</tr>
<tr>
<td>BUS 250T Entrepreneurship</td>
<td>A 3</td>
</tr>
<tr>
<td>BUS 290T Management Internship</td>
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</tr>
<tr>
<td>COM 160A Oral Communications</td>
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<tr>
<td>COM 210E Critical Thinking, Analysis, and Problem Solving</td>
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<tr>
<td>CRT 260 Digital Publishing and Design</td>
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<tr>
<td>CRT 263 Web Design and Development</td>
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<tr>
<td>ECON 111S Introduction to Microeconomics</td>
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<tr>
<td>FIN 228 Personal Financial Planning and Investment</td>
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<td><strong>Total</strong></td>
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</table>

Sales and Marketing-Certificate

Brian Larson, Director

Students in the Sales and Marketing program are trained in sales and supportive tasks relating to retail or wholesale organizations. They study the application of the latest counselor selling techniques to assist clients in meeting needs. The curriculum also involves marketing activities, bookkeeping functions, and merchandising skills.

Students are awarded a Certificate of Completion after successfully completing the program.

The Sales and Marketing program satisfies the requirements for the first year of the Management degree, Sales and Marketing option.

Students entering autumn semester may complete the program in two semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

<table>
<thead>
<tr>
<th>Autumn Entry:</th>
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</thead>
<tbody>
<tr>
<td><strong>First Year</strong></td>
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</tr>
<tr>
<td>ACC 132T-133T Accounting I, II</td>
<td>A 8</td>
</tr>
<tr>
<td>BUS 109T Visual Merchandising and Display</td>
<td>A 4</td>
</tr>
<tr>
<td>BUS 112T Professional Sales</td>
<td>A 2</td>
</tr>
<tr>
<td>BUS 113T Psychology of Selling</td>
<td>A 3</td>
</tr>
<tr>
<td>BUS 125T Principles of Marketing</td>
<td>A 3</td>
</tr>
<tr>
<td>CRT 100 Computer Literacy</td>
<td>A 2</td>
</tr>
<tr>
<td>CRT 172 Introduction to Computer Modeling</td>
<td>A 3</td>
</tr>
<tr>
<td>HMR 110T Introduction to Public Relations</td>
<td>A 3</td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
<td>A 3</td>
</tr>
<tr>
<td>WTS 101 English Composition</td>
<td>A 3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>A 17</td>
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</tbody>
</table>
Medical Information Technology - A.A.S. Degree

Carol Hinricher, Director

The Medical Information Technology program provides three options for students with the flexibility of choosing a career in health information coding specialty, medical administrative assisting or medical transcription. The course of study includes general as well as administrative duties of a medical facility. These duties involve scheduling appointments, interacting with patients, submitting patient insurance claims using current coding procedures, and maintaining medical and financial records. Additionally, students are exposed to the principles of medical ethics and medical legal issues facing health providers. All Students in the Medical Information Technology degree options acquire work-related skills through internship experiences. Students successfully completing this program are awarded the Associate of Applied Science degree.

Health Information Coding Specialty Option

Students are trained to analyze health records and to accurately abstract and code procedures and diagnoses utilizing legal and regulatory standards. An understanding of anatomy, medical terminology and disease processes will provide students with the necessary tools to determine correct codes and sequences.

Upon completion of this program, students are eligible to sit for national certification examinations offered through American Health Information management Association.

Students entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

**Autumn Entry:**

<table>
<thead>
<tr>
<th>First Year</th>
<th>A</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT 100 Computer Literacy</td>
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<td>MAT 100 Intermediate Algebra</td>
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<tr>
<td>MED 152T Insurance Processing for Coding Specialists</td>
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<tr>
<td>MED 154T Beginning Medical Terminology</td>
<td>2</td>
<td></td>
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<tr>
<td>MED 155T Medical Software</td>
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<tr>
<td>MED 161T Medical Administrative Procedures</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MED 165T Healthcare Data and Content</td>
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<tr>
<td>PSY 100 Psychology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>SCN 201N-202N Anatomy and Physiology</td>
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<tr>
<td>WTS 115 Technical Writing</td>
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</table>

**Second Year**

| BIOL 106N Medical Microbiology | 3 |  |
| COM 150S Interpersonal Communications | 3 |  |
| COM 210E Critical Thinking, Analysis and Problem Solving | 3 |  |
| MED 210T Basic ICD Coding | 3 |  |
| MED 217T Terminology for Health Professions | 3 |  |
| MED 220T Basic Ambulatory Coding | 3 |  |
| MED 240T Intermediate ICD Coding | 3 |  |
| MED 250T Intermediate CPT Coding | 3 |  |
| MED 290T Internship (180 hours) | 3 |  |
| PHA 160T Survey of Pharmacy Products | 3 |  |

| Total | 15 | 15 |

**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:**

<table>
<thead>
<tr>
<th>First Year</th>
<th>A</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>BUS 106T Records and Information Management</td>
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<tr>
<td>BUS 140T Customer Service</td>
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<td>CRT 108 Word Processing</td>
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<td>CRT 115T Advanced Document Production</td>
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<td></td>
</tr>
<tr>
<td>MAT 100 Intermediate Algebra</td>
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<td></td>
</tr>
<tr>
<td>MED 153T Insurance Processing</td>
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<td></td>
</tr>
<tr>
<td>MED 154T Beginning Medical Terminology</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MED 155T Medical Software Applications</td>
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<td></td>
</tr>
<tr>
<td>MED 161T Medical Administrative Procedures</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>SCN 115N Anatomy</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>WTS 115 Technical Writing</td>
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<td></td>
</tr>
</tbody>
</table>

| Total | 15 | 17 |

**Second Year**

| ACC 131T Essentials of Accounting | 4 |  |
| ACC 134T Payroll Topics | 3 |  |
| BUS 240T Administrative Support for the Automated Office | 2 |  |
| BUS 243T Psychology of Management and Supervision | 4 |  |
| COM 150S Interpersonal Communications | 3 |  |
| COM 160A Oral Communications | 3 |  |
| CRT 172 Introduction to Computer Modeling | 3 |  |
| MED 165T Healthcare Data & Content | 2 |  |
| MED 217T Terminology for Health Professions | 3 |  |
| MED 290T Medical Information Internship | 2 |  |

| Total | 15 | 17 |

**Spring Entry:**

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<tr>
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<tbody>
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<td>BUS 106T Records and Information Management</td>
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<tr>
<td>MAT 100 Intermediate Algebra</td>
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<td></td>
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<tr>
<td>MED 154T Beginning Medical Terminology</td>
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<tr>
<td>SCN 115N Anatomy</td>
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<td>WTS 115 Technical Writing</td>
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</table>

| Total | 15 | 17 |

**Second Year**

| ACC 131T Essentials of Accounting | 4 |  |
| BUS 140T Customer Service | 4 |  |
| BUS 240T Administrative Support for the Automated Office | 2 |  |
| COM 150S Interpersonal Communications | 3 |  |
| COM 160A Oral Communications | 3 |  |
| CRT 108 Word Processing | 2 |  |
| CRT 115T Advanced Document Production | 3 |  |
| MED 153T Insurance Processing | 3 |  |
| MED 155T Medical Software Applications | 1 |  |
| MED 161T Medical Administrative Procedures | 4 |  |
| MED 165T Health Care Data & Content | 2 |  |
| MED 217T Terminology for Health Professions | 3 |  |

| Total | 19 | 19 |

**Third Year**

| ACC 134T Payroll Topics | 3 |  |
| BUS 243T Psychology of Management and Supervision | 4 |  |
| CRT 172 Introduction to Computer Modeling | 3 |  |
| MED 290T Medical Information Internship | 3 |  |

| Total | 13 | 13 |

**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**

<table>
<thead>
<tr>
<th>First Year</th>
<th>A</th>
<th>S</th>
</tr>
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<tbody>
<tr>
<td>BUS 106T Records and Information Management</td>
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<tr>
<td>COM 150S Interpersonal Communications</td>
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<td>CRT 100 Computer Literacy</td>
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<tr>
<td>CRT 115T Advanced Document Production</td>
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<tr>
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<table>
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<tbody>
<tr>
<td>ACC 131T Essentials of Accounting</td>
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</tr>
<tr>
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</tr>
<tr>
<td>CRT 172T Introduction to Computer Modeling</td>
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<td></td>
</tr>
<tr>
<td>MED 217T Terminology for Health Professions</td>
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<tr>
<td>MED 256T-257T Medical Transcription I, II</td>
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<tr>
<td>MED 290T Medical Information Internship</td>
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<tr>
<td>PHA 160T Survey of Pharmacy Products</td>
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<tr>
<td>PSY 110S Organizational Psychology</td>
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<tr>
<td>BUS 103S Principles of Business</td>
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<tr>
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<tr>
<td>CRT 180T Spreadsheet Software</td>
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<td>MAT 100 Intermediate Algebra</td>
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**Medical Reception-Certificate**

**Carol Hinricher, Director**

The Medical Reception curriculum provides students with the skills needed to provide exceptional service to patients in a medical setting. In this role the essential duties performed include scheduling appointments, screening telephone calls, obtaining and entering patient registration information, releasing appropriate medical information, maintaining medical records and managing patient flow. Medical Reception students are instructed in the financial transactions of a practice and will have a clear understanding of all the activities in the billing and collection cycle. Students are provided a broad overview of medical law and the principles of medical ethics as well as the guidelines established by HIPAA.

This training also prepares students for the position of a hospital ward secretary.

Students successfully completing the program are awarded a Certificate of Completion.

**Autumn Entry:**

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**Paralegal Studies-A.A.S. Degree**
**Tom Stanton, Director**

This program is approved by the American Bar Association.

The Paralegal Studies program prepares students for challenging and diverse careers in private law practices and in the law-related areas of business, industry, and government. The goals of the Paralegal Studies program are to enable students, through theoretical and practical legal education, to understand the function of law, to work as paralegals in the effective delivery of legal services, and to enhance the legal profession. This program is designed to equip students with skills to analyze legal issues and to perform a variety of activities including drafting legal documents, interviewing clients, conducting legal research, and preparing cases for trial. Students utilize current technology through Internet research and legal and general office software applications. Paralegal studies students receive the necessary legal training to take advantage of new career opportunities in all sectors of the economy. Students are exposed to the principles of legal ethics and are cautioned regarding restrictions against the unauthorized practice of law by laypersons.

The Associate of Applied Science degree is awarded upon successful completion of the program.

Students entering autumn semester may complete the program in four semesters as outlined below. Students entering spring should meet with advisor prior to selecting courses.

Students attend classes on both the Mountain and East campuses.

**Autumn Entry:**

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<th>Year</th>
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**Courses**

- **ACC**
  - **U 131T Essentials of Accounting 4 cr.** Offered autumn and spring. Introduction to basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, cash control and completing the accounting cycle.
  - **U 132T Accounting I 4 cr.** Offered autumn and spring. Basic double-entry accounting. Emphasis on analyzing, journalizing, and posting transactions; trial balance, worksheet, financial statements, and adjusting/closing procedures, accounting systems, and cash control.
  - **U 133T Accounting II 4 cr.** Offered autumn and spring. Prereq., ACC 132T with competency test score of 75% or better. Expansion of ACC 132T including receivables, inventories, plant and intangible assets, and expanded liabilities. Includes partnerships, corporations, long-term liabilities, investments in debt and equity securities, and the statement of cash flow.
  - **U 134T Payroll Topics 3 cr.** Offered autumn and spring. Prereq., ACC 132T with competency test score of 75% or greater. Comprehensive payroll course including computation/preparation of paychecks, completing deposits and payroll tax returns, informational returns and issues relating to identification and compensation of independent contractors. Includes state and federal payroll law.
  - **U 195T Special Topics Variable cr. (R-5)** Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
  - **U 232T Nonprofit Accounting 3 cr.** Offered spring. Prereq., ACC 132T-133T or ACC 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 ACC 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 ACC 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 250T Accounting Capstone 4 cr.** Offered spring. Prereq., ACC 234T, 236T, 237T, or equivalent, and consent of instr. Capstone class integrating accounting software, income and payroll tax preparation, financial statement preparation, ratio analysis, financial report writing and presentation.
  - **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 90 hours 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.** Develop skills to implement major and career decisions within the University and in transition to business and industry.

**U 106T Records and Information Management 2 cr.** Offered autumn and spring. Introduction to alphabetic filing techniques and electronic database records management. Current technical developments utilizing automated records systems, biometric access control devices, electronic file organization, ergonomics, the Internet, image technology, and integrated security systems.

**U 109T Visual Merchandising and Display 3 cr.** Offered spring. Introduction to various techniques used by retailers in the merchandising and displaying of goods. Analysis of different approaches and methods for effectiveness in actual retail settings. Includes display principles of balance, color, and focal point statements.

**U 112T Professional Sales 2 cr. Offered autumn.** Includes the steps in opening, presenting, demonstrating, handling objections, and closing the sale. Students gain expertise through role-playing activities and written presentations.

**U 113T Psychology of Selling 3 cr. Offered spring.** Development of selling techniques which are used by many of the world's best companies and explanation of why they work. Includes the psychological reasons that prevent a prospect from purchasing a product or service and the techniques to motivate a prospect to buy.

**U 120T Transcription and Text Editing 2 cr. Offered autumn and spring. Prereq., COM 115, CRT 108.** Techniques of accurate and rapid transcription from taped material. Computers are used as input devices. Includes making formatting and printing decisions with various types of business correspondence. Increases competency in spelling, grammar, and punctuation.

**U 125T Principles of Marketing 3 cr. Offered autumn.** An overview of marketing activities including the consumer buying decision process, distribution channels, the planning process, and new marketing trends. Students learn how to introduce a new product into the marketplace, target markets, and promote products through advertising and package design.

**U 135T Business Law 3 cr. Offered spring.** An overview of law as it applies to business transactions. Topics include the nature and source of law; courts and procedure; contracts, sales, and employment; commercial paper; bailments; property; business organizations; insurance; wills and estate planning; consumer and creditor protection; torts; criminal law; and agency law. Credit not allowed for both BUS 135T and BADM 257.

**U 140T Customer Service 4 cr. Offered spring.** Designed to prepare employees and managers to meet customers' expectations. Review of customer service philosophy and techniques. Services marketing, quality issues, service design and delivery, customer interaction systems, complaint handling and service recovery, customer relationships, loyalty management, and operations are addressed.

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

**U 196T Independent Study Variable cr. (R-9) Offered intermittently.**

**U 224T Advertising and Promotion 3 cr. Offered spring.** Exposure to the history and fundamentals of advertising; in-depth exploration of advertising media, budget plans, ad campaign designs, and in-house promotion designs; and the production of actual radio, television, and print advertising.

**U 240T Administrative Support for the Automated Office 2 cr. Offered autumn.** Prereq., CRT 108. Overview of the procedures and scope of the administrative assistant's role in today's automated office, including traditional and electronic communications, operation of multi-media equipment, and managing office technology.

**U 242T Supervision 3 cr. Offered spring.** The supervisor's role in management, organizing, staffing, and training of personnel as well as managing problem performance. Includes motivating employees, improving departmental productivity as well as the legal concerns of supervision.

**U 243T Psychology of Management and Supervision 4 cr. Offered autumn.** Management theory, research, and the practice of management. Topics covered include leadership styles and techniques, effective communication approaches, time management, decision making, delegation, and the basic functions of supervisory skills.

**U 250T Entrepreneurship 3 cr. Offered spring. Prereq., CRT 100.** An overview of the skill areas and business principles needed to start and operate a small business. Includes developing a business plan, identifying sources of capital formation, managing growth, and marketing issues related to new ventures.

**U 290T Management Internship 2 cr. Offered autumn and spring. Prereq., consent of instr. On-the-job training in positions related to each student's career goal in management. This experience increases students' skills, prepares them for initial employment, and increases occupational awareness. Students work a minimum of six hours each week at an approved site and attend a weekly one-hour seminar.**

**U 296T Independent Study Variable cr. (R-9) Offered intermittently.**

**Culinary Arts (CUL)**

**U 151T Introduction to Food Service Industry 5 cr. Offered autumn.** Introduction to fundamentals in food handling practice, history, cooking methods, tool and equipment skills, safety and sanitation, recipe and menu development.

**U 156T Dining Room Procedures 3 cr. Offered autumn and spring.** Prereq., CUL 151T with a "C" or better. Introduction to foundations of dining room service and protocol. Includes techniques in dining room service. Personal hygiene, applied math, basic culinary terminology, beverage management, and table side cooking methods are practiced.

**U 157T Pantry and Garde-Manger 3 cr. Offered autumn and spring.** Prereq., CUL 151T with a "C" or better. Identification of fresh greens, vegetables, and fruits, general and specific uses, standards of quality, preparation, and presentation. Covers entrée salads, cold sauces, appetizers, finger sandwiches, pâtés, gelatins, 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 basic soups, stocks, sauces, glazes, thickening agents, and garnishes.

U 161T Meats and Vegetables 3 cr. Offered autumn and spring. Prereq., CUL 151T with a "C" or better. Hands-on experience with the fundamental cooking methods for meats, vegetables, grains, legumes, and pastas.

U 165T Baking and Pastry 3 cr. Offered autumn and spring. Prereq., CUL 151T, MAT 100 with a "C" or better or consent of instr. Introduction to various ingredients and how they affect the finished product. Covers six basic functions of ingredients and the techniques of scaling, pan preparation, sifting, chocolate, and pastry bag work.

U 175T Food Service Sanitation 2 cr. Offered fall. Introduction to fundamentals in safe and sanitary food handling practices. Emphasis on development of a well-designed food safety program centered on Hazard Analysis Critical Control Point (HACCP).

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., CTR 205T. Coordinates with computer applications course to create virtual food establishments. Includes capstone experience integrating menu planning/design, facilities, public, labor, purchasing, and kitchen preparation culminating in a formal, multi-course dinner.

U 275T Patisserie 2 cr. Offered spring. Prereq., CUL 165T, MAT 100 or consent of instr. Advanced principles and techniques in preparing custard sauces, pastry cream, puddings, custards, mousses, Bavarians, soufflés, ices, crepes, fruits, and dessert sauces. Emphasis on presentation of plated desserts.

U 290 Internship 4 cr. Offered spring. Prereq., enrolled in final semester of program, minimum of "C" in all CUL and FSM courses, or recommendation of Culinary Program Director. On-the-job training in position related to each student’s career goal. This experience increases students’ skills, prepares them for initial employment, and increases occupational awareness and professionalism. Students work a minimum of twelve hours each week at an approved site and attend scheduled one-hour seminars.

U 295T Special Topics 1-9 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Human Resources (HMR)

U 110T Introduction to Public Relations 3 cr. Offered autumn and spring. Introduction to the origin, scope, and nature of public relations activities. Investigation of policies, strategies, and procedures available to an organization in establishing and controlling its communications. Exploration of the impact of public relations and media through case studies and writing exercises.

U 232T Wage and Benefits Administration 4 cr. Offered spring. Emphasis on human resource law. Topics include compensation and benefits terminology, administration of employee benefits, and compensation programs. Comprehensive project includes job analysis, job descriptions and evaluations, wage surveys, pay structures and creation of compensation system. Also includes performance evaluations and strategic use of benefits/wages.

U 290T Administrative Management Internship 2 cr. Offered autumn and spring. Prereq., last semester in program, minimum of "C" in program courses, and approval of program director. On the job training in positions related to each student’s career goal in the administrative field. This experience increases students’ skills, prepares them for initial employment and advancement on the job, and increases occupational awareness and professionalism. Students work 90-hours at an approved site and attend a weekly one hour seminar.

U 295T Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Legal Studies (LEG)

U 183T Contracts 2 cr. Offered spring. Sources of law affecting the formation, enforceability, and interpretation of contracts. Includes the necessary elements of a contract, the basic doctrines of contract law, and practical approaches to drafting a contract.

U 184T Legal Ethics 2 cr. Offered autumn. Introduction to ethics for the paralegal, including confidentiality, paralegal-attorney relationship, fee arrangements, Code of Professional Conduct, attorney-client privilege, fiduciary responsibilities, and public service.

U 185T Introduction to Paralegal Studies 3 cr. Offered autumn. Introduction to the paralegal career including ethical and professional standards. Overview of the American legal system, substantive areas of practice, legal analysis and investigation, law office administration and related terminology.

U 186T Introduction to Legal Research 2 cr. Offered autumn. Prereq., acceptance into program or consent of instr. Introduction to legal research focusing on how to find, use, understand, and correctly cite legal resources. Chemical research methods are presented. Application of legal research to writing is introduced.

U 187T Legal Research and Writing I 2 cr. Offered spring. Prereq., LEG 186T. Advanced legal research focusing on how to find, use, understand, and correctly cite legal resources. Electronic research methods are presented. Application of legal research to writing is introduced.

U 188T Principles of Real Estate 2 cr. Offered spring. Prereq., LEG 185T or consent of instr. The study of
property law focusing on the nature and ownership of real property, title insurance, legal descriptions, and the
transactional aspects of financing methods involving trust indentures, mortgages, and contracts for deed, with closing
and recording procedures.

U 189T Criminal Procedures 3 cr. Offered spring.
Criminal prosecution and defense representation with an overview of criminal law principles. Training in criminal
procedure involving felonies and misdemeanors in federal, Montana, and municipal courts.

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

U 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 immediate
importance. Although the course has delineated structure,
the nature of the course will allow relevant concentrated focus as
well as traditional disciplined examination of numerous areas
of law practice and theory. The various pedagogical modules
will offer students the opportunity to explore statutory
structure, analyze case law and draft legal forms.

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, post-trial 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 legal
teacher/case law synthesis, drafting correspondence,
pleadings, discovery documents, persuasive writing. Upon
completion of this course, the student will be able to:
research, analyze, synthesize, and prioritize law cases,
treatises, doctrines, theory of the law, legal rules, and other
memoranda relating to that information as would be
anticipated in a law office.

U 288T Estate Administration 2 cr. Offered spring.
Prereq., LEG 185T or consent of instr. This course provides
an overview of the law as it applies to wills, trusts, and estate
matters. Topics include the nature and sources of the law
relating to wills, trusts, and estates, estate planning, intestate
succession, family protection, probate, and estate taxes.

U 290T Paralegal Studies Internship 2 cr. Offered
autumn and spring. Prereq., last semester in program,
minimum of "C" in LEG courses, and approval of program
director. On-the-job experience as a paralegal trainee under
the supervision of an employer, attorney, or court official.
This experience increases students' skills, prepares them for
initial employment and advancement on the job, and increases
occupational awareness and professionalism. Students work a
minimum of 90 hours at an approved site and attend a weekly
one-hour seminar.

U 295T Special Topics 1-6 cr. (R-6) Offered
intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current

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. 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 student 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 the recording medical records by disease and operation.

U 216T  Terminology for Health Professions I  2 cr.  Offered autumn.  Prereq., MED 154T; prereq. or coreq., SCN 115N or SCN 201N-202N.  A system approach to medical word building including pathology of body systems, abbreviations, and special procedures including radiographic, surgical, and laboratory.  Emphasis on transcription and editing medical records for content and clarity.

U 219T  Terminology for Health Professions II  3 cr.  Offered autumn and spring.  Prereq., CRT 108; prereq. or coreq., MED 216T.  An introduction to the transcription of authentic physician-dictated medical reports in a variety of medical specialties.  Emphasis on the development of accuracy and speed in interpreting, transcribing, and editing medical dictation for content and clarity.

U 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 introduction to 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 257T  Medical Transcription I  3 cr.  Offered autumn and spring.  Prereq., CRT 108; prereq. or coreq., MED 216T.  An introduction to the transcription of authentic physician-dictated medical reports in a variety of medical specialties.  Emphasis on the development of accuracy and speed in interpreting, transcribing, and editing medical dictation for content and clarity.

U 258T  Medical Transcription II  3 cr.  Offered autumn and spring.  Prereq., MEDC 256T.  Advanced medical transcription of realistic physician-dictated medical reports in a variety of medical specialties.  Emphasis on production and increased speed in interpreting, transcribing and editing medical dictation for content and clarity.

U 270T  Terminology for Health Professions II  2 cr.  A systems approach to medical word building including pathology of body systems, pharmacology, abbreviations, and special procedures including cardiovascular, pulmonary and gastrointestinal.

U 290T  Medical Information Technology Internship  3 cr.  Offered autumn and spring.  Prereq., last semester in program, minimum of "C" in SEC courses, and approval of program director.  On-the-job training in positions related to each student's career goal in the medical information field.  This experience increases students' skills, prepares them for initial employment and advancement on the job, and increases occupational awareness and professionalism.  Students work a minimum of 135 hours at an approved site and attend a weekly one-hour seminar.

U 296T  Independent Study  1-6 cr. (R-6) Offered intermittently.

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**Department of Health Professions**

Anne Delaney, Chair

**Special Degree and Certificate Requirements**

The Health Professions Department of the University of Montana seeks to prepare students to be health practitioners who are technically competent and who are effective in a variety of clinical, agency and community settings. The Health Professions Department offers five Associate of Applied Science (A.A.S.) Degrees, one Associate of Science (A.S.) Degree, and one certificate program with courses and learning experiences that contribute to understanding the health needs of individuals and society. Clinical affiliations and on-site experiences are essential elements of all programs; local communities, their agencies, and organizations are a valuable resource and provide cooperative learning experiences in health delivery systems.

The goals of the Health Professions Department are:

1. To provide programs of study which integrate a variety of health-related disciplines to prepare students for careers in health professions.
2. To contribute to the liberal education of students through courses designed to provide an understanding of human health, fitness and health delivery systems.
3. To meet the continuing education needs of health professionals.

The Health Professions Department offers A.A.S. degrees in Medical Assisting, Practical Nursing (PN), Radiologic Technology, Respiratory Care, Surgical Technology, an A.S. degree in Registered Nursing (ASRN), and a certificate in Pharmacy Technology. Admission to a specific Health Professions (HP) program requires documented completion of the Associate of Arts (AA) prerequisite courses as required by the specific HP program to which the student is applying. The AA prerequisite courses are different for each HP program and are listed in the specific program description in this catalog. A general health core curriculum course may be attempted a maximum of two (2) times. Any general health core course required for an HP program must be taken prior to acceptance into the program. Additional requirements for...
admission to each of the HP programs vary and are also listed in the specific program descriptions.

Students enter the University of Montana as AA-General Studies majors and select courses from the required prerequisite courses after conferring with an HP advisor. Assessment of writing for placement in writing courses follows University guidelines and is offered during orientation and at various times during the semester. Math placement is determined by a placement test. Placement testing assures that students are enrolled in the appropriate course to ensure success in writing and math studies.

Admission to a health program requires a completed application for the specific program to which the student is applying, with documented completion of the program specific prerequisite courses. For program specific admission requirements and grade point average (GPA) expectations, please refer to the individual program descriptions or contact the specific HP Program Director. Applications can be obtained on the respective HP Program webpage. Students must submit a separate application to each HP program they desire admission to. If a student is accepted to multiple programs, the student can only accept admission to one HP program and must decline admission to the other program(s).

Deadlines for applications are April 1 and November 1.

Students provide proof of the following health requirements prior to beginning the clinical portion of HP programs:

1. Tuberculosis testing using the purified protein derivative (PPD) or chest x-ray (positive results will require a physician’s letter before a student can continue in clinical settings).
2. Hepatitis B vaccine (HBV) for clinical experiences with potential exposure to blood-borne pathogens. A three-injection series is required and may be obtained at Curry Health Center or other health care providers. Students are urged to begin this series as soon as notified of acceptance into an HP program. An acceptable level of hepatitis B immunity must be demonstrated by a post vaccination titers test performed by a medical laboratory.
3. American Heart Association adult, child and infant CPR certification for health care providers.
4. Eye exams are required for surgical technology students due to work with lasers in surgery.
5. Respiratory care students must pass neonatal resuscitation (NRP) prior to their neonatal clinical experience. Respiratory care students are also required to have a physical exam, a ten-panel drug screen, and a police backgrounds check prior to entering clinical experiences.
6. Medical Assisting student must complete First Aid certification.

Many licensing bodies/employing institutions in health care have increasingly stringent requirements and background checks as conditions for licensing or employment. If students have a concern about this they should contact the licensing board for their specialty (contact information may be obtained from appropriate HP Program Director).

**Course Fees and Supplies**

Most programs in the Health Professions Department include courses with course fees and special supplies requirements. To obtain a complete listing of these additional items and costs, call the College of Technology Admissions Office at 406-243-7865.

**Health Professions AA Prerequisites**

The groups of courses are different for each HP program and are listed in the specific program description. Some program courses may not be offered in all semesters. Consult the HP Program Director or Program Advisor regarding which courses to take and when to enroll.

There are other courses which will enhance HP program studies and improve a student’s ability to provide quality health care. Students may take these additional courses prior to acceptance to a HP program. Courses should be selected with the assistance of an approved HP program advisor, as taking too many courses may adversely affect financial aid. These courses include, but are not limited to:

- BIOL 106N Elementary Medical Microbiology
- CHEM 151N General and Inorganic Chemistry
- CHEM 152N Organic and Biological Chemistry
- CHEM 154N Organic and Biological Chemistry Laboratory
- MAT 117 Probability and Linear Math
- MAT 118 College Algebra
- MED 154T Beginning Medical Terminology
- MED 280E Medical Ethics
- PSY 100S Introduction to Psychology
- PSY 110S Organizational Psychology
- PSY 201 Human Development (prereq. PSY 100S)
- SCN 150N Nutrition
- SCN 175T Integrated Science
- SCN 220 Human Physiology
- SOC 100S Introduction to Sociology

### Medical Assisting-A.A.S. Degree

**Jacqueline (Jacki) Elam, Program Director**

Students in Medical Assisting are trained in front office administrative skills and back office clinical skills to assist healthcare practitioners in administering to the needs of patients. Students gain skills in scheduling, medical office accounting systems, medical coding and billing, transcription, phone triage and are trained to assist with medical examinations and treatment and to work as a team member in the medical office environment. Students learn to take medical histories and obtain vital signs, give medications and injections (under supervision), draw blood, perform diagnostic tests and office laboratory procedures, sterilize instruments and maintain equipment. Additionally, medical assisting students are exposed to the principles of medical ethics and medical legal issues facing health care providers. Students successfully completing the program are awarded the Associate of Applied Science degree.

Students entering the Medical Assisting program must have earned a “C” or better in all the AA prerequisite courses listed below. A course may be attempted a maximum of two times. As some courses are offered fall or spring semester only, it is important to obtain advising with the Program Director each semester prior to registering for the next semester. Students may apply for either autumn or spring semester program admission.

**Course**

Upon award of the A.A.S. degree in Medical Assisting, students are eligible to take the Registered Medical Assistant (RMA) national registration exam administered by the American Medical Technologists upon completion of the program. Students are responsible for filing required forms, associated fees, and ordination transcripts.

#### AA Prerequisite Courses

to be successfully completed prior to application to the program. An AA prerequisite course may be attempted a maximum of two (2) times:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Description</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>CRT 100</td>
<td>Computer Literacy or Competence</td>
<td>2</td>
</tr>
<tr>
<td>MAT 117</td>
<td>Probability and Linear Math</td>
<td>3</td>
</tr>
<tr>
<td>MED 154T</td>
<td>Beginning Medical Terminology</td>
<td>2</td>
</tr>
<tr>
<td>SCN 201N</td>
<td>Anatomy and Physiology</td>
<td>4</td>
</tr>
<tr>
<td>WTS 115</td>
<td>Technical Writing</td>
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**Medical Assisting Program Curriculum**

First Year

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<tr>
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<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>S</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Hours</td>
</tr>
<tr>
<td>-------------</td>
<td>--------------------------------------------------</td>
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</tr>
<tr>
<td>ACC 131T</td>
<td>Essentials of Accounting</td>
<td>4</td>
</tr>
<tr>
<td>BS 140T</td>
<td>Customer Service</td>
<td>4</td>
</tr>
<tr>
<td>COM 150S</td>
<td>Interpersonal Communications</td>
<td></td>
</tr>
<tr>
<td>CRT 108</td>
<td>Word Processing</td>
<td>2</td>
</tr>
<tr>
<td>MED 295T</td>
<td>Terminology for Health Professions</td>
<td>3</td>
</tr>
<tr>
<td>MED 280E</td>
<td>Ethics for Health Professions</td>
<td>3</td>
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<tr>
<td>PSY 100S</td>
<td>Introduction to Psychology</td>
<td></td>
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<tr>
<td>SCN 202N</td>
<td>Anatomy &amp; Physiology</td>
<td>4</td>
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<tr>
<td>PSY 185</td>
<td>Human Physiology</td>
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<tr>
<td>PHA 103T</td>
<td>Hospital and Community Practice*</td>
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<tr>
<td>PHA 105T</td>
<td>Internship</td>
<td>5</td>
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</table>

*In order to facilitate access to the laboratory, PHA 103T, Hospital and Community Practice, may be offered during the time period of January. The program director will provide a complete schedule at the beginning of the autumn semester.

### Practical Nursing-A.A.S. Degree

**Mary Nielsen, Program Director**

The College of Technology offers an Associate of Applied Science degree (AAS) in Practical Nursing. Applicants for the PN program must have a high school diploma or equivalency, have completed the AA prerequisite courses with a minimum grade of C, except in SCN 201N and 202N which requires a B or higher grade, and possess a cumulative GPA of at least 2.75. Admission to the program also requires completion of the application which can be obtained on the UM COT Nursing webpage. Application deadlines are April 1 and November 1.

A student may apply while enrolled in the AA prerequisite courses with acceptance to the program to be determined after the currently completed semester grades are finalized.

The 20 students who meet the selection criteria will be accepted into the nursing portion of the program. Applicants must prove computer literacy either by successfully passing a challenge examination or transferring in an equivalent course or passing CRT 100. Students learn practical nursing skills through independent study, lectures, simulation demonstrations, and practice in a nursing skills lab. Under instructor supervision, students also provide patient care in a variety of health care settings. The program is approved by the Montana State Board of Nursing. Accreditation by the National League for Nursing (NLN) is being sought.

Students must provide proof of the following health requirements to the PN administrative assistant on or before the first day of class: 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); hepatitis B vaccine (HBV), a three injection series that may be obtained at Curry health Center and other health care providers, measles, mumps, and rubella (MMR) (those born before 1986 and were not required to have an MMR, a titer must be completed, tetanus, and CPR training for health care providers.

Many licensing bodies/employing institutions in health care have increasingly stringent requirements and background checks as conditions for licensing or employment. If students have a concern about this, they should contact the licensing board for nursing at dhsbdsr@mt.gov.

PN program graduates are eligible to write the National Council Licensure Examination (NCLEX) for Practical Nurses. After licensure, graduates typically find employment in hospitals, nursing homes, physician offices and other health care agencies. They work under the supervision of a registered nurse, physician, dentist, osteopath or other health care provider as specified in the State of Montana Nurse Practice Act.

### AA Prerequisite Courses

To be completed prior to application to the program. An AA prerequisite course may be attempted a maximum of two (2) times.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 151N</td>
<td>General and Inorganic Chemistry</td>
<td>3</td>
<td>A/S</td>
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<tr>
<td>CHEM 153N</td>
<td>General and Inorganic Chem Lab</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MAT 117</td>
<td>Probability and Linear Mathematics or MAT 118</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>College Algebra</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>NUR 101</td>
<td>Introduction to Nursing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>PSY 100S</td>
<td>Introduction to Psychology</td>
<td>3</td>
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</tr>
<tr>
<td>PSY 201</td>
<td>Human Development through the Life Span</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

**Pharmacy Technology-Certificate**

**Mary McHugh, Program Director**

In the Pharmacy Technology Program at the University of Montana-College of Technology, students are prepared to function in hospital-based pharmacies and retail pharmacies. The two semesters of the program include classroom, lab, and clinical site learning opportunities. Lab and internship hours allow students to integrate their classroom knowledge into the practical setting. Students are required to rotate to clinical sites and some may be outside the Missoula area.

The Pharmacy Technology Program is an Autumn entry program. Applicants to the Pharmacy Technology program must complete the program specific application packet and have earned a "B" or better in all the AA prerequisite courses listed below. A course may be attempted a maximum of two times. Once accepted into the program, all students are expected to complete the PHA classes with a B or higher.

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).

### AA Prerequisite Courses

To be successfully completed prior to application to the program. An AA prerequisite course may be attempted a maximum of two (2) times.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT 100</td>
<td>Computer Literacy or Competence</td>
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<tr>
<td>WTS 115</td>
<td>Technical Writing</td>
<td>3</td>
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<td>MAT 100D</td>
<td>Intermediate Algebra</td>
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<tr>
<td>MED 154T</td>
<td>Beginning Medical Terminology</td>
<td>2</td>
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<tr>
<td>SCN 201N</td>
<td>Anatomy and Physiology</td>
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### Pharmacy Technology Program Curriculum:

**First Year**

<table>
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<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
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<tr>
<td>COM 150S</td>
<td>Interpersonal Communications</td>
<td>3</td>
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<tr>
<td>PSY 110S</td>
<td>Organizational Psychology</td>
<td>3</td>
<td></td>
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<tr>
<td>PHA 100T</td>
<td>Introduction to Pharmacy Practice</td>
<td>3</td>
<td></td>
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<tr>
<td>PHA 101T</td>
<td>Pharmacy Calculations</td>
<td>3</td>
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</tr>
<tr>
<td>PHA 102T</td>
<td>Pharmacology</td>
<td>6</td>
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</table>
Registered Nursing-A.S. Degree

Mary Nielsen, Program Director

The Associate of Science degree program articulates with the PN program and requires at least two further semesters of full-time study. Applicants must have completed a PN program with the AA prerequisite courses listed in the practical nursing catalog. The catalog requires a cumulative GPA of at least 2.75, possession of a current unencumbered LPN license, and successful completion of a placement test. Students must prove competence with computer technology in one of the following three ways: Acceptable transfer credit for CRT 100; Pass the challenge exam for CRT 100; Take and pass CRT 100.

Students who have begun the PN program under an earlier catalog will have a slightly different course of study. Please see a program advisor for the correct schedule of courses.

Scope and Sequence of the Practical Nursing Program

<table>
<thead>
<tr>
<th>First Year</th>
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<tbody>
<tr>
<td>NUR 103 Nursing Fundamentals</td>
<td>3</td>
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<tr>
<td>NUR 151 Drug Administration and Calculation</td>
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<tr>
<td>NUR 154 Pharmacology I</td>
<td>2</td>
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<tr>
<td>NUR 155 Adult Physiological Needs I</td>
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<tr>
<td>NUR 164 Pharmacology</td>
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<td>-</td>
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<tr>
<td>NUR 165 Adult Physiological Needs II</td>
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<td>-</td>
</tr>
<tr>
<td>NUR 160 Childbearing and Family Needs</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>NUR 169 Nursing Trends and Issues</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>NUR 170 NCLEX Review (elective)</td>
<td>2</td>
<td>-</td>
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</table>

Radiologic Technology-A.A.S. Degree

Anne Delaney, Program Director

A Radiologic Technologist uses critical thinking and independent judgment to obtain a diagnostic imaging study while maintaining quality patient care and minimizing radiation exposure. Technologists are employed in acute care settings, ambulatory care settings, physicians' offices, in education, and in management or sales positions. With additional education and training, radiographers may be employed in radiation therapy, computed tomography, mammography, magnetic resonance imaging, diagnostic medical sonography, nuclear medicine, special vascular imaging and cardiology.

The Associate of Applied Science degree in Radiologic Technology requires students to successfully complete the AA prerequisite courses prior to applying to the program. Students admitted to the University of Montana may enroll in the AA prerequisite courses. Students must pass SCN 201N-202N with a minimum grade of "B" and have a minimum cumulative GPA of 2.75 in the AA prerequisite courses to apply to the Radiologic Technology program. Application to the program is required spring semester the year prior to the autumn semester program start. Students may apply while enrolled in the AA prerequisite courses with acceptance to the program to be determined after spring grades are finalized. The program classes begin autumn semester each year with four semesters consisting of classroom and clinical education. A ten-week summer clinical rotation is required between the first and second years and consists of 40 hour per week of clinical instruction.

Once accepted in the program, all students are expected to complete SCN 202N and all courses with a RAD rubric with a minimum grade of "B" or continue in the program.

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. Transportation and housing are the student’s responsibility.

AA Prerequisite Courses

To be successfully completed prior to application to the program. An AA Prerequisite course may be attempted a maximum of two (2) times:

- MAT 117 Probability and Linear Math or MAT 118 College Algebra
- CHEM 151N General and Inorganic Chemistry
- CHEM 153 General and Inorganic Chem Lab
- COM 150S Interpersonal Communication
- SCN 220 Human Physiology (required if student has not taken SCN 202)
- SOC 110S Principles of Sociology
- Radiologic courses
- NUR 240 LPN to RN Transition
- NUR 265 Advanced Adult Physiological Needs
- NUR 250 Mental Health Nursing Needs
- NUR 260 Advanced Obstetrics and Pediatrics
- NUR 275 Management, Ethics and Internship
- Total
Students must prove competence with computer technology in one of the following three ways: Acceptable transfer credit for CRT 100; Pass the challenge exam for CRT 100; Take and pass CRT 100.

Radiologic Technology Program Curriculum

<table>
<thead>
<tr>
<th>First Year</th>
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</thead>
<tbody>
<tr>
<td>COM 160A Oral Communications</td>
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<tr>
<td>PSY 110S Organizational Psychology</td>
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<td>RAD 110T Introduction to Radiology and Patient Care</td>
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<td>RAD 111T Radiological Procedures I</td>
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<td>RAD 121T Radiographic Imaging I</td>
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<td>RAD 141T Radiographic Protection</td>
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<td>RAD 251T Radiographic Clinical Education III</td>
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<td>RAD 261T Radiographic Clinical Education IV</td>
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Summer Session

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<td>RAD 161T Radiographic Clinical Education II</td>
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Second Year

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<td>MED 280E Ethics n Health Professions</td>
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<td>RAD 122T Radiographic Imaging II</td>
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Respiratory Care-A.A.S. Degree

Robert Waflset, Program Director

Respiratory Care is an allied health speciality. 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 critical 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:

- acquirong and evaluating clinical data;
- assessing the cardiopulmonary status of patients;
- performing and assisting in the performance of prescribed diagnostic studies, such as drawing blood samples, performing blood gas analysis, pulmonary function testing, and applying adequate recording electrodes using polysomnographic techniques;
- utilizing data to assess the appropriateness of prescribed respiratory care;
- establishing therapeutic goals for patients with cardiopulmonary disease;
- participating in the development and modification of respiratory care plans;
- case management of patients with cardiopulmonary and related diseases;
- initiating ordered respiratory care, evaluating and monitoring patients' responses to such care, modifying the prescribed respiratory therapy and cardiopulmonary procedures, and life support endeavors to achieve desired therapeutic objectives;
- initiating and conducting prescribed pulmonary rehabilitation;
- providing patient, family, and community education;
- promoting cardiopulmonary wellness, disease prevention, and disease management;
- participating in life support activities as required; and
- promoting evidence-based medicine, research, and clinical practice guidelines.

Starting salaries are excellent with premiums paid for evening, night, and weekend shifts. Jobs are plentiful throughout the United States. Graduates are eligible to take the credentialing examinations administered by the National Board for Respiratory Care (NBRC) which lead to the Registered Respiratory Therapist (RRT) credential. Licensure requirements in the state of Montana also are met by successful completion of the NBRC Entry Level (CRT) examination.

The program is 4 1/2 semesters in length which includes the AA prerequisite courses 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 accepted to the program are required to rotate to clinical sites outside the Missoula area on a periodic basis. These rotations take place during the spring semester, summer session and autumn semester of the second year. These sites may include, but are not limited to: Kalispell, Ronan, Polson, Butte, Billings, Bozeman, Hamilton, Helena, Coeur d'Alene and Lewiston, Idaho and Spokane, Washington. Transportation and housing are the student's responsibility.

Program Admission Requirements

1. Completion of all general health core courses with a minimum 2.75 GPA in the core courses.
2. Minimum grade of B minus in SCN 201N and SCN 202N.
3. Previous health care experience is preferred. Applicants are required to "job shadow" a Respiratory Care practitioner in the workplace. Consult the Respiratory Care Program Director for details.
4. Submit completed application packet to the HP Administrative Assistant by April 1 for autumn entry into the program.

Note: If a student has not completed the general health core courses until the end of summer session, he/she should still apply in spring semester and request a provisional acceptance contingent upon successful completion of general health core courses during the summer session.

AA Prerequisite Courses

To be successfully completed prior to application to the program. An AA prerequisite course may be attempted a maximum of two (2) times.

- MAT 117 Probability and Linear Math or MAT 118 College Algebra .................................................. 3
- PSY 110S Organizational Psychology ........................................... 3
- SCN 201N-202N Anatomy and Physiology ................................... 8
- WTS 115 Technical Writing or WTS 101 English Composition .................. 3
Students must prove competence with computer technology in one of the following three ways: Acceptable transfer credit for CRT 100; Pass the challenge exam for CRT 100; Take and pass CRT 100.

**Respiratory Care Program Curriculum**

**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 233T Cardiopulmonary Anatomy and Physiology 3
- RES 250T Respiratory Care Laboratory II 2
- RES 255T Clinical Experience I 6

**Total: 17**

**Summer Session:**

- RES 260T Respiratory Care Laboratory III 1
- RES 265T Clinical Experience II 9

**Total: 10**

**Autumn Semester:**

- 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 2
- RES 275T Clinical Experience III 7

**Total: 15**

**Surgical Technology-A.A.S. Degree**

**Debbie Fillmore, Program Director**

Students in the program are educated to be Surgical Technologists who work as part of the surgical team to ensure the operative procedure is conducted under optimal conditions. The ST is responsible for three phases (preoperative, intraoperative, and postoperative) of patient care with minimal direction. All surgical team members must adhere to the principles of asepsis and the practice of sterile technique. The ST normally functions in a sterile capacity, passing instruments, equipment and supplies to the surgeon during the surgical procedure but may also perform many non-sterile duties throughout the workday.

The Associate of Applied Science Degree (A.A.S.) in Surgical Technology requires students successfully complete the AA prerequisite courses. Please check with the program director for specific courses required. The course, SCN 201N, Anatomy and Physiology I, must be passed with a grade of B (3.0). All other prerequisite courses must be passed with a grade of C (2.0). Students admitted to the University of Montana may enroll in the prerequisite courses. The program-specific courses begin in the spring semester. Students must apply to the ST program by November 1. Students may apply while enrolled in the AA prerequisite courses with acceptance to the program to be determined after fall grades are finalized.

Once accepted to the program, a student must complete each Surgical Technology-specific course (those courses with a SUR prefix) with a minimum grade of “C” (80%) in order to continue in the ST program. If a student does not pass the required courses with a grade of “C” (80%), he/she will not be able to continue in the program and will need to apply for re-admission. If a student is re-admitted, he/she will be required to complete skills labs, SUR 102T and SUR 202T, to ensure sterile techniques are acceptable for patient care. A student will become a member of the Association of Surgical Technologists (www.ast.org) during the first semester in the program. A student anticipating program completion will write the National Certification Exam prior to graduation. A student who successfully completes the ST program is awarded an A.A.S. degree in Surgical Technology. The credential of Certified Surgical Technologist (CST) will be awarded to a student upon passing the National Certification Exam and graduation from the ST program.

Students are required to rotate sites during the clinical portion of their education. During the last semester of the program, internships may be outside the Missoula area.

Transportation and housing are the student's responsibility.

The University of Montana College of Technology Surgical Technology Program also has Outreach campuses in Butte and Billings. Students on those campuses take the equivalent AA prerequisite courses on their respective campuses. The Surgical Technology-specific courses begin in the spring semester. Students must apply to the ST program by November 1. Students may apply while enrolled in the AA prerequisite courses with acceptance to the program to be determined after fall grades are finalized. The classroom portion of the ST program curriculum is delivered in a web-based format using the Blackboard course delivery system from the Missoula campus. Lab and clinical courses are conducted on each Outreach campus. Outreach students are required to travel to Missoula to write the National Certification Exam and to participate in Commencement exercises. Prospective students may contact the Outreach Office at 406-243-7871 for more information regarding the ST Program on the Butte and Billings campuses.

The ST program is accredited by the Committee on Accreditation of Allied Health Education Programs (CAAHEP), 1361 park St., Clearwater, FL 33756; phone 727-210-2350, www.caahep.org.

**AA Prerequisite Courses**

A student may apply to the program either following completion of the AA prerequisite courses or during the semester completing the core. A prerequisite course may be attempted a maximum of two (2) times.

- WTS 115 Technical Writing or WTS 101 English Composition
- CRT 100 Computer Literacy or equivalent
- MAT 117 Probability and Linear Math or MAT 118 College Algebra
- MED 134T Beginning Medical Terminology
- PSY 100S Introduction to Psychology
- SCN 201N Anatomy and Physiology

**Surgical Technology Program Curriculum:**

**First Year:**

- BIOL 106N Elementary Medical Biology 3
- SCN 202N Anatomy and Physiology 4
- SUR 101T Introduction to Safe Patient Care 3
- SUR 102T Surgical Procedures Lab I 2
- SUR 154T Surgical Pharmacology 3

**Total: 15**

**Second Year:**

- SUR 200T Operating Room Techniques 5
- SUR 201T Surgical Procedures I 4
- SUR 202T Surgical Procedures Lab II 2
- SUR 233T Surgical Procedures Lab Pracum 4
- SUR 204 Ethical Dimensions in Health Professions 3
- SUR 205T Surgical Procedures II 5
- SUR 206T Surgical Lab Pracum II 5
- SUR 290T Surgical Internship 5

**Total: 18**

**Courses**
Nursing (NUR)

U 101 Introduction to Nursing 1 cr. Offered each semester. This online course is a prerequisite to the Practical Nursing program. Student will be presented with an introductory level of the core concepts of nursing practice and other issues such as the legal concerns and ethical/cultural issues that face professional nurses on a consistent basis.

U 103 Fundamentals of Nursing 3 cr. Offered autumn and spring. Prereq., SCN 201N-202N, MAT 117, WTS 101, SCN 150N, PSY 100S, CHEM 151 with lab, and acceptance into the practical nursing program. Introduces the student to basic principles and psychomotor skills to provide a framework for developing initial competencies in patient care. Campus lab experience is used initially. Off campus clinical experience in a long term care setting completes the hands on portion. Successful students are qualified to apply for certification as certified nurse assistants.

U 151 Drug Administration and Calculations 2 cr. Offered autumn and spring. Prereq., WTS 101, MAT 117, SCN 201N-202N, SCN 150N, PSY 100S, CHEM 151 with lab, and acceptance into the practical nursing program. Apothecary, metric, and household conversion factors and their application in solving dosage problems. On campus lab experience in administering medications by all routes.

U 154 Pharmacology I 2 cr. Offered autumn and spring. Prereq., MAT 117, SCN 201N-202N, SCN 250N, PSY 100S, CHEM 151 with lab, and acceptance into the practical nursing program. Fundamental principles of pharmacology as a means to meet human needs. Identification of broad medication categories using the prototype approach. Pharmacologic actions, uses, nursing implications, and client teaching for medications addressed within the context of nursing process.

U 155 Adult Physiological Needs I 4 cr. Offered autumn and spring. Prereq., SCN 201N-202N, SCN 150N, MAT 117, WTS 101, PSY 100S CHEM 151 with lab, and acceptance into the practical nursing program. Application of nursing theories and skills to meet the basic human needs of adult clients experiencing common, recurring actual or potential health complications. All campus 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 autumn spring. Prereq., Successful completion of the first semester of nursing courses. 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 164 Pharmacology II 2 cr. Offered autumn and spring. Prereq., All courses in the first semester nursing and concurrent enrollment in NUR 160 and 165. Continues the study of medication prototye 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 165 Adult Physiological Needs II 4 cr. Offered autumn and spring. Prereq., all courses in the second semester of the practical nursing program. Continued application of nursing theories, principles, and skills to meet human needs of adult clients experiencing more complex, recurring actual or potential physiologiclal, 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 166 Clinical Case Management Experience 2 cr. Offered intermittently. Prereq., all first semester practical nursing courses and consent of instr. Case study course that allows the student to work collaboratively with an identified LPN preceptor, performing the role expectations for care in that workplace setting.

U 169 Nursing Trends and Issues 3 cr. Offered intermittently. Prereq., all first semester nursing courses and concurrent enrollment in NUR 255 and 160 or consent of instr. Transition from the student role to that of the graduate nurse. Communication skills in the workplace, ethical/legal issues and professional responsibilities are included. Leadership and management roles are examined. Skills necessary to obtain and retain employment are stressed. A practice examination to assess readiness for the NCLEX licensure exam is administered.

U 170 Nursing Review 2 cr. Offered autumn and spring. Prereq., Successful completion of all courses in the first semester of the practical nursing program. Preparation for the national test for LPN licensure.

U 196T Independent Study 1-6 cr. (R-6) Offered intermittently.

U 240 LPN to RN Transition 2 cr. Offered autumn and spring. Prereq., admission to the registered nursing program and current unencumbered LPN license. 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 autumn and spring. Prereq., Successful completion of first semester of the registered nursing courses 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 260 Advanced Obstetrics and Pediatrics 3 cr. Offered autumn and summer. Prereq., NUR 240 and NUR 230, admission to the registered nursing program and current unencumbered LPN license. Presentation of concepts and principles related to the registered nurse providing nursing care for childbearing families and children who are experiencing complex alterations in the functional dimension of health. Focus on the use of the nursing process in assessment and application of advanced concepts in the care of the child-bearing family, or a child with more complex health care problems from birth through adolescence. Exploration of special needs and complications during the perinatal experience, and altered functioning, special needs and disease processes manifested in children.
U 265 Advanced Adult Physiological Needs 4 cr. Offered autumn and spring. Prereq., 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 275 Leadership, Management, and Internship 2 cr. Offered autumn and spring. Prereq., Successful completion of first semester of the registered nursing courses and current unencumbered LPN license. 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.

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 including preparation, maintenance, and storage of pharmacy records. Basic concepts of computer operations including input, output, computer hardware and software, microcomputers, and basic computer operations. 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 and nuclear systems, 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 3 cr. Offered spring. Prereq., PHA 154T. Continuation of PHA 154T.

U 195T Special Topics 1-6 cr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196T Independent Study 1-6 cr. (R-6) Offered intermittently.

Radiologic Technology (RAD)

U 110T Introduction to Radiology and Patient Care 3 cr. Offered fall. 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 fall. 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 x-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 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 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 radiobiology. 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 nurs-
ech-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 perform 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 Neonatal Resuscitations (NRP) will be presented.


U 250T Respiratory Care Laboratory II 2 cr. Offered spring. Prereq., RES 120T, 129T, 131T, 133T, 150T. A continuation of RES 150T with emphasis on adult critical care. Clinical competencies taught in RES 231T and RES 235T are studied. Peer and instructor review included.


U 255T Clinical Experience I 5 cr. Offered spring. Prereq., RES 120T, 129T, 131T, 133T, 150T. Emphasis on the student directly performing basic clinical skills in a patient care setting to include hospitals, home care, and pulmonary function laboratories. Students also participate in physician rounds.

U 260T Respiratory Care Laboratory III 1 cr. Offered summer. Prereq., RES 231T, 232T, 235T, 250T, 255T. Peer and instructor review are included. Students will be Advanced Cardiac Life Support (ACLS) and Pediatric Advance Life Support (PALS) certified at the end of this class.

U 269T Clinical Experience II 6 cr. Offered summer. Prereq., RES 231T, 232T, 235T, 250T, 255T. Continuation of clinical skills learned in RES 255T. Introduction to adult critical areas along with sleep and cardiac diagnostics. Students also participate in physician rounds.

U 270T Respiratory Care Laboratory IV 2 cr. Offered autumn. Prereq., RES 260T, 265T. A continuation of RES 260T with an emphasis on neonatal and pediatric critical care. Clinical competencies introduced in RES 241T are studied. Peer and instructor review are included. Students will be Neonatal Resuscitation (NRP) certified at the completion of the class.

U 275T Clinical Experience III 7 cr. Offered autumn. Prereq., RES 260T, 265T, 270T. Continuation of RES 265T with critical care of the adult. Neonatal and pediatric critical care experiences also emphasized along with teaching skills in selected areas. Students also participate in physician rounds.

U 295T Special Topics 1-6 cr. (R-9) Offered intermitently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

Surgical Technology (SUR)

U 101T Introduction to Safe Patient Care 3 cr. Offered spring. Prereq., admission to the program. Provides an orientation to the scrub and circulating 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., admission to the program. 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., admission to the program, 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 spring. Prereq., admission to the program. 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 intermitently. 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 second semester courses. 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 210T Surgical Procedures I 4 cr. Offered autumn. Prereq., completion of all second semester courses. A study of surgical procedures following the patient through the preoperative, intraoperative, and post-operative stages of specific surgical specialties.

U 212T Surgical Procedures Lab II 2 cr. Offered autumn. Prereq., completion of all second semester courses. 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., completion of all second semester courses and successful completion of SUR 202T. Perioperative experience in the minor surgical procedure role through a supervised clinical hospital rotation.

U 205T Surgical Procedures II 5 cr. Offered spring. Prereq., completion of all third semester courses. A study of surgical procedures following the patient through the specialties.

U 206T Surgical Lab Practicum II 5 cr. Offered spring. Prereq., completion of all third semester courses. Perioperative experience in the major surgical procedure role through a supervised clinical hospital rotation.

U 280E Ethical Dimensions in Health Professions 3 cr.

Offered autumn. Ethical decision-making tools for addressing common ethical issues in the health professions.

U 290T Surgical Internship 5 cr. Offered spring. Prereq., completion of all third semester courses, SUR 205T, SUR 206T. Capstone experience in the perioperative role in preparation for initial employment, increasing occupational awareness and professionalism. Students take call for emergency surgeries alongside experienced hospital staff.

Department of Industrial Technology

The instruction for the A.A.S. degree programs and certificate of applied science programs of the Industrial Technology Department is delivered at the West Campus, 3639 South Avenue West.

Special Certificate and Degree Requirements

The general education 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 of Applied Science

Students in the Building Maintenance program are trained as building maintenance personnel to maintain commercial buildings. Classes include plumbing, electricity, carpentry, and heating/air conditioning. While in school, students learn physical and electrical theories, allowing them to understand building systems. In addition, they study building cleaning, landscape maintenance, pool care, computers, and boiler operation. Water treatment is discussed in both the pool and boiler courses.

Students are awarded a Certificate of Applied Science upon successfully completing the program. Contact John Walker, Program Director, at 406-243-7645 or john.walker@umontana.edu for more information.

Autumn and Spring Entry:

BME 122T Electricity .......................... A 5
BME 123T Carpentry ......................... - 6
BME 127T Low Pressure Boilers .......... 3
BME 128T Maintenance .................... 6
BME 130T Heating and Air Conditioning .. 6
CRT 100 Computer Literacy ............... 2
MAT 110T Industrial Math ................. 3
PSY 105T Work Attitudes .................. 1
WTS 115 Technical Writing ............... 3
Total 17 18

Carpentry - Certificate of Applied Science and A.A.S. Degree

The Carpentry program provides students the opportunity to learn carpentry skills in a competency-based environment based on national standards. Traditional and non-traditional students work hand-in-hand with professions both on campus and at construction sites.

Students use hand and power tools with blueprints to build foundation forms, frame buildings, side and roof buildings, and apply roofing materials. They install windows, doors, stairs, attic vents, insulation, vapor barriers, and drywall. Students learn methods for installing trim, locksets, suspended ceilings, countertops, cabinets, and flooring. They learn to operate forklifts, generators, compressors, and compactors.

In addition to general education courses, students in the program learn the various steps of becoming a carpenter including safe practices. They can construct real-world projects and can earn a Certificate of Applied Science or an Associate of Applied Science degree from the University of Montana. Contact Donnie Laughlin, Program Director, at 406-243-7692 or Donnie.Laughlin@umontana.edu for more information.

First Year

A S

CAR 120T Carpentry Level 1 Lecture .... 4
CAR 121T Carpentry Level 1 Lab ........ 3
CAR 130T Carpentry Level 2 Lecture .... 4
CAR 131T Carpentry Level 2 Lab ........ 4
CAR 140T Carpentry Level 3 Lecture .... 4
CAR 141T Carpentry Level 3 Lab ........ 5
BUS 242T Supervision ..................... 3
MAT 110T Industrial Math ................ 3
WTS 115 Technical Writing ............... 3
Total 18 17
Successful completion of the courses listed above results in the awarding of a Certificate of Completion in Carpentry.

Second Year

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAR 220T Carpentry Level 4 Lecture</td>
<td>A</td>
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<tr>
<td>CAR 221T Carpentry Level 4 Lab</td>
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</tr>
<tr>
<td>CAR 230T Building Management</td>
<td>3</td>
</tr>
<tr>
<td>CAR 231T Building Management Lab</td>
<td>3</td>
</tr>
<tr>
<td>CAR 236T Building for Solar Energy</td>
<td>3</td>
</tr>
<tr>
<td>CAR 240T Alternative Construction Materials</td>
<td>3</td>
</tr>
<tr>
<td>BME 129T Heating and Air Conditioning 1</td>
<td>4</td>
</tr>
<tr>
<td>CRT 182T Computer Aided Design &amp; Drafting</td>
<td>2</td>
</tr>
<tr>
<td>WEL 111T Welding</td>
<td>2</td>
</tr>
<tr>
<td>WEL 184T OSHA Rules &amp; Compliance</td>
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<td>Total</td>
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</table>

Successful completion of the first and second year courses listed above results in the awarding of an Associate of Applied Science Degree in Carpentry.

**Diesel Technology - A.A.S. Degree**

Students in the Diesel Technology program train to be diesel mechanics who repair diesel-powered trucks and heavy equipment. Students study hydraulics, electrical systems, fuel systems, power trains, air conditioning, brakes and suspension, engine theory, and engine diagnosis, beginning with basic principles and proceeding to an advanced level of system technology. Along with these core courses, students take classes in welding, machining, computers, physics, communications, and math.

Students who complete the program successfully are awarded the Associate of Applied Science degree.

Credit for independent study is available to those desiring additional instruction in diesel mechanics. Contact Jim Headlee, Program Director, at 406-243-7648 or Jim.Headlee@umontana.edu for more information.

*Autumn Entry:

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT 100 Computer Literacy</td>
<td>A</td>
</tr>
<tr>
<td>DET 120T Electrical Systems</td>
<td>2</td>
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<tr>
<td>DET 128T Engine Service I</td>
<td>4</td>
</tr>
<tr>
<td>DET 135T Power Trains</td>
<td>7</td>
</tr>
<tr>
<td>MAT 110T Industrial Math</td>
<td>3</td>
</tr>
<tr>
<td>MPR 112T Related Metals Processes</td>
<td>3</td>
</tr>
<tr>
<td>WEL 110S Organizational Psychology</td>
<td>3</td>
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**Second Year**

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>DET 221T Brakes, Suspension, and Undercarriage</td>
<td>6</td>
</tr>
<tr>
<td>DET 225T Hydraulics</td>
<td>6</td>
</tr>
<tr>
<td>DET 229T Engine Service II</td>
<td>7</td>
</tr>
<tr>
<td>DET 230T Air Conditioning</td>
<td>3</td>
</tr>
<tr>
<td>DET 231T Fuel Systems</td>
<td>5</td>
</tr>
<tr>
<td>DET 235T Advanced Power Trains</td>
<td>2</td>
</tr>
<tr>
<td>TRK 106T Commercial Driver’s License (CDL)</td>
<td>(offered intermittently)</td>
</tr>
<tr>
<td>WEL 139T Welding Maintenance and Repair</td>
<td>2</td>
</tr>
<tr>
<td>WTS 115 Technical Writing</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>17</td>
</tr>
</tbody>
</table>

*Spring entry allowed with program director's consent.

**Power Generation**

(not available in 2008-2009)

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 setup/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

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>DET 271T Power Generators</td>
<td>5 cr.</td>
</tr>
<tr>
<td>DET 272T Power Generation Controls</td>
<td>4 cr.</td>
</tr>
</tbody>
</table>

**Heavy Equipment Operation-Certificate of Applied Science**

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 crawlers-tractors, graders, scrapers, front-end loaders, excavators, backhoes, and dump trucks. Students develop an understanding of basic surveying techniques, receive extensive training in safety regulations and procedures, and learn how to handle controls precisely and judge distances accurately.

A Certificate of Applied Science is awarded after the program is successfully completed.

The program often has a waiting list for admittance. Interested persons are encouraged to apply one year prior to anticipated school attendance. Contact Rod Frost, Program Director, at 406-243-7642 or Rodney.Frost@umontana.edu for more information.

*Autumn Entry:

**First Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>CRT 100 Computer Literacy</td>
<td>A</td>
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<tr>
<td>HEO 140T Basic Surveying</td>
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<tr>
<td>HEO 142T Basic Surveying II</td>
<td>1</td>
</tr>
<tr>
<td>HEO 146T Safety and Basic Controls</td>
<td>5</td>
</tr>
<tr>
<td>HEO 148T Operational Skill Building</td>
<td>5</td>
</tr>
<tr>
<td>HEO 150T Job Simulation</td>
<td>6</td>
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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 Specialized Equipment</td>
<td>5</td>
</tr>
<tr>
<td>MAT 110T Industrial Math</td>
<td>3</td>
</tr>
<tr>
<td>MPR 112T Related Metals Processes</td>
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<tr>
<td>WTS 115 Technical Writing</td>
<td>3</td>
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<tr>
<td>Total</td>
<td>19-20</td>
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</table>

**Recreational Power Equipment-Certificate of Applied Science**

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
Welding Technology - Certificate of Applied Science and A.A.S. Degree

Welding students develop skills in six different welding processes—oxyacetylene (OAW), shielded metal arc (SMAW), gas metal arc (GMAW), flux core arc, (FCAW), submerged arc (SAW), and gas tungsten arc welding (GTAW). Beyond the development of welding skills and understanding of the process, they also study other vital skills, such as blueprint reading and layout skills, metallurgy, and understanding of how heating and cooling cycles affect the properties of metals. They also study the design of jigs and fixtures and how to incorporate these into an automated welding system.

The Welding Technology Program also has courses that provide for a solid background in the metals industry. Such courses are Computer Aided Design and Drafting (CADD), OSHA Rules and Compliance, and Related Metals Processes. Metals Fabrication I & II utilize all of the gained knowledge with an instructor approved/student designed project.

Welding technology students have the opportunity to become certified to American Welding Society Standards and receive documentation stating qualifications.

Students are awarded the Associate of Applied Science degree upon successfully completing the two-year program. Student who successfully complete the first year of the program are eligible to become certified by the American Welding Society (AWS). For more information, visit www.coe.umd.edu/program/welding_technology or contact Bob Shook, Program Director, at 406-243-7644 or Bob.Shook@umontana.edu

Autumn Entry:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRT 100</td>
<td>Computer Literacy</td>
<td>A</td>
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<tr>
<td>MAT 110T</td>
<td>Industrial Math</td>
<td>2</td>
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<tr>
<td>MPR 115T</td>
<td>Related Metals Processes</td>
<td>3</td>
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<tr>
<td>PSY 105T</td>
<td>Work Attitudes</td>
<td>1</td>
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<tr>
<td>SET 160T</td>
<td>Basic Electricity</td>
<td>3</td>
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<tr>
<td>SET 1761</td>
<td>Motorcycle/ATV Engines, Suspension, and Chassis</td>
<td>3</td>
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<tr>
<td>SET 177T</td>
<td>Motorcycle/ATV Electrical and Fuel Systems</td>
<td>4</td>
</tr>
<tr>
<td>SET 178T</td>
<td>Marine Electrical and Fuel Systems</td>
<td>4</td>
</tr>
<tr>
<td>SET 179T</td>
<td>Marine Powerheads and Lower Units</td>
<td>6</td>
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<tr>
<td>SET 180T</td>
<td>Snowmobile Maintenance and Repair I</td>
<td>2</td>
</tr>
<tr>
<td>SET 181T</td>
<td>Snowmobile Maintenance and Repair II</td>
<td>2</td>
</tr>
<tr>
<td>SET 182T</td>
<td>Computer Applications for Motor Sports</td>
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Successful completion of the courses listed above result in the award of a Certificate of Applied Science in Welding.

Second Year

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
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<tbody>
<tr>
<td>BUS 242T</td>
<td>Supervision</td>
<td>3</td>
</tr>
<tr>
<td>CRT 182T</td>
<td>Computer Aided Design and Drafting</td>
<td>2</td>
</tr>
<tr>
<td>MPR 214T</td>
<td>Advanced Related Metals Processes</td>
<td>3</td>
</tr>
<tr>
<td>WEL 280T</td>
<td>Gas Tungsten Arc Welding</td>
<td>4</td>
</tr>
<tr>
<td>WEL 281T</td>
<td>Metal Fabrication II</td>
<td>4</td>
</tr>
<tr>
<td>WEL 282T</td>
<td>Pipe Welding-SMAW and GTAW</td>
<td>4</td>
</tr>
<tr>
<td>WEL 283T</td>
<td>Gas Metal Arc Welding</td>
<td>4</td>
</tr>
<tr>
<td>WEL 285T</td>
<td>Automation in Welding</td>
<td>3</td>
</tr>
<tr>
<td>WEL 286T</td>
<td>Welding Certification and Codes</td>
<td>2</td>
</tr>
<tr>
<td>WTS 115T</td>
<td>Technical Writing</td>
<td>3</td>
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<tr>
<td>Total</td>
<td></td>
<td>16</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.

Building Maintenance Engineering (BME)

U 122T Electricity 6 cr. Offered spring. The electrical laws and principles pertaining to DC and AC circuits. Includes current, voltage, resistance, power, load, panels, feeders, lamps, motors, and fuses. Introduction to wiring methods and materials in conformance with the National 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 are painting, masonry, insulation, and ventilation of commercial buildings.

U 127T Low Pressure Boilers 3 cr. Offered spring. The fundamentals of low pressure boiler operation and maintenance. Covers steam, feed-water, fuel, and draft systems. Includes boiler water treatment and hot water heating systems. Introduces safe mechanical operating procedures used in the industry.

U 128T Maintenance 6 cr. Offered autumn. Maintenance principles pertaining to lawns, groundcovers, trees, swimming pools, plumbing, and building cleaning. Emphasis is placed on safe application of chemicals; maintenance frequency; and the identification and safe uses of associated tools and materials.

U 130T Heating and Air Conditioning 6 cr. Offered spring. The fundamentals of heating, ventilating, and air conditioning. Covers heating and refrigeration cycles, gas furnaces, refrigerants, system evacuation and charging, and components used in associated systems. Introduces the basic mechanical service procedures used in the industry.

U 228T Machine and Equipment Installation 2 cr. Offered spring. Tools and procedures for installing, leveling, and aligning equipment and machinery. Mechanical advantage
formulas presented in physics are demonstrated. Included are safe loads for ropes, jacks, slings, and blocks and tackles. Skills pertaining to the proper use of ladders, scaffolds, safety belts, and life nets used in maintenance work are discussed.

**Carpentry (CAR)**

U 120T Carpentry Level 1 Lecture 4 cr. Introduction to the carpentry trade, including history, career opportunities, and requirements. The course covers building materials, fasteners, adhesives, hand tools, and power tools. Students learn about and are required to build a small building with a floor, walls, ceiling, and a roof. Windows and exterior door are also installed.

U 121T Carpentry Level 1 Lab 3cr. Lab to accompany CAR 120T.

U 130T Carpentry Level 2 Lecture 4 cr. This course includes advanced blueprint reading, material estimating, site layout, measurement, and differential leveling. Concrete forms are constructed, including continuous, pier, grade beam, slabs, and footings. Form application and construction methods are demonstrated. Cutting, bending, splicing, and tying of reinforcing steel is required. Students learn methods for handling, placing, and finishing concrete. Manufactures forms are introduced for walls, columns, deck slabs, roof slabs, beams, and girders.

U 131T Carpentry Level 2 Lab 4 cr. Lab to accompany CAR 130T.

U 140T Carpentry Level 3 Lecture 4 cr. Study of various types of siding, gutter systems, roof venting requirements, and framing with metal studs. Installation of sheathing, exterior siding, roofing felt, shingles, insulation vapor barriers, and stairs on small building constructed in Carpentery 1. Installation of wood and metal doors including frames, locksets, and closers. Demonstration of materials, layout and installation of suspended ceilings. Selection and installation of countertops, base cabinets and wall cabinets. Window, door, floor, ceiling trim and drywall are installed in a small building.

U 141T Carpentry Level 3 Lab 5 cr. Lab to accompany CAR 140T.

U 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 220T Carpentry Level 4 Lecture 4 cr. The process of angular measurement, using transits, theodolites, electronic distance measuring devices, lasers, and trigonometric calculating to lay out foundations and determine elevations. Installation of standing seam, lap seam, and built-up roofing systems; concrete, vinyl, wooden, tile, and carpeted floors as well as radiant heating; paneling, wainscoting, movable partitions, curtain walls and fire-rated commercial wall construction. Advanced stair systems, including shop built and prefabricated stairs, balustrades, mitered risers and treads, and layout of elliptical fastening methods, and assembly techniques. Project planning, scheduling, estimating, and management skills included.

U 221T Carpentry Level 4 Lab 3 cr. Laboratory to accompany CAR 220T.

U 230T Building Management 3 cr. Introduction to building business and project management including overhead costs, payroll costs, estimating and scheduling. Covers elements of payroll computation and preparation, payroll tax returns, information returns, and identification and compensation of independent contractors. Students are introduced to building cost estimating, and scheduling of subcontractors and building inspections.

U 231T Building Management Lab 3 cr. Laboratory to accompany CAR 130T.

U 235T Building Energy Conservation 3 cr. Study of the analysis techniques used for reduction of energy consumption and energy management, including energy accounting and energy auditing. Residential and commercial building energy efficiency opportunities will be covered. Other topics addressed include motors, pumps, green building, and purchasing energy supplies. Career opportunities in energy efficiency will be discussed.

U 236T Building for Solar Energy 3 cr. Study of the basics of solar energy and design with emphasis on passive solar applications. The elements and design patterns for successful passive solar buildings are covered in detail. Design requirements for solar generated electricity and solar heated water are considered. Also covered are designing new and remodelled buildings to be solar ready, solar retro-fits, and other applications.

U 240T Alternative Construction Materials 3 cr. Review of alternative construction materials and other alternative building materials, as well as building materials using recycled components. Re-use of salvaged materials and use of non-traditional building methods such as straw bale and rammed earth construction will be covered.

**Diesel Equipment Technology (DET)**

U 120T Electrical Systems 8 cr. Offered spring. The theory of AC/DC electricity including Ohm's Law, magnetism, wiring diagrams, and circuit analysis. Starting, charging, and related systems are covered in-depth using test equipment commonly found in heavy equipment repair facilities. Electronic systems are reviewed and tested using common electronic test equipment.

U 128T Engine Service I 4 cr. Offered autumn. Introduction to the construction and operation of internal combustion engines with the diesel engine being examined in detail. The use of measuring tools and related special tools is covered extensively along with common manufacture rebuild procedures. Start-up and running practices are demonstrated on various running diesel engines.

U 130T 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-502, 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 com-
prehensive study of diesel fuel injection systems to include: Cummins, Roosa Master, Caterpillar, Detroit Diesel, and Bosch. Disassembly and repair of these systems are covered in-depth along with calibration practices, installation, timing, and on-engine adjustments are made on diesel engines. On-engine diagnosis of the fuel systems using special diesel engine diagnostic tools is reviewed.

U 235T Advanced Power Trains 2 cr. Offered spring. Prereq., DET 135T. A continuation of DET 135T with an emphasis on heavy automatic transmission, torque converters, and powershift transmission. In-depth coverage of component review and repair.

U 270T Diesel and Gaseous Fueled Engines 3 cr. Offered summer. Prereq., completion of an accredited diesel program or consent of instr. Overview of the diesel engine and its operating principles including the fuel systems found in the power generation field. Both mechanical and electronic type systems studied in depth. Gaseous/spark ignited internal combustion with in-depth look at both the ignition system and fuel system. Emission systems, preventive maintenance and general tune-up included.

U 271T Power Generators 5 cr. Offered summer. Prereq., completion of accredited diesel program and DET 270T. Introduction to generators as found in the power generation field including the review of electrical laws that pertain to A/C and D/C current. The operation of a typical internal combustion powered generator will be covered in depth including troubleshooting and rebuilding practices found in the power generation field. Generator mounting/alignment practices and generator installations, including flow requirements for combustion and cooling.

U 272T Power Generation Controls 4 cr. Offered summer. Prereq., completion of accredited diesel program and DET 271T. Operation of the generator and controls including governing devices and other specialized devices such as reverse power relays and 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 147T Operational Skill Building 5 cr. Offered autumn. Prereq., HEO 146T. Advancement of basic skills. Proper understanding and operation of heavy equipment is pursued. Time is allowed for development of proper operational techniques.

U 150T Job Simulation 6 cr. Offered spring. Prereq., HEO 146T, HEO 148T. Incorporates learned skills into entry-level, industrial situations. Emphasis is on advanced equipment usage, problem definition and resolution, project-type earth moving assignments, proper equipment, and safety regulations. Course may allow participation in cooperative project efforts within the community.

U 151T Service and Maintenance 2 cr. Offered autumn. Different types of lubricants and their applications, scheduled and preventive maintenance procedures, and importance of periodic services and maintenance. Also included are safety procedures and regulations.


Metals Processes (MPR)

U 112T Related Metals Processes 1 cr. Offered spring. Use of hand tools and machines which relate to the repair of heavy equipment. Instruction covers fasteners, layout, bench metal, threads and threading, drills and drilling, and tool sharpening.

U 114T Related Metals Processes 3 cr. Offered autumn. Instruction and use of drills, files, threads and threading processes, basic lathe, drill press, and band saw operation, including precision measuring instruments. Fasteners, layout procedures, and basic hand tools are covered.

U 115T Related Metals Processes 3 cr. Offered autumn and spring. A basic metalworking course covering fasteners, layout, bench metal, heat treating, threads and threading, drills and drilling, basic machining, and tool sharpening.

U 214T Advanced Related Metals Processes 3 cr. Offered autumn. Prereq., MPR 114T or 115T. Advanced skill development using machine tools such as milling machines, lathes, surface grinders, and drill presses, emphasizing safety and providing greater complexity than provided in MPR 114T. Welding and machining are used together demonstrating how sequencing work improves quality and productivity.

Small Engine Technology (SET)

U 160T Basic Electricity 3 cr. Offered autumn. The theory of AC/DC electricity including Ohm's Law, magnetism, series circuits, parallel circuits, the use of meters, and electrical test equipment. Includes electrical symbols, soldering, storage batteries, cranking motors, and electrical safety.

U 176T Motorcycle/ATV Engines, Suspension, and Chassis 3 cr. Offered autumn. Study of the design and function of several types of engines, transmissions, suspension, and brake systems.


U 178T Marine Electrical and Fuel Systems 5 cr. Offered spring. Prereq., SET 160T. Theory of and testing and troubleshooting of problems with ignition, charging, and cranking systems. Includes the design, testing, and troubleshooting of marine carburetion and fuel injection systems.

U 179T Marine Powerheads and Lower Units 6 cr. Offered spring. Prereq., SET 178T. Theory of design, function and components of outboard motor powerheads and lower units. Includes basic rigging, power trim and tilt, propping, and personal watercraft design, function, and maintenance.

U 180T Snowmobile Maintenance and Repair I 2 cr. Offered autumn. Prereq., SET 177T. The repair and maintenance of air cooled and liquid cooled engines. Includes clutch, track, and rear suspension service and maintenance.

U 181T Snowmobile Maintenance and Repair II 2 cr. Offered spring. Prereq., SET 180T. Principles and theory of snowmobile electrical, fuel, front suspension, and brake systems.

U 182T Computer Applications for Motorsports Professionals 1 cr. Offered spring. Prereq., CRT 100. Use of recreational power equipment software for parts retrieval, invoicing and payment methods. Students build, query, and
create reports using database software, and create a business plan for a hypothetical dealership.

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

U 196T Independent Study Variable cr. (R-6) Offered intermittently.

**Truck Driving (TRK)**

U 106T Commercial Driver’s License (CDL) Training 1 cr. Offered intermittently. Prereq., consent of instr. Individual schedule. Truck safety, operation, and maintenance review. Schedule and obtain Class A Commercial Driver’s License (CDL).

**Welding (WEL)**

U 111T Welding 2 cr. Offered autumn and spring. Basic and intermediate processes of shielded metal arc welding (SMAW) and oxyacetylene welding are covered in flat, horizontal, and vertical positions in a variety of joint configurations. Instruction in the oxyacetylene cutting process.

U 139T Welding Maintenance and Repair 2 cr. Offered spring. Prereq., MPR 115T, WEL 111T. Combines the skills gained in welding and machine shop for practical applications such as repairing a broken cylinder block. Major emphasis is placed on repair techniques. Common repair procedures using machine shop and welding equipment are demonstrated.

U 180T Welding Metallurgy 4 cr. Offered autumn. Covers the manufacturing of iron and steel. Examination of physical and mechanical properties. Phase changes with the application of heating and cooling cycles. Ferrous crystal types and properties. Suggested welding procedures for low, medium, and high carbon steels, alloy steels, and cast iron.

U 181T Shielded Metal Arc Welding (Plate) and Thermal Cutting 4 cr. Offered autumn. Theory and safe operation of shielded metal arc welding (SMAW) of carbon steel on plate and structural components in all positions to industry standards. Visual inspection and destructive testing used to determine acceptability based upon industry standards (American Welding Society Structural Welding Code-Steel). Power sources and electrodes are covered in depth. Materials are prepared using mechanical plate shears and thermal cutting techniques. Thermal cutting techniques are examined relative to theory of operation and safe practices. Processes used are oxy-fuel cutting, plasma arc cutting, and air carbon arc cutting. Theory and operation of oxyacetylene welding examined.

U 182T Blueprint Reading and Development 3 cr. Offered spring. Prereq., WEL 183T. Practical experience in reading and drawing orthographic projections, interpreting dimensions, notes, scales, and welding symbols. Isometric projection (pictorial), sections, and auxiliary views with practical experience using conventional drafting tools and computer aided drafting (CAD).

U 183T Layout Techniques 2 cr. Offered autumn. Encompasses layout on material of various shapes using blueprints and practical layout techniques on pipe and structural steel. Use of contour markers and a review of geometric construction. Computation of approximate costs is included.

U 184T OSHA Rules and Regulations 1 cr. Offered spring. Study of the Occupational Safety and Health Administration rules and regulations that affect the welding and construction industries.

U 185T Flux Core Arc Welding 4 cr. Offered spring. Theory, practice, and safe operation of flux core arc welding equipment. Coupons are welded in the flat, horizontal, and vertical positions to industry standards using a variety of welding electrodes, diameters, and power sources, which prepare students for welding qualification to the American Welding Society Structural Welding Code specifications.

U 189T Metal Fabrication I 4 cr. Offered spring. Prereq., MPR 114T; WEL 181T; coreq., WEL 182T, 185T. Conception, design, and construction of a metal structure to industry standards using sheets, presses, and other machine tools common to the welding industry. Skills are developed in the areas of shielded metal arc welding and flux core arc welding, oxyacetylene cutting, plasma arc cutting, and air carbon arc cutting.

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

U 196T Independent Study Variable cr. (R-6) Offered intermittently.

U 280T Gas Tungsten Arc Welding 4 cr. Offered autumn. The theory and safe operation of Gas Tungsten Arc Welding (GTAW). Examination of power source controls and operation along with associated consumables such as gasses, electrode filler materials for carbon steel, stainless steel, and aluminum. Welding skill development according to industry standards using these materials in the flat, horizontal, and vertical positions.

U 281T Metal Fabrication II 4 cr. Offered spring. Prereq., MPR 114T, MPR 214T; WEL 181T, 185T, 182T, 183T, 280T, 283T. Students combine all knowledge and skills developed in the welding program to design and draw a full set of plans (blueprints) for an instructor-approved project using extensive welding, metal fabrication equipment, machining processes and automation. High quality performance, consistent with business and industry required.

U 282T Pipe Welding-SMAW and GTA W 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 W for the root pass and SMAW for the remaining passes in all positions. Visual inspection and destructive testing used to evaluate work according to industry standards.

U 283T Gas Metal Arc Welding 4 cr. Offered spring. Prereq., WEL 185T. Theory and safe operation of Gas Metal Arc Welding (GMAW). Theory of flux core arc welding applied to GMAW. Primary focus on application, practical skill development, and producing welds that meet industry standards. Metals welded are low carbon steel, stainless steel, and aluminum. Short circuit arc and spray arc transfer used. Examination of gas and electrode selection.

U 285T Automation in Welding 3 cr. Offered spring. Application of the welding process to automation. Examination of simple automation techniques such as tools, clamping, and fixtureing 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

Cathy Corr, M.Ed., Montana State University, 1989 (Applied Arts and Science, Chair)
Josef Crepeau, M.A., University of Montana, 1994 (Applied Arts and Science)
Anne Delaney, M.B.A., University of Montana, 2002 (Health Professions)
Deborah Fillmore, M.E., University of Montana, 2000, R.N. (Health Professions)
Cheryl Galipeau, M.E., University of Montana, 1999 (Business Technology)
Cec Gallagher, Ed.D., Montana State University, 1998 (Academic Support)
Patty Gauthier, M.S., Montclair State College, 1986 (Health Professions)
Tom Gallagher, M.S. Western Washington University, 1996 (Applied Computing and Electronics, Chair)
James Headlee, M.E., Northern Montana College, 1987 (Industrial Technology)
Colin Henderson, Ph.D., University of New Mexico, 1985 (Applied Arts and Sciences)
Penny Jakes, M.E., University of Montana, 1981 (Applied Computing and Electronics)
Brian Larson, Business Technology, Chair)
Mary McHugh, B.S., University of Montana, 1978 (Health Professions)
Mark Medvetz, M.F.A., University of Montana, 1989 (Applied Arts and Sciences)
Carrie W. Miller, M.S.N., University of Phoenix, 2006 (Health Professions)
Ed Moore, M.E., University of Montana, 1988 (Applied Arts and Sciences)
Mary Nielsen, M.S.N., Clarkson College, 2000, R.N. (Health Professions)
Sue Olson, M.E., University of Montana, 1996 (Business Technology)
Tim Olson, M.B.A., University of Montana, 1997, C.P.A. (Business Technology)
Mark Raymond, AWS Certified Welding Inspector, A.A.S., Welding 1973 (Industrial Technology)
Steven Rice, M.E., Northern Montana College, 1991 (Applied Computing and Electronics)
Niki Robinson, M.E., University of Montana, 2000 (Business Technology)
Bob Shook, M.S., Utah State University, 1989, American Welding Society Certified Welding Inspector, 1989 (Industrial Technology)
Thomas Stanton, J.D., University of Cincinnati, 1991 (Business Technology)
Steve Stift, B.S., University of Montana, 2001 (Applied Computing and Electronics)
Lynn Stocking, M.E., University of Montana, 1987 (Associate Dean; Director, Academic Computing; Business Technology)
Linda Strelnick, B.S., University of Montana, 1976, CST/CFA (Health Professions)
Lisa Swallow, M.S., California State University, Chico, 1990, C.P.A., C.M.A. (Business Technology)
Rhonda Tabish, Certificate, University of Montana, 1974 (Applied Computing and Electronics)
Robert Wafset, M.S., Eastern Washington University, 1974, R.R.T. (Health Professions)
John Walker, M.B.A., University of Montana, 1990 (Industrial Technology)
Donald Warden, B.A., Iowa State University, 1974 (Health Professions)

Adjunct Faculty

John Anderson, M.S., Seattle University, 1974 (Applied Arts and Sciences)
Amy Ault, B.A., Pacific University, 2002, A.A.S., University of Montana, 2007 (Business Technology)
Kristi Bailey, C.S.T./C.F.A., College of Technology, 1994 (Health Professions)
Mark Ballowe, A.A.S., University of Montana (Health Professions)
Michelle Boller, M.A., George Washington University, 2004 (Business Technology)
Michael Bostwick, B.A., M.B.A., University of Montana (Business Technology)
Susan Bradford, M.S., University of Montana, 1992 (Applied Arts and Sciences)
Kathryn Brauer, B.S., University of Montana, 1983, C.Ph.T, 1997 (Health Professions)
Megan Brophy, A.A., University of Montana, 1997 (Health Professions)
Jann Burgess, A.A.S., B.A.S., Missouri Valley College, 1996 (Business Technology)
Nicholas Burk, B.A., University of Montana, 2006 (Applied Arts and Sciences)
Dianne Burke, M.S., University of Houston, 1984 (Applied Computing and Electronics)
Debra Burleigh-Gilbert, B.S.N., Washington State University, 2003 (Health Professions)
Bridget Carson, M.F.A., University of Montana, 2006 (Applied Arts and Sciences)
Peter Costello, B.A., University of Montana, 1985 (Applied Computing and Electronics)
Larry Daniel, Journeyman Carpenter, Local #28, Missoula (Industrial Technology)
Janet Derrington, M.S.N., University of Pennsylvania, 1977 (Health Professions)
Colleen Dowdall, J.D., University of Montana, 1981 (Business Technology)
Mary Jean Doyle, M.S., Eastern Kentucky university, 1985 (Applied Arts and Sciences)
Tammy Dutton, M.S.N., University of Phoenix, 2007 (Health Professions)
Jacki Elam, M.A., University of Montana, 2007 (Health Professions)
Ethan Eyestone, A.A.S., University of Montana, 2001 (Health Professions)
Annemarie Frohnoefer, M.F.A., Eastern Washington University, 2007 (Applied Arts and Sciences)
Rodney Frost (Industry Technology)
William Gillespie, M.I.S., University of Phoenix, 2006 (Business Technology)
Jim Harris (Industrial Technology)
Brooke Hewes, M.A., University of Montana, 2007 (Applied Arts and Sciences)
Colleen Holmquist, A.A.A., University of Montana, 1994 (Health Professions)
Dale Horton, M.S., University of Montana, 1976 (Applied Computers and Electronics)
Rachel Jacobs, B.S.N., Montana State University, 2002 (Health Professions)
Daneen Jepson, F.N.P., M.S.N., University of Utah, 1980 (Health Professions)
Lois Johnson, B.S.N, Montana State University, 1992
(Health Professions)
Scott Johnson, B.S., University of Montana, 1981 (Business Technology)
Janet Kalksteirn, B.S.N., Montana State University, 1992 (Health Professions)
Kim Larson (Business Technology)
Donnie Laughlin, B.A., University of Montana, 1968 (Industrial Technology)
Angela LePale, B.A., University of Montana, 2006 (Applied Arts and Sciences)
Peter McCauley, M.A., University of Montana, 2005 (Applied Arts and Sciences and Applied Computers and Electronics)
Linda McManus, B.S.N., Montana State University, 1987 (Health Professions)
Stephanie Metcalf, B.S.N., University of Colorado, 1988 (Health Professions)
Vicki Micheletto, M.E., University of Montana, 1986 (Business Technology)
Elizabeth Micklus, M.I.S., University of Montana, 2004 (Applied Arts and Sciences)
David Morris, C.S.T., College of Technology, 1986 (Health Professions)
Charles Myers, M.E. (Applied Arts and Sciences)
Linda Eagleheart Thomas, Ph.D., University of Montana, 2000 (Applied Arts and Sciences)
Robert Schlegel, M.F.A., University of Montana, 1994 (Applied Arts and Sciences)
Leif Schneider, B.S., Oregon State University, 2006 (Applied Computing and Electronics)
Michael Steffenson, A.A.S., Alexandria Technical College, 1990 (Industrial Technology)
Laura Swanson, C.C., A.A.S., University of Montana, 2007 (Business Technology)
Lucy Threlkeld, B.S.N., Winston Salem State University, 1997 (Health Professions)
Laurie Trudeau, A.S., Spokane Falls Community College, 1998 (Health Professions)
Emese Vitalis, Ph.D., Radboud University, 2004 (Applied Arts and Sciences)
Bonnie Weglin, A.A.S., Apollo College of Medical and Dental Careers, 1994 (Health Professions)
Jeff Wongstrom, B.S., University of Michigan, 1986 (Applied Computing and Electronics)
Kim Zupan, M.F.A., University of Montana (Industrial Technology)
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

Lynne Sanford Koester (Professor of Psychology), 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.

Intercultural Youth and Family Development (IYFD)

G 501 Intercultural Aspects of Human Development I 3 cr. Offered autumn. Explorations of child rearing practices, parenting beliefs, and cultural variations in infancy and early childhood.

G 502 Intercultural Aspects of Human Development II 3 cr. Offered spring. Explorations of cultural variations in later childhood, adolescence and adulthood, with particular focus on issues such as multicultural adoption, identity, and the role of poverty.

G 510 Applied Intercultural Skills Development 2 cr. Offered autumn. Focus on applied skills in two areas: cross-cultural negotiation and conflict management; program development and grant writing.

G 595 Special Topics 2-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study 1-6 cr. (R-6) Offered every term. Directed readings and other individualized study topics guided by faculty.

G 598 Internship 1-6 cr. (R-6) Offered every term. Introduction to service learning in applied settings, usually local.

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 portfolio.

G 698 Intercultural Internship 1-4 cr. (R-4) Offered every term. Supervised intercultural experience through Peace Corps, VISTA, or other organization approved by program faculty.

G 699 Thesis 1-2 cr. (R-2) Offered every term. Final master's thesis based on research related to internship placement.
The Maureen and Mike Mansfield Center

Terry M. Weidner, Director
The Maureen and Mike Mansfield Center was established in 1986 to pay tribute to Maureen and Mike Mansfield and to recognize their important contributions to U.S. Asian relations and public policy. The Center is an academic unit within The University of Montana and receives core funding from an endowment managed by the Maureen and Mike Mansfield Foundation. Mansfield Center faculty offer classroom instruction, conduct research, provide training for Asian and U.S. government personnel, and organize various types of conferences, all with a focus on East Asia. The Center faculty collaborate with the University’s Asian Studies Program and several other campus units.

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)
Steven Levine, Ph.D., Harvard University, 1972 (Adjunct Mansfield Professor of Modern Asian Affairs)
The Maureen and Mike Mansfield Library

Bonnie Allen, Dean
The University of Montana libraries are teaching and research libraries that provide an array of information resources and services in support of the curricular and research programs of the University. These resources include traditional library collections and electronic access to a network of research databases, e-journal packages, electronic journal subscriptions, and a Web-based library catalog. Library services include in depth research and reference assistance, an extensive instruction program integrated into the university curriculum, and full-service computing and copying facilities. Extensive services for the distance education students and faculty are available to provide an equitable educational experience.

The Maureen and Mike Mansfield Library comprises the heart of UM's library system. Collections exceed 1.5 million bound volumes, including more than 50,000 electronic books, access to over 30,000 print and electronic journals, an expanding array of electronic databases, nearly 100,000 media, a federal government depository collection and an archives and special collections. These collections are supplemented by an active interlibrary loan service through which the resources of other libraries are made available to students and faculty. The Mansfield Library is open seven days a week for 111 hours during the academic semester. Library resources in support of a federal government depository collection and an archives and special collections.

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.
U 495 Special Topics 1-12 cr. (R-12) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 496 Independent Study 1-9 cr. (R-9) Prereq., consent of instructor.
G 595 Special Topics 1-9 cr. (R-9) Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
G 596 Independent Study 1-9 cr. (R-9) Prereq., consent of instructor.

Faculty
Professors
Bonnie Allen, M.L.S., Indiana University, 1980 (Dean)
Sue Samson, M.A., University of Missouri, 1977
Associate Professors
Barry Brown, M.L.S., University of Michigan, 1989
Kimberley M. Granath, M.L.S., University of Oklahoma, 1985
K. Elaine Higgins, M.L.S., University of Southern California, 1971
Coburn R. Johnson, M.A., University of Denver, 1972
Assistant Professors
Jennie Burroughs, M.L.S., University of Illinois, 2004
Julie Edwards, M.L.S., University of Illinois, 2005
Jordan Goffin, M.L.S., Indiana University, 2003
Samantha Hines, M.L.S., University of Illinois, 2003
Steve McCann, M.L.S., University of Washington, 2003
Donna McCrea, M.L.S., University of Wisconsin-Milwaukee, 1999
Charlie Potter, M.L.S., University of Oklahoma, 2006
Tammy Ravas, M.L.S., State University of New York at Buffalo, 2001
Kate Zoellner, M.L.S., University of Michigan, 2005

Librarian
Steven Atkin, J.D., The University of Montana, 1994
(Dean 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
<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>University</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Karen Hatcher</td>
<td>M.S.</td>
<td>University of Wisconsin</td>
<td>1964</td>
</tr>
<tr>
<td>Douglas E. Mills</td>
<td>M.A.</td>
<td>University of California</td>
<td>1950</td>
</tr>
<tr>
<td>Christopher Mullin</td>
<td>M.A.</td>
<td>University of Washington</td>
<td>1969</td>
</tr>
<tr>
<td>Erling Oelz</td>
<td>M.L.S.</td>
<td>University of Illinois</td>
<td>1969</td>
</tr>
<tr>
<td>Dennis Richards</td>
<td>M.L.S.</td>
<td>Florida State University</td>
<td>1963</td>
</tr>
<tr>
<td>Bonnie Schuster</td>
<td>M.L.S.</td>
<td>University of Minnesota</td>
<td>1968</td>
</tr>
</tbody>
</table>
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.

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 as 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.

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., joint M.B.A./D.P.T. and joint M.B.A./Pharm.D. The M.B.A. program is suited to all students regardless of undergraduate training. Further details may be obtained from the Graduate Studies bulletin or by specific inquiries directed to: Director of M.B.A. Program, School of Business Administration.

Foundation Program for Graduate Work in Business
The Master of Business Administration (M.B.A.) and Master of Accountancy (M.Acc.) at most universities are open to graduates of non-business undergraduate programs. Students in the arts and sciences or other professional schools who anticipate doing graduate work in business are encouraged to take as many of the foundation courses listed below as possible in their undergraduate programs. Completion of all of the foundation courses will reduce the time required for the M.B.A. or M.Acc at The University of Montana-Missoula by one year.

ACCT 201 Financial Accounting
ACCT 202 Managerial Accounting
IS 257 Business Law
FIN 322 Business Finance
IS 270 Management Information Systems
IS 341 Operations Management
MGMT 340S Management and Organizational Behavior
MKTG 360 Marketing Principles
ECON 111S 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.

Special Degree Requirements

To earn the Bachelor of Science in Business Administration, students must complete the following:

1. Lower Core - Earn grades of C (2.0) in all of the following lower-core courses:
   - ENEX 101 Composition
   - MATH 117 Probability and Linear Math (or MATH 150, Applied Calculus, for Finance majors)
   - ECON 111S, 112S Microeconomics, Macroeconomics
   - ECON 112 Microeconomics
   - COMM 111A Introduction to Public Speaking
   - CS 172 Computer Modeling
   - MATH 241 Statistics
   - ACCT 201 Financial Accounting
   - ACCT 202 Managerial Accounting
   - IS 257 Business Law
   - IS 270 Management Information Systems

2. Admission to the Major - At the beginning of the last semester of the sophomore year, when students have completed at least 60 cumulative credits and all requirements listed under number 1 above with grades of C (2.0) or better, students must apply for admission to one of the following business majors: accounting, finance, information systems, management, marketing, or international business. (Students pursuing a major in international business must pair it with one of the other five business majors.) NOTE: In order to take 300 and 400 level courses in business, students must achieve standing in a business major. Junior standing in a business major is defined as admission to a business major.

3. Upper Core - Students must earn a C- or better in each of the following courses prior to enrolling in a business capstone course (see number 5 below). Some of these courses are prerequisites to certain major courses (e.g., MKTG 360 is a prerequisite to marketing courses; FIN 322 is a prerequisite to 400-level finance courses, etc.).
   - FIN 322 Business Finance
   - IS 341 Operations Management
   - MGMT 340S Management and Organizational Behavior
   - MKTG 360 Marketing Principles
4. Major - Earn a cumulative grade point average of at least 2.0 and earn grades no lower than C- in each course required for the major in accounting, finance, information systems, management, marketing, or international business. (Students pursuing a major in international business should review the parenthetical note in number 2 above.) See the requirements for each major listed below under Accounting and Finance Department, Information Systems Department, or Management and Marketing Department. Apply to one of the following majors by the beginning of

5. Capstone Course - Earn a grade of C- or better in a business capstone course chosen from the following:
   - MGMT 445 Small Business Management and Strategic Planning
   - MGMT 446 Strategic Management
   - IS 448 Management Game

The capstone course is normally taken during the last semester of the student's senior year. All upper-core courses must be completed before students enroll in a capstone course.

6. Minimum Credits in Business - Earn at least a C (2.0 average and grades of no lower than C- in at least 51 credits taken in the School of Business Administration (and in Economics if the student chooses to count Economics courses in the School of Business Administration). At least 50% of the required 51 credits in business must be earned at the University of Montana-Missoula.

7. Minimum Credits Outside of Business - At least 60 credits (exclusive of health and human performance activity credits) must be taken in departments and schools other than the School of Business Administration. If Economics classes are counted in business, they may not be counted outside of business.

8. Minimum Credits to Graduate - Students are required to take a minimum of 120 semester credits to graduate from the University of Montana, 39 of which must be earned at the University of Montana-Missoula.

9. Grade Point Average (GPA) - A minimum grade point average of 2.0 is required overall, in business, and in the business major.

10. Upper-division Writing Requirement - Earn a C- or better in the Upper-division Writing Expectation for the Major. This requirement is normally fulfilled with one of the three business capstone courses.

11. Experiential Requirement - A list of courses that meet this requirement is prepared annually by the UM School of Business Administration. The three capstone courses meet this requirement. Students who initially enrolled as freshmen at UM are required to complete three business-oriented

experiential learning exposures (classes). Students who initially enrolled with more than 60 transfer credits must complete two experiential classes. Students who initially enrolled with more than 90 transfer credits must take one experiential class, normally a business capstone class. Experiential courses are offered in each of the business majors.

12. Examination - Pass the major field examination.

Suggested Course of Study

For all business majors:

<table>
<thead>
<tr>
<th>First Year</th>
<th>A</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 100S Introduction to Business</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>CS 172 Computer Modeling</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>ECON 111S Microeconomics</td>
<td>3</td>
<td>-</td>
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<tr>
<td>ECON 112S Macroeconomics</td>
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<tr>
<td>ENEX 101 Composition</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>OR for Finance majors, MATH 150, Applied Calculus</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Electives or General Education</td>
<td>3</td>
<td>6</td>
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</tbody>
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<tr>
<th>Second Year</th>
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<tbody>
<tr>
<td>ACCT 201 Financial Accounting</td>
<td>3</td>
<td>-</td>
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<tr>
<td>ACCT 202 Managerial Accounting</td>
<td>-</td>
<td>3</td>
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<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>IS 257 Business Law</td>
<td>-</td>
<td>3</td>
</tr>
<tr>
<td>IS 270 Management Information Systems</td>
<td>3</td>
<td>-</td>
</tr>
<tr>
<td>Electives and General Education</td>
<td>8</td>
<td>6</td>
</tr>
</tbody>
</table>

Individual programs may differ from the suggested course of study to better accomplish the needs of the particular student.

Teacher Preparation in Business and Information Technology Education

Students who want to be licensed to teach business and information technology education at the middle and high school level must complete a B.S. in Business Administration with a major in one of the following: accounting, finance, information systems, management, or marketing. They also must complete the business and information technology education course work and the professional licensure program in the School of Education. See the Department of Curriculum & Instruction for information about admittance to the teacher Education Program and completion of this licensure program.

Department of Accounting and Finance

Terri L. Herron, Chair

The Department of Accounting and Finance prepares ethically aware decision-makers with effective analytical and qualitative business knowledge and skills become professionals in their respective fields. 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 provides breadth and depth in accounting, taxation, and business to develop a high level understanding, skill and leadership capability for advancement in the accounting profession and other related business careers. 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 Governmental/Non-Profit Accounting</td>
<td>3</td>
</tr>
</tbody>
</table>

Plus three (3) credits from the following:

- ACCT 313 Advanced Accounting Topics: 3
- ACCT 422 Cost Management II: 3
- ACCT 495 Special Topics: 3

Note: Students should select, in consultation with their faculty advisor, the accounting courses from the above list that best fit their individual career goals. Many of these courses are taught once a year—see advisor for the schedule each academic year.

**Basic Accounting Prerequisites for the Master of Accountancy**

**Required:** The following courses must be completed with a C or better:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 310 Accounting Information Systems</td>
<td>3</td>
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<td>3</td>
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<td>3</td>
</tr>
</tbody>
</table>

**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 decision-making, performing complex analyses, providing expert financial advice and utilizing current technology tools and data sources.

**Basic Requirements for Finance Major**

**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>
<tr>
<td>FIN 429 Financial Management I Theory and Analysis</td>
<td>3</td>
</tr>
<tr>
<td>FIN 439 Financial Management II Analysis and Problems</td>
<td>3</td>
</tr>
<tr>
<td>MATH 150 Applied Calculus (instead of MATH 117)</td>
<td>4</td>
</tr>
</tbody>
</table>

**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 Special Topics: 3
- ECON 311 Intermediate Microeconomics: 3
- ECON 460 Econometrics: 3

Any substitution must be approved by the advisor and the department chair. 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.

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**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:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 370 Database Management Systems</td>
<td>3</td>
</tr>
<tr>
<td>IS 371 Business Applications Development</td>
<td>3</td>
</tr>
<tr>
<td>IS 372 Telecommunications Management</td>
<td>3</td>
</tr>
<tr>
<td>IS 373 Systems Analysis and Design</td>
<td>3</td>
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**Finance Major**

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<td>FIN 429 Financial Management I Theory and Analysis</td>
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<td>MATH 150 Applied Calculus (instead of MATH 117)</td>
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- ACCT 421 Cost Management I: 3
- FIN 301 Financial Statement Analysis: 3
- FIN 495 Special Topics: 3
- ECON 311 Intermediate Microeconomics: 3
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<td>3</td>
</tr>
<tr>
<td>IS 373 Systems Analysis and Design</td>
<td>3</td>
</tr>
</tbody>
</table>
Department of Management and Marketing

Jeffrey P. Shay, 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: Credits
- MGMT 368 International Business ............................................. 3
- MGMT 480 Cross-Cultural Management .................................... 3
- FIN 473 Multinational Financial Management and Accounting ............................................. 3

And one of the following:
- MGMT 465 World Trade and Commerce .................................. 3
- MGMT 485 Seminar in Contemporary International Issues ................. 3

Plus the completion of all of the requirements 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 401 Event Management .................................................. 3
- MGMT 402 Principle of Entertainment Management I ..................... 3
- MGMT 403 Principle of Entertainment Management II ..................... 3
- MGMT 430 Business Negotiations ............................................. 3
- MGMT 440 Business Ethics .................................................... 3
- MGMT 449 Business Plan Implementation .................................... 3
- MGMT 458 Advanced Entrepreneurship Seminar ........................... 3
- MGMT 465 World Trade and Commerce ..................................... 3
- MGMT 480 Cross-Cultural Management ..................................... 3
- MGMT 485 Seminar in Contemporary International Issues ................. 3
- MGMT 495 Special Topics ...................................................... 3
- MGMT 498 Management Internship ........................................... 3

Courses recommended outside of Business:
- PSYC 350 Social Psychology .................................................. 3
- ECON 323 Labor Economics .................................................. 3
- ECON 324 Industrial Relations ............................................... 3

*Check course descriptions for prerequisites.

Marketing Major

The marketing major provides students with knowledge and skills required in the process of marketing products, services, or ideas. The contemporary role of marketing in society is treated from various perspectives, including functional and institutional analysis, along with the application of decision-making tools.

Basic Requirements for Marketing Major

Required: 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
- MKTG 495 Special Topics ...................................................... 3
- MKTG 498 Marketing Internship ............................................. 3
- MKTG 444 Management Communication ................................... 3

Courses recommended outside of Business:
- PSYC 350 Social Psychology .................................................. 3
- RECM 483 Commercial Recreation, Marketing and Tourism ............ 3
- MAR 111A Fundamentals of Media Arts Production ...................... 3
- CS 181 Electronic Publishing on the World Wide Web .................. 3

*Please check course descriptions for prerequisites.

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.

Generally, courses at the 500 and 600 levels are open only to graduate students who are admitted to a business graduate program or who are graduate non-degree (500 level and select 600 level only, limited to 9 credits total, upon pre-approval of a graduate program director). Students must be admitted to a degree program in order to take the required course in either program.

Accounting (ACCT)

U 201 Financial Accounting 3 cr. Offered every term. Coreq., Math 117 or Math 150. Introduction to financial accounting concepts, including transactions analysis, financial statement analysis, and corporate financial reporting practices.
U 202 Managerial Accounting 3 cr. Offered every term. Prereq., ACCT 201 with a grade of C or better, MATH 117 or 150 with a grade of C or better. Continuation of ACCT 201 with a focus on managerial accounting topics.

U 298 Internship Variable cr. (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 310 Accounting Information Systems 3 cr. Offered autumn and spring. Prereq., Junior standing in Business. Provides thorough understanding of manual and computerized business processes, risks, and internal controls. Computer applications may be used to demonstrate concepts.

U 311 Intermediate Accounting I 3 cr. Offered every term. Prereq., junior standing in Business, ACCT 201 and 202 with 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 accounts.

U 312 Intermediate Accounting II 3 cr. Offered every term. Prereq., junior standing in Business, ACCT 311 with a grade of C or better, or consent of instr. Continuation of ACCT 311. Topics include concepts in financial accounting, coverage of the liability and equity side of the balance sheet, the cash flow statement, and several special financial accounting topics.

U 313 Advanced Accounting Topics 3 cr. Offered spring. Prereq., junior standing in Business; ACCT 311 with a grade of C or better, or consent of instr. Application of accounting principles to partnerships, foreign currency transactions and translations, accounting for income taxes, post-retirement benefits, accounting changes and other accounting topics.

U 394 Undergraduate Seminar Variable cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

U 395 Special Topics Variable cr. (R-9) Offered intermittently. Prereq., junior standing in Business and consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study Variable cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

UG 421 Cost Management I 3 cr. Offered autumn. Prereq., senior standing in Business or consent of instr. The study of cost management for business and other organizations. Emphasis on how information about costs helps managers make better decisions.

UG 422 Cost Management II 3 cr. Offered spring. Prereq., senior standing in Business and ACCT 421 or consent of instr. Advanced cost management with emphasis on how financial and non-financial information helps managers make better decisions in a wide variety of business and not-for-profit organizations. Current readings in cost management and related topics.

UG 431 Income Tax 3 cr. Offered autumn. Prereq., Junior standing in Business or consent of instructor. Coreq., ACCT 312. The application of the federal income tax law to determine income, deductions and losses. Special topics include property transactions.

UG 432 Income Tax Practicum 1 cr. Offered spring. Prereq., junior standing in Business. Service course that provides free tax preparation to low income taxpayers and students, in conjunction with the IRS. Students apply their knowledge of tax law to the preparation and e-filing of income tax returns under the direction of a practicing CPA. Graded credit/no credit only.

UG 441 Auditing 3 cr. Offered spring. Prereq., junior standing in Business, ACCT 310 and 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 461 Accounting Leadership I-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 spring. 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 605 Administrative Controls 2 cr. Offered autumn. Prereq., admission to the MBA program. The application of accounting information to managerial and/or financial 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, 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 632 Advanced Tax Practicum 1 cr. Offered spring. Prereq., graduate student in business or consent of business graduate director and instr. Service course that provides free tax preparation to low income taxpayers and students, in conjunction with the IRS. Graduate students apply their knowledge of tax law to the preparation and e-filing of income tax returns under the direction of a practicing CPA, review the work of undergraduate preparers, and assist in the organization and training of undergraduate prepares. Grade option credit/no credit only.

G 641 Advanced Auditing 3 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, ACCT 441, graduate student in business or consent of accounting graduate director. Research cases in auditing and coverage of contemporary topics in auditing, typically including attestation standards, other reports and services, legal and ethical environment, and fraud detection.

G 643 Fraud Examination 3 cr. Offered intermittently. Prereq., graduate standing. A study of signs of fraud, internal controls, ethics in business, and fraud prevention. An examination of fraud cases and an introduction to fraud examination techniques. Intended for graduate students, without regard to specific major, who have an interest in fraud prevention and detection.

G 656 Accounting Information Systems Topics 1-3 cr. (R-3) Offered intermittently. Prereq., graduate student in business. Selected topics addressing information systems issues as they relate to accounting. Selected topics may include systems auditing, expert systems, databases, specific accounting applications, report design, electronic transactions, and internal controls.

G 661 Accounting Law and Ethics 3 cr. Offered autumn or spring. Prereq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, Business core, graduate student in business, or consent of accounting graduate director. Legal issues from the common law and appropriate statutes applicable to the public practice of accounting. The professional responsibilities and ethics of a practicing CPA.

G 675 Contemporary Accounting Problems 4 cr. Offered first summer session. Prereq. or coreq., cumulative GPA of 3.0 or better in all accounting fundamental courses taken to date, student must be in good academic standing, ACCT 611, 615, 631, 641, and 661. Integration of accounting theory and practice. Primarily for the student preparing to take the uniform CPA examination. Graded only credit/no credit.

G 694 Seminar 3 cr. (R-15) Offered intermittently. Prereq., graduate student in business or consent of business graduate director. Selected topics in accounting.

G 696 Independent Study Variable cr. (R-9) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Directed study of individual or small groups of students in topics not available in scheduled classes.

G 698 Internship Variable cr. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Placements with private or governmental organizations for practical training. Written reports required.

G 699 Thesis Variable cr. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director. Grade option credit/no credit only.

**Business Administration (BADM)**

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

U 196 Independent Study Variable cr. (R-6) Offered intermittently.

U 295 Special Topics 1-6 cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

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 intermittently. Concepts, strategies and techniques in analyzing financial situations and investment opportunities from the individual's perspective.

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.

UG 301 Analysis of Financial Statements 3 cr. Offered intermittently. Prereq., junior standing in Business. Analysis of balance sheets, income and cash flow statements and statements of owners' equity in terms of structure, strategy and performance of the company being analyzed. Emphasis is on the use rather than preparation of financial statements.

U 321 Real Estate Fundamentals 3 cr. Offered intermittently. Prereq., junior standing in Business and FIN 322, 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 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 410 $50,000 Portfolio 3 cr. Offered autumn. Prereq., junior standing in Business, grade of C or better in FIN 322, and consent of department chair. Under the guidance of a broker, students manage a diversified investment portfolio for a semester. Students analyze and discuss investment opportunities and implement their decisions.

UG 420 Investments 3 cr. Offered autumn. Prereq., junior standing in Business, grade of C or better in FIN 322 or consent of instr. Principles, practices and methodology in investment analysis and portfolio management.

UG 424 Financial Markets 3 cr. Offered spring. Prereq., junior standing in Business, grade of C or better in FIN 322, or consent of instr. Operations and analysis of the national and international money and capital markets, and financial institutions.
UG 429 Financial Management I: Theory and Analysis 3 cr. Offered spring. Prereq., junior standing in Business, grade of C or better in FIN 322 or consent of instr.

Understanding the practice of business investment and working capital decisions. Computer models and cases used to demonstrate the management process.

UG 439 Financial Management II: Analysis and Problems 3 cr. Offered autumn. Prereq., junior standing in Business, grade of C or better in FIN 322, or consent of instr. The financial management of banking institutions including financial analysis, interest rate risk and loan portfolio management. Students manage a bank within a simulated bank community.

UG 473 Multinational Financial Management and Accounting 3 cr. Offered autumn or spring. Prereq., junior standing in Business, grade of C or better in FIN 322, or consent of instr. Students are strongly encouraged to complete MGMT 368 prior to FIN 473. Financial skills required of corporate executives in international business. Topics may include differences in global accounting practices and the resulting effects on multinational corporations.

UG 494 Seminar Variable cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.

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

U 496 Independent Study Variable cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

U 498 Finance Internship Variable cr. Offered every term. Prereq., junior standing in Business and consent of instr. Students are placed with private or governmental organizations to receive on-the-job training. Written reports are required. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

G 522 Principles of Financial Analysis 3 cr. Offered summer. Prereq., admission or application to M.B.A. or M.Acct. programs; ACCT 300. 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 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 IS 100S and BUS 103S.

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

U 196 Independent Study 1-3 cr. (R-3) Offered every term. Prereq., consent of instr.

U 257 Business Law 3 cr. Offered every term. An analysis of the legal and ethical implications of domestic and international commercial transactions. Credit not allowed for both BUS 135T and IS 257.

U 270 Management Information Systems 3 cr. Offered every term. Prereq., CS 172. Introduces the development, use, and management of computer-based information systems.

U 296 Independent Study 1-3 cr. (R-3) Offered every term. Prereq., consent of instr.

U 298 Internship 1-3 cr. (R-3) Offered every term. Extended classroom experience which provides practical application of classroom learning during placements within the business community. The student must complete a learning agreement with a faculty member, relating the placement opportunity to his or her field of study. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 341 Operations Management 3 cr. Offered every term. Prereq., junior standing in Business. A survey of the processes that organizations, public or private, use to produce goods and services. Includes management science topics.

U 370 Database Management Systems 3 cr. Offered autumn and spring. Prereq., junior standing in Business. Information systems design and implementation within a database management system environment. Topics include data models, structured and object design, relational, hierarchical, network and object-oriented models.

U 371 Business Application Development 3 cr. Offered autumn and spring. Prereq., junior standing in Business. Provides an understanding of algorithm development, programming, computer concepts and the design and application of data and file structures.

U 372 Telecommunications Management 3 cr. Offered spring. Prereq., junior standing in Business. Provides in-depth knowledge of data communications and networking requirements including telecommunications technologies, hardware and software. Emphasis on the analysis and design of networking applications in business.

U 373 Business Systems Analysis and Design 3 cr. Offered autumn. Prereq., junior standing in Business. Provides an understanding of the systems development and modification process including requirements determination, logical design, physical design, test planning, implementation planning and performance evaluation.

U 394 Undergraduate Seminar Variable cr. (R-3) Offered intermittently. Prereq., junior standing in Business and consent of instr.

U 395 Special Topics 1-9 cr. (R-9) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study 1-6 cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

U 448 Management Game 3 cr. Offered intermittently. Prereq., senior standing in Business, all business core, or consent of instr. Simulation of a large business organization in which students make executive-level decisions in the areas of production, marketing, finance, human resources and organization.

U 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. 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 intermittently. 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 every term. Prereq., junior standing in Business and IS 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 Electronic Commerce 3 cr. Offered intermittently. Prereq., junior standing in Business. Focuses on the capabilities of the Internet to support and enable commerce. Provides a managerial perspective on topics including effective web site design, emerging technologies, business models, infrastructure architectures, and security.

U 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.

U 494 Seminar 1-6 cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr. Provides application of classroom learning.

U 495 Special Topics 1-9 cr. (R-9) Offered autumn and spring. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 496 Independent Study 1-6 cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr. Focuses on hands-on experience with area organizations. Provides application of classroom learning.

U 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 Modelling 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 spring. Prereq., graduate standing. Analyzes business processes and the security challenges created from the emergence of new technology. Includes the effect of legal, regulatory and security technology on policy development. Focuses on management; does not require a technical background.

G 574 Management of Information Systems 2 cr. Offered spring. Prereq., IS 571, 572. The tactical/operational responsibilities and roles of the CIO. Includes governance issues, supporting the learning organization, managing the technologies, and managing the development of systems. Focuses on management; does not require a technical background.

G 575 Fundamentals of Consulting 2 cr. Offered spring. Prereq., graduate standing. The technical, interpersonal, and consulting skills necessary to effectively work with clients. Focuses on management; does not require a technical background.

G 650 Quantitative Analysis 2 cr. Offered spring. Prereq., admission to the M.B.A. or M.Acct. programs. Quantitative methods supporting managerial decision-making. Theory and logic underlying such methods as linear programming and simulation. Solution of complex problems and practice of interpersonal skills in team projects.

Management (MGMT)

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

U 196 Independent Study Variable cr. (R-3) Offered every term. Prereq., consent of instr.

U 296 Independent Study Variable cr. (R-3) Offered every term. Prereq., consent of instr.

U 298 Internship Variable cr. (R-3) Offered every term. Prereq., consent of instr. 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 3405 Management and Organizational Behavior 3 cr. Offered every term. Prereq., junior standing in Business. An intensive examination of the fundamentals of management and organization supported by the application of behavioral science principles to the management of people in organizations.

U 344 Human Resource Management 3 cr. Offered every term. Prereq., junior standing in Business, MGMT
340S; PSYC 100S recommended. Examines the personnel function in business organizations, with emphasis on staffing, equal opportunity employment, job design, training and development, performance appraisal, compensation, and labor-management relations. Includes case analyses and experiential exercises.

UG 348 Entrepreneurship 3 cr. Offered autumn and spring. Prereq., junior standing in Business, FIN 322, MGMT 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.

U 394 Undergraduate Seminar Variable cr. (R-3) Offered intermittently. Prereq., junior standing in Business and consent of instr.

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

U 396 Independent Study Variable cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

UG 401 Event Management 3 cr. Offered fall. Prereq., junior standing and consent of instructor; open to non-business majors. Students are introduced to skills that are necessary for managing entertainment events. Topics include: market research; artist research; negotiating events; producing live events; and working with community and non-profit organizations. Students will develop and participate in several live events throughout the semester.

UG 402 Principles of Entertainment Management 1 3cr. Offered spring. Prereq., junior standing and consent of instructor; open to non-business majors. Students are introduced to the fundamental aspects of the entertainment business. Topics include: artist development and management; productions; promotions; and venue management and marketing. Students will produce an artist development plan.

UG 403 Principles of Entertainment Management 2 3 cr. Offered spring. Prereq., junior standing, MGMT 402, and consent of instructor; open to non-business majors. Students build on the concepts learned in MGMT 402. Topics include: tour development and marketing; agency relations and responsibilities; and new forms of entertainment media and distribution. Students will produce an event management plan.

UG 420 Leadership and Motivation 3 cr. Offered spring. Prereq., junior standing in Business and MGMT 340S. Study of fundamental concepts, theories, and models of leadership and motivation. Selected topics include: trait and behavioral theories of leadership, charismatic and transformational leadership, power and influence, emotions and justice perceptions in motivation, expectancy and equity theories.

UG 430 Business Negotiations 3 cr. Offered intermittently. Prereq., junior standing in Business. Theories and processes of negotiation in various business settings. Theories and concepts of negotiation presented through illustrative case studies proven to increase the value of negotiated deals. Students become cognizant of their instinctive negotiation styles and build on their accumulative knowledge progressing to sophisticated skills such as multiparty negotiation, mediation and arbitration.

UG 440 Business Ethics 3 cr. Offered autumn and spring. Prereq., junior standing in Business. Business organizations and their relationship to the external environment and various stakeholders. Focuses on responsibilities to society and their impact on decision making, with particular emphasis on business ethics and values.

UG 444 Management Communications 3 cr. Offered autumn and spring. Prereq., junior standing in Business. Focuses on internal and external business communications. Selected topics include: developing communications strategies, designing and conducting communications audits, selecting appropriate message vehicles, orchestrating presentations, and management press relations.

UG 445 Small Business Management and Strategic Planning 3 cr. Offered autumn and spring. Prereq., senior standing in Business, all business core. Application of the concepts of strategic management to small businesses. Integrates the functional areas of management, marketing, finance and accounting. Students work with local businesses in a consulting role and are required to write a consulting report. Credit not allowed for both MGMT 445 and 446.

UG 446 Strategic Management 3 cr. Offered every term. Prereq., senior standing in Business, all business core. Integration of the functional areas of management, marketing, finance and accounting. Heavy case orientation, class discussions. Industry and competitor analysis and strategy formulation. Credit not allowed for both MGMT 446 and 445.

UG 449 Business Plan Implementation 3 cr. Offered spring. Prereq., senior standing in Business; MGMT 348 or an MBA seminar in entrepreneurship. Development and implementation of a business plan through the complete sequence of steps required for financing and actual startup of a business enterprise.

UG 457 Entrepreneurship for Non-Business Students 3 cr. Offered autumn. Prereq., junior standing; open to non-business majors only. Focuses on starting and managing a growing business. Topics include recognizing business opportunities, setting strategy for the firm, raising capital, marketing new products, and organizing a management team. Students write a business plan for starting a business of their choice.

UG 458 Advanced Entrepreneurship Seminar 3 cr. Prereq., junior standing, MGMT 457 for non-business majors, MGMT 348 or concurrent enrollment in MGMT 348 for Business majors. Extends previous course work in entrepreneurship with focus on managing and marketing a growing business, legal and technology issues for entrepreneurs, and financing new ventures. Course utilizes local and regional experts in the field of entrepreneurship to deliver course content under the supervision of UM instructor. Students refine their existing business plan and participate in business plan competition or write case analyses.

UG 465 World Trade and Commerce 3 cr. Offered every term. Prereq., junior standing in Business and consent of instr. A practical hands-on approach to understanding the complexities and intricacies of successfully working in the new global marketplace. Classes are supported by work assignments at the Montana World Trade Center.

UG 480 Cross-Cultural Management 3 cr. Offered autumn. Prereq., junior standing in Business. Study of issues related to cultural diversity within the work force and the problems inherent in the management of a firm’s activities on an international scale.

UG 485 Seminar in Contemporary International Issues 3 cr. Offered spring. Prereq., junior standing in Business, MGMT 368; recommended: FIN 301; MGMT 355; 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 or 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 fall. 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.

G 640 Organizational Behavior 2 cr. Offered autumn. Prereq., admission to the M.B.A. or M.Acct. programs. Professionally oriented strategic overview of technical and pragmatic application of human resource policy and administration, emphasizing personnel management processes, systems, procedures and methods.

G 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 application of international theories and institutions, the role of the multinational enterprise (MNE) in global trade and how the MNEs operate in a global setting.

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, MKTG 360. Emphasis on data acquisition and analysis for improved decision making in marketing. Topics include problem definition; secondary data; primary data via observation, interrogation and experimentation; data analysis; written and oral reports. May include field project.

U 369 Advertising Competition 3 cr. (R-6) Offered autumn and spring. Prereq., junior standing in Business, MKTG 360. An experiential course in the strategy, research, and execution of an integrated marketing communications plan. Students' work culminates in the American Association of Advertising's National Student Advertising Competition.

U 394 Undergraduate Seminar 1-3 cr. (R-3) Offered intermittently. Prereq., junior standing in Business and consent of instr.

U 395 Special Topics 1-9 cr. (R-9) Offered intermittently. Prereq., junior standing in Business or consent of instr. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 396 Independent Study 1-6 cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.

U 410 Marketing Channels 3 cr. Offered intermittently. Prereq., junior standing in Business and MKTG 360. Study of functions and interrelationships among channel intermediaries in the value chain, including suppliers, producers, wholesalers, and retailers within the broader context of the channel environment.

UG 411 Services and Relationship Marketing 3 cr. Offered intermittently. Prereq., junior standing in Business and MKTG 360. Service marketing integrates 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.

U G 494 Seminar 1-6 cr. (R-6) Offered intermittently. Prereq., junior standing in Business and consent of instr.
U G 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 G 496 Independent Study 1-6 cr. (R-6) Offered every term. Prereq., junior standing in Business and consent of instr.
U G 498 Marketing Internship 1-6 cr. Offered every term. Prereq., junior standing and consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.
G 560 Marketing and Applied Business Statistics 3 cr. Offered autumn. Prereq., admission or application to the M.B.A. or M.Acct. programs. Introduction to marketing principles to create long-term competitive advantage for an organization. Topics include environmental analysis, marketing planning, segmentation analysis, target marketing, and planning for product, price, promotion and distribution. Business statistics covered including cross-tabs, z-statistics, and the central limit theorem, analysis of variance, regression and correlation analysis.; statistics in context of marketing research and marketing problems.
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.
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 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 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 694 Seminar Variable cr. (R-15) Offered every term. Prereq., graduate student in business or consent of business graduate director. Selected topics in business.
G 696 Independent Study Variable cr. (R-9) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Directed study of individual or small groups of students in topics not available in scheduled classes.
G 698 Internship Variable cr. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director and consent of instr. Placements with private or governmental organizations for practical training in business. Written reports required. Grade option credit/no credit only.
G 699 Thesis Variable cr. (R-6) Offered every term. Prereq., graduate student in business or consent of business graduate director.

Faculty
Professors
Aaron W. Andreason, Ph.D., Brigham Young University; 1975
Teresa K. Beed, Ph.D., University of Colorado, 1981
C.P.A., Montana, 1973 (Director, M.Acct. Program)
Mary Ellen Campbell, M.A., University of Illinois, 1969
Gerald E. Evans, Ph.D., Claremont Graduate School, 1985
Jerry L. Furniss, J.D., University of Idaho, 1980
Larry D. Gianchetta, Ph.D., Texas A & M, 1974 (Dean)
Terri L. Herron, Ph.D., University of Texas at Arlington, 1996; C.P.A. Texas, 1987; C.I.A., 2000 (Chair, Department of Accounting and Finance)
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
Paul E. Polzin, Ph.D., Michigan State University, 1968
(Director, Bureau of Business and Economic Research)
Roy W. Regel, Ph.D., University of Colorado, 1985;
Barbara P. Reider, Ph.D., Kent State University, 1991;
C.F.M., 1998; C.G.F.M., 2002
Nader H. Shooshvari, Ph.D., Arizona State University, 1983
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. Brunato, Ph.D., University of Arizona, 1997
Barbara Chaney, Ph.D., University of Georgia, 1997;
C.P.A., Illinois, 1983
Bruce Costa, Ph.D., Florida State University, 2000
Anthony J. Crawford, Ph.D., Pennsylvania State University, 1993
Scott C. Douglas, Ph.D., Florida State University, 2000
Bambi M. Douma, Ph.D., University of Arizona, 2003
(Director, MBA program)
David R. Firth, Ph.D., University of California, Los Angeles, 2003
Keith J. Jakob, Ph.D., University of Utah, 2000
Belva L. Jones, Ph.D., Oklahoma State University, 1976
Jeffrey P. Shay, Ph.D., Cornell University, 1999 (Chair, Department of Management and Marketing)
Klaus Uhlenbruck, Ph.D., University of Colorado, 1996

**Assistant Professors**
- Michael R. Braun, Ph.D., University of Massachusetts, Amherst, 2006
- Shawn F. Clouse, Ed.D., University of Montana, 2001
- Michael V. Harrington, J.D., The University of Montana, 1990 (Associate Dean)
- Joshua Herbold, Ph.D., University of Illinois, Champaign-Urbana, 2005; C.P.A., Illinois, 1995
- Monica LaBarge, Ph.D., University of Oregon, 2007
- Cameron D. Lawrence, Ph.D., London School of Economics, 2005
- Fengru Li, Ph.D., University of Washington, 1996
- Clayton A. Looney, Ph.D., Washington State University, 2003
- Ron Premaroso, A.B.D., Florida Atlantic University, 2008
- Simona Stan, Ph.D., University of Missouri-Columbia, 2001

**Adjunct Professor**

**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
- Maureen J. Fleming, Ph.D., Southern Illinois University, 1969
- Robert W. Hollmann, Ph.D., University of Washington, 1973
- Jack J. Kempner, Ph.D., Ohio State University, 1956; C.P.A., Montana, 1957
- Clyde W. Neu, Ph.D., University of Minnesota, 1973
- 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

Robert Evans, Dean
Sharon Dinkel Uhlig, Associate Dean

The School of Education is comprised of five academic departments—Communicative Sciences and Disorders, Counselor Education, Curriculum and Instruction, Educational Leadership, and Health and Human Performance. It is also home for 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, Educational Leadership and Counseling Education 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 Communicative Sciences and Disorders, Counselor Education, and Health and Human Performance Departments all prepare professionals for careers in human service professions. Via its bachelor’s degree in Communicative Disorders, the Communicative Sciences and Disorders Department prepares graduates qualified to work as clinical aides in speech-language pathology or audiology. Through its master’s program in Speech-Language Pathology (planned for fall 2009) the department will produce first professional students qualified to work as speech-language pathologists in schools and clinical settings. Students pursuing the Master of Arts in Counselor Education are prepared to work in a variety of communityagency settings. Upon completion of the program, graduates are prepared to sit for the Licensed Practical Counselor or Licensed Practical Clinical Counselor examination. 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 Athletic Training Program is accredited by the Commission on Accreditation of Athletic Training Education.

Central to its research and outreach efforts with P/K-12 schools, the School of Education's Division of Educational Research and Service (DERS) designs, evaluates, and disseminates programs that support the well-being of students and communities. Since 1957, DERS has collaborated with numerous local, state, national, and federal organizations to provide effective, data-driven research models that enhance the social development and academic achievement of all learners. Externally sponsored teaching, research, and service activities are central to DERS. In addition, the School of Education supports a Preschool Laboratory, Preschool Program, Health and Human Performance Laboratory and Technology Resource Center. These centers offer enhanced opportunities for student involvement and learning.

Specific program options within the School of Education are described below and in the various departmental sections of this catalog. The Web address for the School of Education is http://www.soe.umt.edu

Department of Curriculum and Instruction

Ann N. Garfinke, Chair

The Department of Curriculum and Instruction offers the Bachelor of Arts in Education degree and teaching licensure in elementary education. As well, it offers teaching licensure at the secondary level for students who are earning or already have completed the baccalaureate degree in one of the following state-approved content endorsement areas: Art, Biology, Business and Information Technology Education, Chemistry, Drama, Earth Science, Economics, English, English as a Second Language, French, General Science Broadfield Major, Geography, German, Government, Health and Human Performance, History, Latin, Mathematics, Music, Physics, Psychology, Russian, Comprehensive Social Science, Sociology, and Spanish. (See specific requirements for each in the following pages.) At the graduate level, the department offers the masters and doctoral degrees in Curriculum and Instruction. Programs across all degree levels are organized to foster the development of learning communities and incorporate three basic themes: integration of content knowledge and experience; collaboration among participants; and inclusiveness, caring, and respect for the individual. The Web address for the Department of Curriculum and Instruction is http://www.soe.umt.edu/cni/default.php

Graduate Programs

The department offers the Master of Education (M.Ed.) in curriculum and instruction. Students select from one of the following options: curriculum studies, elementary education, library-media services, literacy education, secondary education and special education. Students may also earn the masters degree in combination with requirements for initial teacher licensure at the elementary and secondary levels. This option is further explained below. The department offers as well the Doctor of Education (Ed.D.) in curriculum and instruction.

Information about these graduate programs is available from the department office, UM Graduate Programs and Admissions Catalog, and online: www.soe.umt.edu/cni/graduate.php.

Teacher Preparation


Elementary Education: Individuals preparing to teach in elementary school (license for grades K-8) complete a major in elementary education. Prior to their admission to the Teacher Education Program, usually at the end of the sophomore year, students are pre-education majors and are advised by the pre-education advisor in the School of Education. Upon admission to the program, students become elementary education majors and are advised by faculty within the Department of Curriculum and Instruction.

Secondary licensure: Students preparing to teach at the middle or high school levels (license for grades 5-12) will declare a major in the subject area(s) they wish to teach, e.g., English, mathematics, or any other of the state-approved major content endorsement areas listed above. They are advised within their major department(s) and, upon admission to the Teacher Education Program, they also are advised within the Department of Curriculum and Instruction regarding the requirements necessary to earn secondary licensure. All secondary licensure students seek admission to the Teacher Education Program, usually at the end of the sophomore year, and complete course work required for licensure in Curriculum and Instruction and in their major content area(s).

Applicants for Montana teaching licensure must: (1) satisfy all degree and licensure requirements as outlined below; and (2) be at least 18 years of age. Information about the Teacher Education Program is available in the department office and online at: http://www.soe.umt.edu/

Masters Degree and Initial Licensure

Individuals who have completed a degree may elect to apply to the department’s Graduate Program and combine the masters degree in curriculum and instruction (curriculum studies option) with licensure to teach. At the secondary licensure level, the combined program may be completed in a summer-autumn-spring-summer sequence provided the student previously has completed most of the content courses listed on the following pages by subject area. At the elementary licensure level, the program typically takes two academic years.

Assessment at Admission to the Undergraduate Teacher Education Program

Individuals seeking licensure to teach must apply for admission to the professional Teacher Education Program. Admission is limited to approximately 125 elementary and 125 secondary candidates per year. Deadlines for application are September 15 and February 15. Individuals are eligible for consideration for admission if they have:

- been admitted to The University of Montana;
- completed at least 30 semester credits;
- earned a minimum cumulative GPA (including all transfer credits) of 2.75;
- demonstrated evidence of writing ability as in an application essay;
- documented appropriate experience in working with children or youth;
- secured supportive recommendations from two faculty members; and
- presented results of a national fingerprint-based background check.

The Teacher Education Admission Application packet includes a policy and procedures handbook and is available from the UC Bookstore or can be downloaded from the website: http://www.soe.umt.edu/eni/.

Once admitted, licensure candidates must maintain a minimum GPA of 2.75 each semester to continue in the program.

Candidates who interrupt their studies for more than two years are placed on inactive status and must request to resume their studies.

Candidates seeking a K-12 endorsement in library-media, literacy, or special education must have full admission to the Teacher Education Program or be a licensed teacher before applying to one of these specialized programs.

Degree-holding individuals are invited to submit transcripts for review to determine how previous course work applies. They may earn a second baccalaureate degree and/or a teaching license, or they may combine elementary or secondary licensure with a masters degree. They should enroll with the Admissions Office as “post-baccalaureate” unless pursuing a graduate degree.

Admission Policy for Minority Students and Students with Disabilities

The Teacher Education Program is committed to providing opportunities for teacher preparation for members of groups that historically have been disadvantaged and subject to discrimination. The criteria for admission are the same for students with disabilities and for members of racial, ethnic and other minorities, as for other students; however, students who do not meet one or more of the criteria for admission are encouraged to describe in their applications any special circumstances, experiences, skills and/or special talents that may compensate for unmet criteria. The physical, social, economic, and cultural circumstances that may have influenced a student’s ability to achieve minimum eligibility for admission will be considered. A special effort will be made to determine the student’s abilities and potential to overcome disadvantage or discrimination and become a successful beginning teacher.

Upon entry to the program, the candidate will be assigned to a faculty mentor. The candidate and mentor will design a course of study appropriate for the candidate’s progression toward the degree and/or licensure.

Assessment at Application for Student Teaching

Candidates begin planning for student teaching two semesters prior to placement. Candidates are eligible to student teach if they have:

- full admission into the Teacher Education Program;
- a grade of C- or better in all required licensure courses;
- a minimum cumulative GPA of 2.75 (and 2.75 in each field of licensure);
- a passing score on the Writing Proficiency Assessment;
- results of a current national fingerprint-based background check (candidates with misdemeanors or felonies may be subject to further review by the Field Experience Committee);
- a completed application to student teach and the consent of the Director of Field Experiences;
- for elementary education majors, the Professional Methods Block, a minimum of 9 credits in the selected area of concentration, a minimum of 9 credits from the following: ART 314, DAN 327, DRAM 327, HHP 339, and MUS 335; and approval by advisor;
- for secondary licensure candidates, all methods courses, two-thirds of content course work, and approval by departments in the major/minor content area.

Consult the Teacher Education Policy Handbook for application deadlines and processing. The Student Teaching Application is available in the UC Bookstore and on the School of Education web page www.soe.umt.edu/forms.php.

Internships and practica in library-media, reading, and special education do not substitute for the student teaching semester required for licensure in a subject field.

Assessment at Program Completion:

As active participants in this learning community, candidates are expected to assume roles as both learners and teachers in course work and clinical performance. Through personal dispositions, classroom performance, and professional action, candidates who complete the teacher preparation program at the University of Montana will be able to:

- demonstrate knowledge of the disciplines and subject matter related to curriculum;
- design and organize learning environments to accommodate learners;
- design interdisciplinary and discrete subject area instruction to achieve curriculum goals;
-use appropriate technologies and resources to enhance instruction and student performance;
-select and design appropriate, authentic means of assessing student learning and progress;
-implement instructional and behavioral management strategies to promote a safe and positive learning environment;
-engage students in learning activities that promote critical and creative thinking;
-communicate clearly, accurately and professionally to diverse audiences;
-reflect on professional practices and demonstrate commitment to fulfilling responsibilities.

Indian Education for All

It is Montana’s constitutional intent that the state’s education system will recognize the distinct and unique cultural heritage of American Indians and will be committed in its education goals to the preservation of their cultural heritage. The intent of the legislature as expressed in MCA20-1-501, Indian Education for All, is that every Montanan, whether Indian non-American, be encouraged to learn about the distinct and unique heritage of American Indians in a culturally responsive manner. It is also intended that educational personnel provide means by which school personnel will gain an understanding for the American Indian people.

Candidates preparing for teaching licensure in all endorsement areas are required to complete a minimum of one course in Native American Studies. Candidates also may choose ANTH 323H, Indians of Montana, to meet this requirement.

Throughout their programs of study candidates must demonstrate a) ability to integrate into their content areas knowledge of the history, cultural heritage, and contemporary status of American Indians and tribes in Montana; b) knowledge of how students within different populations, including Montana American Indians, differ in their approaches to learning; and c) ability to create instructional opportunities that are adapted to diverse learners, including situations where concentrated generational poverty has affected student academic achievement.

Elementary Education Degree and Licensure Requirements (Grades K-8)

To qualify for the Montana elementary teaching license, candidates must earn a baccalaureate degree from the University or other approved institution of higher education. The degree in elementary education requires a minimum of 128 credits as specified below. Candidates must complete all specific requirements listed below with a grade of “C-” or better. None of these courses may be taken as credit/no credit except where that is the only grading option.

Elementary education candidates must complete a 12-credit minimum area of concentration, selected from one of the following six categories: (1) English/language arts, including reading/literary analysis; (2) fine arts; (3) health and human performance; (4) mathematics; (5) science; and (6) social science.

Candidates interested in preparing to teach K-3 are encouraged to take C&I 330 Early Childhood Education. Those interested in teaching 4-8 are encouraged to take PSYC 240S, Child and Adolescent Development.

See the Teacher Education Policy Handbook for additional information regarding the elementary education program, including options and requirements for completing the area of concentration.

Curriculum for Elementary Education

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>SCI 225N, 226N General Science</td>
<td>3</td>
</tr>
<tr>
<td>HHP 233 Health Issues of Children and Adolescents</td>
<td>10</td>
</tr>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>3</td>
</tr>
<tr>
<td>PSC 100S Introduction to American Government</td>
<td>3</td>
</tr>
<tr>
<td>HIST 269 Montana and the West</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 101S Introduction to Human Geography OR</td>
<td></td>
</tr>
<tr>
<td>GEOG 103S World Regional Geography</td>
<td>3</td>
</tr>
<tr>
<td>MATH 130-131 Math for Elementary Teachers</td>
<td>9</td>
</tr>
<tr>
<td>SCI 350 Environmental Perspectives</td>
<td>2</td>
</tr>
<tr>
<td>Selected history course (HIST 151 or 152 recommended)</td>
<td>3-4</td>
</tr>
<tr>
<td>Selected literature course</td>
<td>3-4</td>
</tr>
<tr>
<td>Native American Studies course</td>
<td>3</td>
</tr>
<tr>
<td>Current Standard First Aid and CPR as necessary OR</td>
<td>0-3</td>
</tr>
<tr>
<td>HHP 288/289</td>
<td>3-4</td>
</tr>
<tr>
<td>Area of concentration</td>
<td>12</td>
</tr>
<tr>
<td>Writing course</td>
<td>3</td>
</tr>
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</table>

Third and Fourth Years

*Block I:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 200 Exploring Teaching Through Field Experiences</td>
<td>1</td>
</tr>
<tr>
<td>C&amp;I 303 Educational Psychology and Measurements</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 306 Instructional Media and Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 410 Exceptionality and Classroom Management</td>
<td>3</td>
</tr>
</tbody>
</table>

**Block II:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 300 Field Experience/Elem Language Arts</td>
<td>1</td>
</tr>
<tr>
<td>C&amp;I 316 Children’s Literature and Critical Reading</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 318 Teaching Language Arts K-8</td>
<td>3</td>
</tr>
</tbody>
</table>

**Block III:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 400 or 401 Elem Methods Field Experience: Grades K-3 or 4-8</td>
<td>1</td>
</tr>
<tr>
<td>C&amp;I 402 Teaching Mathematics K-8</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 403 Teaching Social Studies K-8</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 404 Teaching Science K-8</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 405 Teaching Reading K-8</td>
<td>3</td>
</tr>
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</table>

**Block IV:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 314A Elementary School Art</td>
<td>3</td>
</tr>
<tr>
<td>DAN 327 Dance in Elementary Education</td>
<td>2</td>
</tr>
<tr>
<td>DRAM 327 Drama in Elementary Education</td>
<td>2</td>
</tr>
<tr>
<td>HHP 339 Instructional Strategies in Elementary Education</td>
<td>3</td>
</tr>
<tr>
<td>Health and Physical Education</td>
<td>3</td>
</tr>
<tr>
<td>MUS 335 Music Education in the Elementary School</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 407E Ethics and Policy Issues</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 481 Student Teaching: Elementary</td>
<td>14</td>
</tr>
<tr>
<td>C&amp;I 494 Professional Portfolio</td>
<td>0-3</td>
</tr>
</tbody>
</table>

*Candidates are encouraged to enroll concurrently in the courses listed in Block I.

**Candidates are required to enroll concurrently in the courses listed in Block II. Students are required to enroll concurrently in the same section of all courses in Block III.

Candidates may add other courses as necessary to complete a full semester course load. This blocked format allows for integration of curriculum, modeling of cooperative learning and collaborative teaching, and corresponding developmental field experiences.

Secondary Teaching Licensure Requirements (Grades 5-12)

To qualify for the Montana secondary teaching license, individuals must earn a baccalaureate degree from the University of Montana or other approved institution of higher education in the content area(s) they plan to teach at the middle and/or high school level. They also must complete the corresponding requirements for the teaching major/minor (see below). If the chosen major does not qualify as a single-field endorsement, individuals also must complete requirements for a teaching minor. All requirements listed below must be completed with a grade of C- or better. None of these courses may be taken as credit/no credit except where that is the only grading option.

Candidates should seek advising from both the degree-granting departments and the Department of Curriculum and Instruction. Candidates are encouraged to complete licensure in more than one teaching field, even if the chosen field qualifies as a single-field endorsement. See the Teacher Education Policy handbook for additional information regarding the secondary licensure program.
Curriculum for Secondary Licensure

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 1005 Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>HHP 233 Health Issues of Children and Adolescents</td>
<td>3</td>
</tr>
<tr>
<td>Current Standard First Aid and CPR certificates</td>
<td>0-3</td>
</tr>
<tr>
<td>Native American Studies course</td>
<td>3</td>
</tr>
<tr>
<td>Electives, General Education and/or Courses in Major and/or Minor Teaching Field(s)</td>
<td>Variable</td>
</tr>
</tbody>
</table>

Third and Fourth Years

Block I:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 200 Exploring Teaching through Field Experiences</td>
<td>1</td>
</tr>
<tr>
<td>C&amp;I 303 Educational Psychology and Measurements</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 306 Instructional Media and Computer Applications</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 410 Exceptionality and Classroom Management</td>
<td>3</td>
</tr>
</tbody>
</table>

Block II:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 301 or 302 Professional Field Experience: Grades K-8 or 9-12 (coreq with content area methods course)</td>
<td>1</td>
</tr>
<tr>
<td>C&amp;I 427 Literacy Strategies in Content Areas</td>
<td>3</td>
</tr>
<tr>
<td>Teaching field(s) methods course(s)</td>
<td>Variable</td>
</tr>
<tr>
<td>C&amp;I 407E Ethics and Policy Issues</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 482 Student Teaching: Secondary</td>
<td>14</td>
</tr>
<tr>
<td>C&amp;I 494 Professional Portfolio</td>
<td>1</td>
</tr>
<tr>
<td>Electives, General Education and/or Courses in Major and/or Minor Teaching Field(s)</td>
<td>Variable</td>
</tr>
</tbody>
</table>

Licensure in Library Media: The library media program is designed to prepare library media specialists for K-12 settings. This on-line program is combined with that of UM-Western. To be eligible for library media licensure, candidates must meet the teacher licensure requirements as well as complete a minimum of 27 credits in the following required courses: C&I 316, 470, 479, 480, 483, 484, 485, 488, and LIB 461 offered through UM-Western. Equivalent courses from UM-Western for C&I 316, 470, 479, and 485 may substitute for C&I courses. C&I graduate courses also may substitute for 316, 470 and 479.

Licensure in Reading: The reading program is designed to enhance the diagnostic and instructional skills of K-12 classroom teachers and remedial reading teachers. The program follows the philosophy of the International Reading Association. The undergraduate reading minor requires the following courses: C&I 316, 318, 403, 427, 433, 435, and 437.

Licensure in Special Education: The Special Education program prepares teachers to work with children with disabilities in Special Education and inclusive settings. To be eligible for a K-12 non-categorical endorsement in the State of Montana, candidates accepted into the program must complete the following courses: C&I 420 or elective, 433, 453, 457, 459, 463, 469. Candidates completed C&I 453 prior to beginning the endorsement; they must be admitted into the Special Education program before enrolling in C&I 437. The last semester is a professional block including focused course work for five weeks preceding the internship experience, and is done after regular student teaching or teaching experience in an elementary, middle, or secondary school setting.

Requirements for Non-Teaching Minors

Library Media

To complete a non-teaching minor in library media, the individual must complete the following courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 316 Children’s Literature and Critical Reading</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 470 Young Adult Literature</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 479 Reference Resources</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 480 Collection Development</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 483 Library Media Technical Processes</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 484 Administration and Assessment of Library-Media Programs</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 485 Library-Media Practicum</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 488 Libraries and Technology</td>
<td>3</td>
</tr>
<tr>
<td>LIB 461 Information Literacy</td>
<td>3</td>
</tr>
</tbody>
</table>

Total Credits: 27

Administrative Systems Management

To earn a non-teaching minor in administrative systems management the individual must complete the following courses:

<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>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 1115 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>
</tbody>
</table>

Total Credits: 27

Course Requirements for Major and Minor Teaching Fields

Individuals who wish to qualify for the Montana secondary teaching license must, according to the regulations of the State Office of Public Instruction which were in effect when this catalog was printed, complete requirements for a major teaching field (30 or more credits, depending on the field) and a minor teaching field (20 or more credits, depending on the field) in areas commonly taught in high schools. In the event that the Montana Office of Public Instruction changes the program standards of major and minor teaching fields, the University reserves the right to modify the requirements listed for them.

Art

Grades K-12. Qualifies as a single-field endorsement. For an endorsement in the extended major teaching field of Art, a student must complete the requirements for a Bachelor of Arts with a major in Fine Arts with an Art Education option (see the Department of Art section in this catalog and below). Individuals holding a baccalaureate degree must meet those requirements by completing the courses or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ART 123A Drawing Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ART 125A Color and Design</td>
<td>3</td>
</tr>
<tr>
<td>ART 135A Three-Dimensional Fundamentals</td>
<td>3</td>
</tr>
<tr>
<td>ART 150L-151L Art of Western Civilization</td>
<td>6</td>
</tr>
<tr>
<td>ART 203 Introduction to Art Criticism</td>
<td>3</td>
</tr>
<tr>
<td>ART 215A Photography I</td>
<td>3</td>
</tr>
<tr>
<td>ART 223 Drawing I</td>
<td>3</td>
</tr>
<tr>
<td>ART 229A Ceramics I</td>
<td>3</td>
</tr>
<tr>
<td>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 (coreq C&amp;I 301 or 302)</td>
<td>6</td>
</tr>
<tr>
<td>DAN 427 Teaching Creative Movement</td>
<td>3</td>
</tr>
<tr>
<td>ART upper-division studio courses</td>
<td>9</td>
</tr>
<tr>
<td>ART upper-division art history courses</td>
<td>6</td>
</tr>
<tr>
<td>ART upper-division art criticism</td>
<td>2</td>
</tr>
</tbody>
</table>
Total Credits
66

Biology
Grades 5-12. Qualifies as a single-field endorsement.
For an endorsement in the extended major teaching field of Biology a student must complete the requirements for the B.A. with a major in Biology, option in Biological Education (see the Biology section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.
For endorsements in the minor teaching field of Biology, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOL 108N-109N Diversity of Life</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>BIOL 110N Principles of Biology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BIOL 221 Cell and Molecular Biology</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BIOL 223 Genetics and Evolution</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>BIOL 301 Developmental Biology or BIOL 345</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Principles of Physiology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BIOL 340-341 Ecology and Laboratory</td>
<td>5</td>
<td>5</td>
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<tr>
<td>BIOL 444-445 Plant Physiology and Laboratory</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MICB 300-301 General Microbiology and Laboratory</td>
<td>5</td>
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</tr>
<tr>
<td>C&amp;I 426 Teaching Science in Middle and Secondary Schools</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>(coreq C&amp;I 301 or 302)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MATH 150 Applied Calculus or 152</td>
<td>4</td>
<td>4</td>
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<tr>
<td>Calculus I</td>
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<td></td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 151N-152N, 154N General and Inorganic and Organic</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>and Biological Chemistry and Laboratory (major only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHEM 485 Laboratory Safety</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>PHYS 121N General Physics I</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>GEOS 109N Environmental Geoscience or 301 Environmental Geology</td>
<td>2-3</td>
<td>2-3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>61-62</td>
<td>47-48</td>
</tr>
</tbody>
</table>

A biology major qualifies as a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.

Business and Information Technology Education
Grades 5-12. Qualifies as a single-field endorsement.
For licensure in the major teaching field of Business and Information Technology Education, a student must complete the requirements for 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</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACCT 201 Financial Accounting</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>ACCT 202 Managerial Accounting</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>BADM 257 Business Law</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 341 Information Management &amp; Design</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 429 Teaching Business Subjects (coreq C&amp;I 301 &amp; 302)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>C&amp;I 444 Advanced Technology and Supervision</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CS 172 Introduction to Computer Modeling</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECON 1115 Introduction to Microeconomics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>ECON 1125 Introduction to Macroeconomics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>FIN 322 Business Finance</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IS 270 Management Information Systems</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IS 341 Operations Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IS 370 Database Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IS 371 Business Applications Development</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IS 372 Telecommunications Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IS 373 Systems Analysis and Design</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>IS 476 Project Management</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MGMT 3405 Management and Organizational Behavior</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MGMT 445 Small Business Administration or MGMT 446 Strategic Management</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MKTG 360 Marketing Principles</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>74</td>
<td>31</td>
</tr>
</tbody>
</table>

Although not required, it is recommended that students complete a second teaching major or minor.

Chemistry
Grades 5-12. Qualifies as a single-field endorsement.
For an endorsement in the major teaching field of Chemistry, a student must complete the requirements for the B.A. with a major in Chemistry, with appropriate electives, and with the addition of CHEM 485. A student also must complete MATH 241, BIOL 380, C&I 426 and SCI 350 (see the Department of Chemistry section of this catalog and below). The foreign language requirement is waived by the Department of Chemistry for students using the B.A. degree for teacher licensure. Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.
For endorsement in the minor teaching field of Chemistry, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 101N Chemistry for the Consumer</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CHEM 161N-162N College Chemistry and Laboratory</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>CHEM 221-222-223 Organic Chemistry and Laboratory</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>CHEM 221, 222, 223, 264 (or 224 in place of 264) Organic Chemistry and Laboratory</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>CHEM 334 Chemistry Literature and Scientific Writing</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>CHEM 370 Applied Physical Chemistry or 371 Physical Chemistry</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>CHEM 371-372 Physical Chemistry</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>CHEM 341 Quantitative Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instrumental Methods</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 342 Instrumental Analysis and Physical Measurements</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>CHEM 452-453 Inorganic Chemistry</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>CHEM 485 Laboratory Safety</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CHEM 494 Undergraduate Chemistry Seminar</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>BIOC 380 Fundamentals of Biochemistry</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>CS 172 Computer Modeling</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 152, 153, and 251 Calculus I, II, and III</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>MATH 152 Calculus I</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MATH 241 Statistics</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 221N-222N General Physics</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>PHYS 121N-122N General Physics</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>SCI 350 Environmental Perspectives</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>C&amp;I 426 Teaching Science in Middle &amp; Secondary Schools</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>(coreq C&amp;I 301 or 302)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td>85</td>
<td>59</td>
</tr>
</tbody>
</table>

A chemistry major qualifies as a single-field endorsement. Although not required, it is recommended that students complete a second teaching major or minor.

Drama
Grades 5-12. Does not qualify as a single field endorsement. For an endorsement in the major teaching field of Drama, a student must complete the requirements for the B.A. with a major in Drama Endorsement Preparation (see the Department of Drama section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

- **DAN 327A Dance in Elementary Education** .... 2
- **DRAM 103A Introduction to Theatre Design** .... 3
- **DRAM 106A Theatre Production I: Running Crew** .... 1
- **DRAM 107A Theatre Production I: Construction Crew** .... 3
- **DRAM 203 Stagecraft II** .... 3
- **DRAM 210 Voice and Speech I** .... 2
- **DRAM 214-215 Acting I, II** .... 6
- **DRAM 220L Dramatic Literature I** (Script Analysis) .... 3
- **DRAM 244 Stage Makeup** .... 3
- **DRAM 320-321 Theatre History I, II** .... 6
- **DRAM 327A Drama in Elementary Education** .... 2
- **DRAM 371 Stage Management I** .... 2
- **DRAM 379 Introduction to Directing** .... 3
- **DRAM 402 Methods of Teaching Theatre** .... 2
- **Senior Project**

Total Credits: 44

The demand for teaching in this field is limited. The required second endorsement (either a teaching major or teaching minor) should be in a field in high demand.

**Earth Science**

Grades 5-12. Major only. Does not qualify as a single field endorsement. For an endorsement in the major teaching field of Earth Science, a student must complete the requirements for the B.S. with a major in Geology, Earth Science Education option (see the Department of Geosciences section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

- **GEOS 100N-101N General Geology** .... 3
- **GEOS 105N Oceanography** .... 2
- **GEOS 130 Introductory Field Geology and Maps** .... 3
- **GEOS 226 Mineralogy and Petrology** .... 4
- **GEOS 301 Environmental Geology** .... 3
- **GEOS 320 Invertebrate Paleontology** .... 3
- **GEOS 330 Structural Geology** .... 3
- **GEOS--any course numbered 100 or above** .... 3
- **GEOS-Courses numbered 300 or above** .... 12
- **GEOG 330N Meteorology** .... 3
- **ASTR 131N-132N Elementary Astronomy** .... 6
- **MATH 121 Precalculus** .... 4
- **MATH 341 Introduction to Probability and Statistics** .... 3
- **CS 172 Introduction to Computer Modeling or equivalent** .... 3
- **C&I 426 Teaching Science in Middle and Secondary Schools (coreq. C&I 301 or 302)** .... 3
- **Biology 121N-122N Introductory Ecology and Laboratory** .... 2
- **CHEM 151N-152N General Chemistry or Physics** .... 4-10
- **CHEM 485 Laboratory Safety** .... 1

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.

- **ECON 111S-112S Introduction to Micro- and Macroeconomics** .... 6
- **ECON 304 Public Finance: Expenditures** .... 3
- **ECON 311 Intermediate Microeconomics** .... 3
- **ECON 313 Intermediate Macroeconomics** .... 3
- **ECON 317 Money and Banking** .... 3
- **ECON 323 Labor Economics** .... 3
- **ECON 460 Econometrics** .... 3
- **Economics electives** .... 6
- **ECON 487-489 Senior Thesis sequence** .... 6
- **MATH 121N-122N General Physics** .... 2
- **MATH 117, 150 or 152-153 Probability, Linear Math, Applied Calculus OR Calculus I, II** .... 7-8
- **MATH 241 Statistics** .... 4

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.

- **ENLT 223L British Literature** .... 3
- **ENLT 224L and 225L American Literature** .... 6
- **ENLT 320 Shakespeare** .... 3
- **ENLT 487-489 Senior Thesis sequence** .... 6
- **C&I 428 Teaching Social Studies in Middle and Secondary Schools (coreq. C&I 301 or 302)** .... 3
- **MATH 117, 150 or 152-153 Probability, Linear Math, Applied Calculus OR Calculus I, II** .... 7-8
- **MATH 241 Statistics** .... 4

Total Credits: 51

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 listed below or demonstrate course equivalency.
LING 470 Introduction to Linguistic Analysis .......... 3
LING 471 Phonology and Morphology .......... 3
LING 472 Syntax and Semantics .......... 3
LING 477 Bilingualism or 478 Second Language Acquisition .......... 3
At least two courses from the following:
LING 466 Pedagogical Grammar

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>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREN 101-102 Elementary French ..........</td>
<td>10</td>
</tr>
<tr>
<td>FREN 201-202 Intermediate French ..........</td>
<td>8</td>
</tr>
<tr>
<td>FREN 301 Oral and Written Expression ..........</td>
<td>3</td>
</tr>
<tr>
<td>FREN 302 French Civilization and Culture ..........</td>
<td>3</td>
</tr>
<tr>
<td>FREN 311-313 Survey of French Literature ..........</td>
<td>9</td>
</tr>
<tr>
<td>FREN 401 Applied Linguistics ..........</td>
<td>3</td>
</tr>
<tr>
<td>FREN 408 Advanced Composition and Conversation ..........</td>
<td>3</td>
</tr>
<tr>
<td>FREN literature at the 400-level ..........</td>
<td>6</td>
</tr>
<tr>
<td>FREN upper-division electives ..........</td>
<td>3</td>
</tr>
<tr>
<td>HIST - one course from 306, 307, 310, 311H, 312H, 314, 315 ..........</td>
<td>3</td>
</tr>
<tr>
<td>LING 270 Introduction to Linguistics ..........</td>
<td>3</td>
</tr>
<tr>
<td>MCLG 410 Methods of Teaching Foreign Languages (prereq. to student teaching; coreq. C&amp;I 301 or 302) ..........</td>
<td>2</td>
</tr>
<tr>
<td>Total Credits ..........</td>
<td>57</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 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.

ASTR 131N, 134N Elementary Astronomy
by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of German, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.  

<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>
<tr>
<td>Two courses from the following: GERM 303H, 304H, 355, 361L or 362H</td>
<td>6</td>
</tr>
</tbody>
</table>

The teaching major must include 21 upper-division political science credits. The teaching minor must include 9 upper-division political science credits. 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.

**Health and Human Performance**

Grades K-12. Qualifies as a single-field endorsement.

For an endorsement in the extended major teaching field of Health and Human Performance, a student must complete the requirements for a B.S. in Health and Human Performance with an option in Health Enhancement (see the Department of Health and Human Performance section of this catalog and below). Individuals holding a baccalaureate degree must meet those requirements by completing the courses listed below or demonstrate course equivalency. 

Students seeking an endorsement in Health and Human Performance must earn a minimum grade of C- in all required courses, including prerequisites. All HHP majors must be certified in First Aid/Emergency Care and CPR (see First Aid and CPR Exit Certifications within the Department of Health and Human Performance section of this catalog) upon entry into student teaching.

<table>
<thead>
<tr>
<th>Maj.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHP 181 Foundations of Health and Human Performance</td>
</tr>
<tr>
<td>HHP 184 Personal Health and Wellness</td>
</tr>
<tr>
<td>HHP 224-225 Professional Activities</td>
</tr>
<tr>
<td>HHP 226 Physical Conditioning/Weight Training</td>
</tr>
<tr>
<td>HHP 233 Health Issues of Children and Adolescents</td>
</tr>
<tr>
<td>HHP 236 Nutrition</td>
</tr>
<tr>
<td>HHP 288-289 First Aid/Emergency Care and Laboratory</td>
</tr>
<tr>
<td>HHP 301 Instructional Strategies in Secondary Health and Physical Education (coreq. C&amp;I 301 or 302)</td>
</tr>
<tr>
<td>HHP 339 Instructional Strategies in Elementary Health and Physical Education (coreq. C&amp;I 301 or 302)</td>
</tr>
<tr>
<td>HHP 361 Assessment in Physical and Health Education</td>
</tr>
<tr>
<td>HHP 365 Management in Health and Human Performance Professions</td>
</tr>
<tr>
<td>HHP 368-369 Applied Anatomy and Kinesiology and Laboratory</td>
</tr>
<tr>
<td>HHP 377 Physiology of Exercise (prereq. SCN 201N-202N)</td>
</tr>
<tr>
<td>HHP 378 Physiology of Exercise Laboratory</td>
</tr>
<tr>
<td>HHP 384 Motor Learning</td>
</tr>
<tr>
<td>HHP 430 Analytical and Communication Techniques</td>
</tr>
<tr>
<td>HHP 466 Strategies in K-12 Health Education</td>
</tr>
<tr>
<td>HHP 475E Legal and Ethical Issues in the Health and Exercise Profession</td>
</tr>
<tr>
<td>BIOL 106N Elementary Medical Microbiology</td>
</tr>
<tr>
<td>BIOL 121N Introductory Ecology or SCI 350 Environmental Perspectives</td>
</tr>
<tr>
<td>CHEM 151N General &amp; Inorganic Chemistry</td>
</tr>
<tr>
<td>COMM 111A Introduction to Public Speaking</td>
</tr>
<tr>
<td>CS 171 Communicating Via Computers</td>
</tr>
<tr>
<td>PSYC 240S Developmental Psychology</td>
</tr>
<tr>
<td>SCN 201N-202N Anatomy and Physiology I and II</td>
</tr>
</tbody>
</table>

Total Credits 76-80

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 (see the Department of History section of this catalog and below). Individuals holding a baccalaureate degree must meet those requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of History a student must complete the courses in the minor teaching field...
listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST 104H or 105H European Civilization</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>HIST 151H or 152H The Americans</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>HIST 269F Western Art and the Westerner</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>HIST 300 The Historians' Craft</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>History electives in Asian, Islamic, African, and Latin American</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division courses in American history</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Upper-division courses in European history</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>History electives upper-division courses in history</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 426 Teaching Social Studies in Middle and Secondary Schools (coreq. C&amp;I 301 or 302)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>47</td>
<td>29</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.

**Latin**

Grades K-12. Does not qualify as a single field endorsement. For an endorsement in the major teaching field of Latin, a student must complete the requirements for the B.A. with a major in Classics, Latin option, as well as MCLG 410 (see Department of Modern and Classical Languages and Literatures section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Latin, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LAT 101-102 Elementary Latin or equivalent</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>LAT 211 Latin Readings and Grammar Review</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>LAT 212 Latin Readings: Vergil</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>LAT 300 Major Latin Writers</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td>LAT 402 Composition</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MCLG 160L Classical Mythology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MCLG 361L Roman, Early Christian, and Byzantine Art</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MCLG 410L Methods of Teaching Foreign Languages (prereq. to student teaching; coreq. C&amp;I 301 or 302)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>HIST 303H Classical Rome</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>47</td>
<td>29</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 for upper-division course work in both the teaching major and minor as a prerequisite to student teaching.

**Library Media**


<table>
<thead>
<tr>
<th>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C&amp;I 316 Children's Literature and Critical Reading</td>
<td>3</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 479 Reference Resources</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 480 Collection Development</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 483 Library Media Technical Processes</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 484 Administration and Assessment of Library Media Programs</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 485 Library Media Practicum</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 488 Libraries and Technology</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>LIB 461 Information Literary</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td>27</td>
<td></td>
</tr>
</tbody>
</table>

A Library Media Practicum is separate from student teaching. It includes 90 hours of field work in a library and 10 hours of seminars. Elective courses from Western may substitute for C&I 316, 470, 479, and 485. C&I graduate courses 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>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 152-153 Calculus I, II</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>MATH 221 Linear Algebra</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>MATH 301 Mathematics with Technology for Teachers</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 305 Introduction to Abstract Mathematics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 326 Elementary Number Theory</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 341 Introduction to Probability &amp; Statistics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 406 History of Mathematics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 421 Abstract Algebra</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MATH 431 Euclidean &amp; Non-Euclidean Geometry</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>MATH 251 or additional 300-400-level course</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>C&amp;I 430 Teaching Math in Middle and Secondary Schools (coreq. C&amp;I 301 or 302)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Total Credits</td>
<td>41-42</td>
<td>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>Course</th>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MUS 100A Performance Study</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MUS 151-251-351 Principal Performance</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>MUS 111-112 Theory I, II</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MUS 115A-116A Piano in Class I, II</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MUS 117A Voice in Class</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>MUS 124-131 Strings, Woodwinds, Brass, Percussion Class</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>MUS 135L Introduction to Music Literature</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>MUS 137-138 Aural Perception I, II</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MUS 211-212 Theory III, IV</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MUS 215-216 Intermediate Piano in Class I, II</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MUS 219 Piano Proficiency Assessment</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>MUS 220 Upper-Division Required Performance</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>MUS 237-238 Aural Perception III, IV</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>MUS 302 Instrumental Conducting</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MUS 303 Choral Conducting</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MUS 305 Instrumental Methods and Materials</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MUS 306 Choral Methods and Materials</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MUS 322-323 General Music Methods and Materials I, II (coreq. C&amp;I 301 or 302)</td>
<td>7-12</td>
<td></td>
</tr>
<tr>
<td>MUS 324H-325H History of Music I, II</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>MUS 328 Orchestration I</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>MUS 388 Concert Attendance</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>MUS upper-division electives</td>
<td>3-4</td>
<td></td>
</tr>
<tr>
<td>Total Credits</td>
<td></td>
<td></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>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 121N-122N or 221N-222N Fundamentals of Physics (coreq. of Calculus for 221N)</td>
<td>10 10</td>
</tr>
<tr>
<td>PHYS 301 Mathematical Methods for Physical Scientists</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 325 Optics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 330 Methods of Communicating Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 341 Fundamentals of Modern Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 371 Classical Mechanics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 414 Electromagnetism I</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 461 Quantum Mechanics I</td>
<td>3</td>
</tr>
<tr>
<td>Electives-courses in physics</td>
<td>3</td>
</tr>
<tr>
<td>ASTR 131N-132N Elementary Astronomy</td>
<td>6</td>
</tr>
<tr>
<td>MATH 152-153 Calculus I and II</td>
<td>8</td>
</tr>
<tr>
<td>MATH 241 Statistics or MATH 341 Introduction to Probability and Statistics</td>
<td>3-4</td>
</tr>
<tr>
<td>MATH 251 Calculus III</td>
<td>4</td>
</tr>
<tr>
<td>MATH 311 Ordinary Differential Equations</td>
<td>3</td>
</tr>
<tr>
<td>CS 101 Intro to Programming or CS 131 Fundamentals of Computer Science I or CS 201 Programming Languages</td>
<td>3</td>
</tr>
<tr>
<td>C&amp;I 426 Teaching Science in Middle and Secondary Schools</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 151N General Chemistry</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 485 Laboratory Safety</td>
<td>1</td>
</tr>
<tr>
<td>BIOL 110N Principles of Biology or BIOL 108N Diversity of Life or BIOL 120N General Botany or BIOL 131N-132N Ecology</td>
<td>3</td>
</tr>
<tr>
<td>GEOG 100N-101N General Geology or GEOG 301 Environmental Geology</td>
<td>3</td>
</tr>
<tr>
<td>Total Credits</td>
<td>77-78</td>
</tr>
</tbody>
</table>

The demand for teaching in this field is limited. The required second endorsement (either a teaching major or a teaching minor) should be in a field in high demand.

**Psychology**

Grades 5-12. Does not qualify as a single field endorsement. For an endorsement in the major teaching field of Psychology, a student must complete the requirements for the B.A. with a major in Psychology, General option (see the Department of Psychology section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Psychology, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

<table>
<thead>
<tr>
<th>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSYC 100S Introduction to Psychology</td>
<td>4</td>
</tr>
<tr>
<td>PSYC 120S Introduction to Psychological Research</td>
<td>3</td>
</tr>
<tr>
<td>PSYC 220 Psychological Statistics</td>
<td>3</td>
</tr>
<tr>
<td>At least two of the following: PSYC 260S Fundamentals of Learning PSYC 265S Cognition PSYC 270N Fundamentals of Biological Psychology</td>
<td>6</td>
</tr>
</tbody>
</table>

At least three of the following for the major:

- PSYC 240S Child and Adolescent Psychology
- PSYC 330S Abnormal Psychology
- PSYC 350S Social Psychology
- PSYC 351S Psychology of Personality

At least one of the following for the minor:

- PSYC 240S Child and Adolescent Psychology
- PSYC 350S Social Psychology
- PSYC 351S Psychology of Personality

At least one of the following for the major:

- Math 117 Probability, Linear Mathematics
- Math 150 Applied Calculus
- Math 152 Calculus I

At least one of the following for the minor:

- PSYC 335S Fundamentals of Clinical Psychology
- PSYC 330S Abnormal Psychology
- PSYC 336S Child and Adolescent Psychological Disorders
- PSYC 337 Principles of Cognitive Behavior Modification

Four other psychology courses (at least three of which must be at the 200-level or higher), not to include PSYC 396, 398, 399, 403 or 499.

Two of the following for the minor:

- PSYC 260S Fundamentals of Learning
- PSYC 270N Fundamentals of Biological Psychology
- PSYC 371 Fundamentals of Human Neuropsychology
- PSYC 372 Intermediate Behavioral Biology

C&I 428 Teaching Social Studies in Middle Schools (coreq. C&I 301 or 302)

Total Credits | 43-44

Six of the 22 credits for the minor must be at the 300-level or above.

The demand for teaching in this field is limited. The required second endorsement (either a teaching major or a teaching minor) should be in a field in high demand.

**Reading**

Grades K-12. Minor only.

C&I 316 Children's Literature and Critical Reading or 470 Young Adult Literature and Critical Reading

C&I 318 Teaching Language P-8

C&I 405 Teaching Reading K-8

C&I 427 Literacy Strategies in Content Areas

C&I 433 Basic Diagnosis and Correction of Reading and Writing

C&I 435 Organizing Classroom Reading and Writing Programs

C&I 437 Application of Literacy Models

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>Maj.</th>
<th>Min.</th>
</tr>
</thead>
<tbody>
<tr>
<td>RUSS 101-102 Elementary Russian</td>
<td>10</td>
</tr>
<tr>
<td>RUSS 201-202 Intermediate Russian</td>
<td>8</td>
</tr>
<tr>
<td>RUSS 301 Oral and Written Expression</td>
<td>3</td>
</tr>
<tr>
<td>RUSS 302 Russian Culture and Civilization</td>
<td>3</td>
</tr>
<tr>
<td>RUSS 305L-306L Introduction to Russian Literature</td>
<td>3</td>
</tr>
</tbody>
</table>
The demand for teaching in the field is limited. The required minor should be in a field in high demand.

**Comprehensive Social Science**

Grades 5-12. Qualifies as a single-field endorsement. Students who want to be licensed to teach history, government, and one additional social science at the middle and high school level must complete the B.A. degree requirements for the combined academic major in history and political science, shown below. Individuals holding a baccalaureate degree must show evidence of completing the courses listed below or demonstrate course equivalency.

- **HIST 104H or 105H European Civilization**
- **HIST 151H-152H The Americans**
- **HIST 269 Montana and the West**
- **HIST 300 The Historians' Craft**
- **HIST elective in Asian, Islamic, African, or Latin American**
- **HIST upper-division American history**
- **HIST upper-division European history**
- **HIST upper-division elective**
- **PSC 100S Introduction to American Government**
- **PSC 120S Introduction to Comparative Government**
- **PSC 130E International Relations**
- **PSC 150E Political Theory**
- **PSC upper-division American government and politics**
- **Upper-division comparative government and/or international relations, organization and law**
- **Credits in one of the following fields: economics, geography, psychology, or sociology**
- **C&I 428 Teaching Social Studies in Middle and Secondary Schools (coreq. C&I 301 or 302)**

Total Credits: 75

**Sociology**

Grades 5-12. Does not qualify as a single field endorsement. For an endorsement in the major teaching field of Sociology, a student must complete the requirements for the B.A. with a major in Sociology (see the Department of Sociology section of this catalog and below). Individuals holding a baccalaureate degree must meet these requirements by completing the courses listed below or demonstrate course equivalency.

For an endorsement in the minor teaching field of Sociology, a student must complete the courses in the minor teaching field listed below or demonstrate course equivalency.

- **CS 171 Communicating via Computers or CS 172 Introduction to Computer Modeling or a higher-level CS course**
- **SOC 110S Principles of Sociology**
- **SOC 201 Social Science Methods**
- **SOC 202 Social Statistics**
- **SOC 220S Race, Gender and Class**
- **SOC 230S Criminology or 330S Juvenile Delinquency**

Total Credits: 3

**SOC 455 Classical Social Theory**

Two of the following:
- **SOC 270 Introduction to Rural and Environmental Change**
- **SOC 300 Sociology of the Family**
- **SOC 306S Sociology of Work**
- **SOC 320 Complex Organizations**
- **SOC 325 Social Stratification**
- **SOC 355S Population Problems**
- **SOC 485 Political Sociology**
- **Sociology electives**

Total Credits: 30

*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 this field is limited. The required second endorsement (either a teaching major or teaching minor) should be in a field in high demand.

**Spanish**

Grades K-12. Qualifies for single-field endorsement. 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, 410, 420, 425, 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.

- **SPAN 101-102 Elementary Spanish**
- **SPAN 201-202 Intermediate Spanish**
- **SPAN 301 Written Expression in Cultural Contexts**
- **SPAN 302 Phonetics and Oral Expression**
- **SPAN 311L/312L Introduction to Contemporary Spanish Literature (minors take one)**
- **SPAN 405 Applied Linguistics**
- **SPAN 408 Advanced Composition and Conversation**
- **SPAN two literature courses at 400-level**
- **LING 270 Introduction to Linguistics**
- **MCLG 315L Major Hispanic Authors**
- **MCLG 410 Methods of Teaching Foreign Languages (prereq. to student teaching; coreq. C&I 301 or 302)**

Total Credits: 36

*The Department of Modern and Classical Languages and Literatures requires a recommendation of the student's language proficiency and an overall minimum grade-point average of 3.00 in upper-division course work in both the teaching major and minor as a prerequisite to student teaching. Study in a Spanish-language country, provided it is recommended that students complete a second major or minor.

**Special Education**

Grades P-12. Minor only.

- **C&I 420 Assessment & Curriculum**
- **In Early Childhood Special Education OR elective**
- **C&I 433 Basic Diagnosis and Correction of Reading and Writing (coreq. C&I 318 or 427)**
- **C&I 455 Introduction to Special Education**
- **Law & Policy**
C&I 457 Assessment and Instruction for Exceptional Learners ........................... 5
C&I 459 Critical Resource Teacher (prereq. C&I 453) .......................... 3
C&I 463 Advanced Classroom Management for Exceptional Learners/Practicum (prereq. C&I 453) ... 3
C&I 469 Student Teaching: Special Education ............................. 10
Total Credits ................................. 29-30

*Required course for early childhood education; counts as elective credit. Other elective courses must be approved by a special education advisor.

Courses

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

Curriculum and Instruction (C&I)

U 160 Learning Strategies for Higher Education 2 cr.
Offered every term. Instruction and application of college study skills including lecture note taking, time management, reading textbooks, test taking, and critical thinking. Elective credit only.

U 200 Exploring Teaching through Field Experiences 1 cr.
Offered autumn and spring. Prereq., admission to Teacher Education Program or GPA of 2.75 and consent of Field Experiences Director. Guided introductory field experience for students committed to teaching as a profession. Connects field experience to content of co-requisite theory classes. Seminars include professional development portfolio, developmental level of students, diversity, learning/teaching strategies, motivation, classroom management, and assessment of learning.

U 287 Business Communications 3 cr. Offered every term. Prereq., ENEX 101. Emphasis on consistent and logical approaches to solving communication problems and creating successful communication products.

U 295 Special Topics Variable cr. (R-6) Offered intermittently. Offerings of visiting professors, new courses, or current topics.

U 296 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of advisor and instr.

U 298 Internship Variable cr. (R-6) Offered intermittently. Prereq., consent of advisor, instructor, and director of field experiences. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

U 300 Field Experience/Elementary Language Arts 1 cr. (R-4) Offered autumn and spring. Prereq., C&I 200 coreq., C&I 316 and 318. Arranged field experience with 10 hours in a PK setting and 20 hours in either a K-6 or a K-8 school setting.

U 301 Professional Field Experience: Grades K-8 1 cr. (R-4) Offered autumn and spring. Prereq., C&I 200; coreq., a secondary methods course. Arranged field experience in an elementary or middle school classroom, grades 4-8. For secondary licensure candidates whose C&I 200 experience was in a high school classroom.

U 302 Professional Field Experience: Grades 9-12 1 cr. (R-4) Offered autumn and spring. Prereq., C&I 200; coreq., a secondary methods course. Arranged field experience in a high school classroom. For secondary licensure candidates whose C&I 200 experience was in a middle school setting.

U 303 Educational Psychology and Measurements 3 cr. Offered every term. Prereq., admission to Teacher Education program; prereq. or coreq., C&I 200. Analysis of fundamental psychological concepts underlying classroom teaching and management, learning and evaluation including educational measurement. Emphasis on cognition, developmental, and motivational aspects of learning.

U 306 Instructional Media and Computer Applications 3 cr. Offered every term. Prereq., admission to the Teacher Education Program and general computer literacy skills; 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 300 and 316. Genre survey, including cross-cultural literature, that focuses on responding to children’s literature through reading, writing, listening, speaking, and activities that emphasize selecting literature, teaching critical thinking, and integrating literature into the elementary curriculum.

U 318 Teaching Language Arts K-3 3 cr. Offered autumn and spring. Prereq., C&I 300, C&I 316. Language development and primary and secondary language acquisition and emergent literacy; theory and application of teaching reading, speaking, writing and viewing in a PK-8 setting.

UG 350 Early Childhood Education 3 cr. Offered spring odd-numbered years. Theory and techniques of teaching in pre-school and primary levels of education. Observation and participation in pre-school programs. Recommended for kindergarten and primary teachers.

U 341 Information Management and Design 3 cr. Offered autumn and spring. Prereq., C&I 172. Emphasis on the development and maintenance of a file management system, application of effective design concepts in the creation of professional print and digital images and documents, and the creation of digital videos for use in education and/or business.

UG 355 Child in the Family 3 cr. Offered spring even-numbered years. Prereq., PSYC 100S. Physical, social, emotional and intellectual development, learning theories and child rearing practices related to children 0-6 years of age.

UG 367 Pre-School Practicum Laboratory 3 cr. Offered autumn and spring. Practicum experiences including observational assessment of children, study of the planning process, team teaching of a one-week unit plan, and planning and directing parent/teacher conferences. Students will complete selected readings and assignments on child development, early childhood ecological arrangements, and classroom management. Weekly seminars include early childhood pedagogy, adapted and regular physical education. Must attend mandatory meeting at 12:00 or 4:00 p.m. on first day of the semester.

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

U 394 Seminar Variable cr. (R-9) Offered intermittently. Group analysis of problems in specific areas of education.

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

U 396 Independent Study Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

UG 400 Elementary Methods K-3 Field Experience 1 cr. (R-2) Offered autumn and spring. Coreq., C&I 402, 403, 404, and 405. Arranged field experience in an elementary classroom, kindergarten through third grade, completed with the Elementary Professional Methods Block. Students register for C&I 400 if their previous assignment was in grade 4 or above classroom.

UG 401 Elementary Methods Grades 4-8 Field Experience 1 cr. (R-2) Offered autumn and spring. Coreq., C&I 402, 403, 404 and 405. Arranged field experience in an elementary or middle school classroom, grades 4-8, completed with Elementary Professional Methods Block. Students register for C&I 401 if their previous assignment was in grades K-3.

UG 402 Teaching Mathematics K-8 3 cr. Offered autumn...
and spring. Prereq., C&I 300, 306, 316, 318, 410; Math 130 and 131 and general education/content/specialty classes. Coreq., C&I 400/401, 403, 404 and 405. Methods for teaching mathematics through manipulatives, models, problem solving, and technology. Emphasis on multiple assessment strategies to determine student progress and methods to evaluate elementary mathematics programs.

UG 403 Teaching Social Studies K-8 3 cr. Offered autumn and spring. Prereq., C&I 300, 306, 316, 318, 410; PSC 100, HIST 250 and selected history course, GEOG 101 or 102 and all general education/content/specialty 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/specialty classes. Coreq., C&I 400/401, 402, 403 and 405. Emphasis on developing, teaching, and assessing science teaching/learning opportunities that are inquiry-based, developmentally appropriate, integrated across the curriculum, and aligned with state and national curriculum standards.

UG 405 Teaching Reading K-8 3 cr. Offered autumn and spring. Prereq., C&I 300, 306, 316, 318, 410, selected literature course, and all general education/content/specialty classes. Coreq., C&I 400/401, 402, 403 and 404. Preparation for teaching reading in a P-8 setting to children from a variety of backgrounds and wide range of academic abilities. Emphasis on integrating the strands of a quality reading program at each grade level, becoming familiar with literacy materials, applying best practices in reading assessment, and developing student enthusiasm for reading.

UG 407 Ethic and Policy Issues 3 cr. Offered every term. Prereq., admission to Teacher Education Program and C&I 200. Practical application of ethical principles of the teaching profession. Analysis of the American public school and major policy issues from historical, legal, political, social as well as ethical perspectives.

UG 410 Exceptionality and Classroom Management 3 cr. Offered every term. Prereq., admission to Teacher Education Program. Prereq. or coreq., C&I 200. Focus on classroom management and the characteristics and instructional adaptations for exceptional students in the regular classroom. Addresses the Individuals with Disabilities Education Act and subsequent reauthorizations, presents practices for working with students who are at-risk and students with disabilities in inclusive settings, and includes technological considerations.

UG 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 disabilities, development, implementation and evaluation of individualized education programs, and appropriate teaching strategies for early childhood special education classroom. Includes 45 practicum hours in campus-based CO-TEACH Preschool.

UG 421 Issues in Early Intervention 3 cr. Offered autumn odd-numbered years. Issues involved when serving young children with disabilities; family and child advocacy; least restrictive placements in early childhood settings; transitions concerning families, special education service providers and receiving schools; case management in rural communities; transdisciplinary teaming process; and preschool individualized education programs. Includes practicum hours in campus-based CO-TEACH preschool.

UG 425 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 including learning theory computer applications student assessment micro teaching 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 high quality reading/writing program.

UG 437 Application of Literacy Models 6 cr. Offered summer intermittently. Prereq., C&I 433 or C&I 533. Provides classroom teaching experience under direct supervision. Candidates teach reading and writing and apply knowledge of assessing and correcting reading and writing difficulties in grades K-12.

UG 444 Advanced Technology and Supervision 3 cr. Offered spring. Planning, supervision, utilization, and evaluation of advanced technology in vocational business and information technology education.

UG 453 Introduction to Special Education Law and Policy 3 cr. Offered autumn and even-numbered summers. Prereq., admission to the special education endorsement program. Introduction to the processes involved in the identification and instructional planning for students requiring special education services. Considers the pre-referral, referral, multidisciplinary evaluation and individual educational programming required under state and federal mandates.

UG 455 Workshop Variable cr. (R-6) Offered intermittently. Special courses experimental in nature dealing with a relatively narrow, specialized topic of particular current interest. Credit not allowed toward a graduate degree.

UG 457 Assessment and Instruction for Exceptional Learners 5 cr. Offered autumn and even-numbered summers. Prereq. or coreq., C&I 303. Admission to special education program. Understanding and using assessment information for educational decision making. Instructional models and
strategies used in teaching students with learning and behavior problems. Includes field experience.

UG 459 Consulting/Resource Teacher 3 cr. Offered spring and odd-numbered summers. Prereq., C&I 453. Consultation approaches for educating exceptional learners in regular classes and managing resource rooms. Rural education and multicultural issues are emphasized.

UG 463 Advanced Classroom Management for Exceptional Learners 3 cr. Offered spring and odd-numbered summers. Prereq., C&I 453. In-depth study of the principles and procedures for managing problem behaviors with an emphasis on prevention and classroom management. A field experience is required.

UG 469 Student Teaching in Special Education Variable cr. (R-10) Offered autumn and spring. Prereq., completion of all courses in the special education minor and consent of instr. and Director of Field Experiences. Supervised field experience in special education.

UG 470 Young Adult Literature and Critical Reading 3 cr. Offered intermittently. Genre surveys; extensive reading, and analyzing of literature, authors and media addressed to students ages 12-18. Emphasizes effective teaching strategies for using high quality literature with middle school and secondary students. Not a substitute for C&I 316.

UG 479 Reference Resources 3 cr. Offered intermittently. Evaluation, selection, and use of basic reference resources. Teaching of media skills, information negotiation, search strategies, database use, and information services.

UG 480 Collection Development 3 cr. Offered autumn. Focus on building and maintaining a foundation print and non-print media collection; devising a selection policy; demonstrating media use in support of the curriculum; and compiling annotated bibliographies.

UG 481 Student Teaching: P-8 Elementary Variable cr. (R-14) Offered autumn and spring. Prereq., passing score on Writing Proficiency Assessment; the Professional Methods Block, a minimum of 9 credits in the selected area of concentration, a minimum of 9 credits from the following: ART 314, DAN 327, DRAM 327, HHP 339, and MUS 335; approval by advisor, and consent of Director of Field Experiences and Student Teaching. Coreq., C&I 494.

UG 482 Student Teaching: Secondary Variable cr. (R-14) Offered autumn and spring. Prereq., passing score on Writing Proficiency Assessment and consent of Director of Field Experiences and Student Teaching. Coreq., C&I 494.


UG 484 Administration and Assessment of the Library-Media Program 3 cr. Offered spring. Administrative and management procedures; assessment in terms of state, regional, and national guidelines for library-media programs and services.

UG 485 Authentic Assessment in Library Media 3 cr. Offered summer. Prereq., 19 credits in library media and consent of instr. Supervised field experience in selected phases of library media center operations, including assessment.

UG 486 Statistical Procedures in Education 3 cr. Offered autumn of even years. Prereq., MATH 117 or equiv. or consent of instr. Same as HHP 486. Concepts and procedures characterizing both descriptive and inferential statistics. Awareness of common statistical errors.

UG 488 Libraries and Technology 3 cr. Offered spring. Coreq., C&I 483. Uses of digital technologies in all aspects of library media center operations, including cataloging and circulation, collection development, reference services and administration.

UG 493 Omnibus Variable cr. (R-9) Offered intermittently. Independent work under the University omnibus option. See index.

UG 494 Seminar Variable cr. (R-9) Offered every semester for portfolio credit. Prereq., consent of instr. Offered intermittently for group analysis of problems in specific areas of education.

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

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

UG 498 Internship Variable cr. Offered intermittently. Prereq., consent of chair. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

G 501 Curriculum Design, Implementation, and Evaluation 3 cr. Offered spring even-numbered years; offered summer. Underlying principles of design, factors affecting implementation, and evaluation and assessment of K-12 curricula at the student and program levels.

G 502 Philosophy of Education 3 cr. Offered spring and summer odd-numbered years. Same as EDLD 502. Major philosophical schools of thought and leading proponents of each. Concepts of society, the educative process, and the role of education.

G 504 History of American Education 3 cr. Offered spring and summer odd-numbered years. Same as EDLD 504. Exploration of the ideas, individuals, and events that have influenced the curriculum, pedagogy, and operation of the American public school, from colonial America to the present time.

G 506 Comparative Education 3 cr. Offered spring even-numbered years. How the American educational system compares with those in selected other countries.

G 508 Sociology of Education 3 cr. Offered autumn even-numbered years. Modern public education as it affects and is affected by religious, economic, and political systems and other social institutions.

G 510 Advanced Educational Psychology 3 cr. Offered autumn odd-numbered years and summer even-numbered years. The exploration of theoretical and empirical issues in psychology (e.g., learning theory and intelligence).

G 514 Education Across Cultures 3 cr. Offered autumn and spring odd-numbered years; offered every summer. Educational foundations of the study of diversity in American schools.

G 515 Computer and Other Technological Applications in Education 3 cr. Offered summer; offered spring even-numbered years. Prereq., a basic computer course or demonstrated computer literacy. Computer systems and other hardware utilizing various software applications by administrators, counselors, librarians, teachers, and students.

G 518 Inclusion and Collaboration 3 cr. Offered autumn even-numbered years; offered summer. Legal and ethical issues involved in the responsible inclusion of all individuals with disabilities through multi-disciplinary and collaborative efforts.

G 519 Authentic Assessment 3 cr. Offered online spring odd-numbered years. Focus on assessment practices in K-12 classrooms including a wide variety of assessments that meet curricular objectives as well as nationally required standardized exams to meet NCLB mandates.

G 520 Educational Research 3 cr. Offered every term. Same as EDLD/HHP 520. An understanding of basic
quantitative and qualitative research methodology and terminology, particularly as they are used in studies presented in the professional literature.

G 521 Foundations in Environmental Education 3 cr.
Offered autumn. Prereq., graduate standing in environmental studies. Same as EVST 521. Problem-solving approach to environmental education; problem identification, research design and implementation of an educational approach to selected environmental issues.

G 525 Teaching Environmental Science 1-3 cr. (R-6)
Offered spring even-numbered years. Prereq., consent of instr. Same as EVST 525. Identification and examination of potential solutions to environmental problems and their impact on society. Major emphasis on teaching methods as they apply to environmental science.

G 527 Advanced Literacy Strategies in Content Areas 3 cr.
Offered autumn; offered summer even-numbered years. Prereq., teaching experience. Advanced theories, models, instructional approaches for using reading/writing for learning in content fields. Emphasis on research, instructional practice, classroom assessment.

G 530 Socio-Cultural Foundations of Literacy 3 cr.
Offered summer odd-numbered years. Survey of history and research related to literacy practices in schools/communities. Theories, models, politics of literacy in K-12/Adult education.

G 533 Advanced Diagnosis and Correction of Reading and Writing 3 cr.
Offered summer even-numbered years. Based on the case study approach, emphasis on diagnosing and devising instructional strategies for students with reading/writing strengths and needs.

G 540 Supervision and Teaching Language Arts 3 cr.
Offered summer even-numbered years. Prereq., teaching experience. Advanced theories and instructional approaches for teaching and assessing the facets of communication within an integrated elementary curriculum.

G 541 Supervision and Teaching of Children's Literature and Critical Reading 3 cr.
Offered summer even-numbered years. Prereq., undergraduate course in children's literature. Literature-based study involving extensive critical reading and integrated curricular use of high quality nonfiction and classical, contemporary, and multi-cultural fiction, addressed to grades 1 through 8.

G 542 Supervision and Teaching of Mathematics 3 cr.
Offered spring even-numbered years and summer odd-numbered years. Curriculum trends, instructional materials, research and supervisory techniques relevant to a modern school mathematics program.

G 543 Supervision and Teaching of Reading 3 cr.
Offered summer odd-numbered years. Survey of theory and research related to developing and supervising reading instruction programs.

G 544 Supervision and Teaching of Science 3 cr.
Offered intermittently. Prereq., Sci 225, 226 or equiv. Teaching experience. Designing curricula based on the structure of knowledge, and analyzing existing science programs.

G 545 Social Studies Education 3 cr.
Offered summer even-numbered years. Historical trends and curriculum issues related to social studies instruction. Emphasis on current research concerning social studies curriculum design, instructional practices, and use of resources.

G 546 Supervision and Teaching of Young Adult Literature and Critical Reading 3 cr.
Offered intermittently. Extensive reading among classical, contemporary, and multicultural literature including novels, poetry, short stories, and drama; selection of high quality works, evaluation, and curricular utilization in grades 8 through 12.

G 548 Supervision and Teaching in Environmental Education 3 cr.
Offered spring. Prereq., EVST 521 or C&I 521. Design, selection, and evaluation of materials for the teaching of environmental education.

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/assessment theory and practice, including learning styles and multiple intelligences.

G 580 Distance Learning Theory and Implementation 3 cr.
Offered summer odd-numbered years. Same as EDLD 580. Introduction to distance learning models and exploration of satellite and computer-mediated course development, implementation, and evaluation.

G 581 Planning and Management for Technology in Education 3 cr.
Offered autumn odd-numbered years. Same as EDLD 581. Creating, implementing, maintaining, and evaluating technology plans for educational institutions, including budgets, facilities, and hardware planning.

G 582 Educational Technology: Trends and Issues 3 cr.
Offered spring even-numbered years. Same as EDLD 582. Exploration of trends and issues in the use of educational technology in a variety of settings.

G 583 Strategic Planning for Technology 3 cr.
Offered every term even-numbered years. Same as EDLD 583. Leadership and strategic planning processes for technology integration within schools.

G 584 Authentic Application in Instructional Design for Technology 3 cr.
Offered summer even-numbered years. Same as EDLD 584. Development of practical competencies in such components of instructional technology as development, production, materials evaluation, and project management and implementation.

G 585 Unit Course in Business and Information Technology Education Variable cr. (R-6) Offered summer odd-numbered years. Each unit course will carry a special title designating topic covered that is related to improvement of instruction.

G 590 Supervised Internship 1-9 cr. (R-9) Offered autumn and spring.

G 594 Seminar Variable cr. (R-9) Offered autumn and spring. Prereq., consent of instr.

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

G 596 Independent Study Variable cr. (R-6) Offered autumn and spring. Prereq., consent of instr.

G 597 Research Variable cr. (R-9) Offered every term. Prereq., consent of instr.

G 598 Internship Variable cr. (R-9) Offered every term. Prereq., consent of instr. Supervised field experience.
Department of Counseling

Catherine Jenni, Chair

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 Counselor Education and Related Educational Programs: human growth and development; interpersonal relations; systems; professional and ethical issues; research and evaluation; career and life stage development; client assessment and evaluation; and 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 specialization 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. 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.

Faculty

Professors

Lisa M. Blank, Ph.D., Indiana University, 1997
Janice LaBony, Ph.D., University of Hartford, 1987
Jean A. Lueckowski, Ed.D., Oklahoma State University, 1983
Marian J. McKenna, Ph.D., University of Colorado, 1987
Richard van den Pol, Ph.D., Western Michigan University, 1981

Associate Professors

Trent L. Atkins, Ph.D., University of Oregon, 2003
Sarah M. Brewer, Ed.D., University of Central Florida, 1995
Fletcher Brown, Ph.D., Miami University, 1994
Georgia A. Cobbs, Ph.D., The Ohio State University, 1995
David R. Erickson, Ph.D., The Ohio State University, 1994
Ann N. Garfinkle, Ph.D., University of Washington, 1999

Assistant Professors

Martin G. Horeisi, Ph.D. Idaho State University, 1999

Research Faculty

Nancy Arnold, Ph.D., University of Northern Colorado, 1995
Susan Harper-Whalen, Ed.M., Harvard University, 1984
Theodore Maloney, M.A., Goddard College, 1978
Gail McGregor, Ed.D., The Johns Hopkins University, 1984
Lucy Hart Paulson, M.S., University of Illinois, 1980
Susan Toth, M.A., University of Iowa, 1974
R. Timm Vogelsberg, Ph.D., University of Illinois, 1979

Emeritus Professor

Carolyn J. Lott, Ed.D., The University of Montana, 1985

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 ensure acceptance.

Certification Requirements: The Counselor Education, M.A., Counseling option, leads to licensure at the Class IV level. 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.

U 485 Counseling Theories in Context 3 cr. Offered fall. Prereq., PSYC 100S. Same as PSYC 485 and SW 485. Introduction to the primary theories that constitute the intellectual foundation for common counseling and psychotherapy techniques, with a special focus on gender, interpersonal influence strategies, and diversity issues.

UG 495 Special Topics 1-9 cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 511 Theories and Techniques of Counseling 3 cr. Offered autumn. Examination of historic and current theories of counseling. Overview of techniques associated with each theory. Basic introduction to ethical concerns with each theory.

G 512 Counseling Fundamentals 3 cr. Offered spring. Prereq., COUN 511. Overview of approaches to counseling, including common factors. Includes meta-theoretical considerations and guided dyadic practice.


G 530 Applied Counseling Skills 2 cr. Offered autumn and spring. Prereq., 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., COUN 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. 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 development and from diverse populations.

G 575 Multicultural Counseling 3 cr. Offered autumn. Prereq., graduate standing or consent of instr. An introduction to the field of multicultural counseling. Issues and practical considerations in counseling five population groups; definition of terms and concepts.


G 585 Counseling Methods: School and Agency 2-9 cr. Offered every term. Prereq., COUN 511, 512. Supervised counseling methods and theories as applied in mental health agencies and schools. Review of the principles of counseling as these apply to various settings and client issues.

G 589 Comprehensive Project 2 cr. Offered autumn and spring. Integration of professional experience and academic research in a comprehensive paper or applied project. Students may elect to have an oral examination covering the eight CACREP core areas of counseling.

G 594 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Group analysis of problems in specific areas of professional counseling.

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

G 596 Independent Study Variable cr. (R-6) Offered intermittently. Prereq., consent of instr.

G 597 Research Variable cr. (R-9) Offered intermittently. 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. Includes brie 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.

Faculty

Professors

Catherine Jenni, Ph.D., Saybrook Institute, 1990 (Chair)
Donald L. Robson, Ph.D., Michigan State University, 1976
Conrad Wesley Snyder, Jr., Ph.D., University of Pennsylvania, 1975
Rita Sommers-Flanagan, Ph.D., The University of Montana, 1989
L. Dean Sorenson, Ph.D., Washington State University, 1984

Associate Professors

John Sommers-Flanagan, Ph.D., The University of Montana, 1986

Assistant Professors
Department of Communicative Science and Disorders

Al Yonovitz, Chair

Graduates of the Undergraduate Program in Communicative Sciences and Disorders are equipped to pursue graduate study in speech-language pathology, audiology, various education specialties, business, and health care as well as such fields as developmental and cognitive psychology. Both speech-language pathology and audiology require graduate-level degrees for professional practice. Students who graduate with a Bachelor of Arts degree and prefer not to enter a graduate program often pursue careers in fields that include human services, education, and business.

Special Degree Requirements

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

Requirements for a Bachelor of Arts with a major in Communicative Sciences and Disorders

To graduate with a degree in Communicative Sciences and Disorders, the student must complete 39 total CSD credits with 24 of those credits in courses numbered 300 or above. Students must also successfully complete all out of department required courses (see below). The Upper division Writing Expectation must be met by successfully completing CSD 430 and 440.

Required courses within Department (39 crs.):
- CSD 110 - The Field of CSD
- CSD 120 - Introduction to Audiology
- CSD 210 - Speech and Language Development
- CSD 220 - Aural Rehabilitation
- CSD 230 - Language Disorders
- CSD 310 - The Clinical Process
- CSD 320 - Phonological Development and Phonetics
- CSD 330 - Anatomy and Physiology of the Speech and Hearing Mechanisms
- CSD 340 - Foundations of Speech Disorders
- CSD 410 - Professional Issues
- CSD 420 - Speech Science
- CSD 430 - Senior Capstone I
- CSD 440 - Senior Capstone II

Out of Department required courses (21-22 crs.):
- BIOL 100N or 110N - The Science of Life or Principles of Biology
- COMM 173 - Language Culture and Society
- MATH 241 - Statistics
- PHYS 121N - Fundamentals of Physics I
- PSYC 100S - Introduction to Psychology
- PSYC 120 - Introduction to Psychological Research Methods
- PSYC 240S - Child and Adolescent Development

Elective courses within Department:
- CSD 340 - International and National Issues of Speech, Language and Hearing
- CSD 350 - Introduction to Clinical Audiology
- CSD 370 - Issues in Hearing Loss
- CSD 495 - Special Topics
- CSD 497 - Independent Research

Elective courses out of Department:
- COMM 131 - American Sign Language I
- COMM 132 - American Sign Language II
- LING 270 - Introduction to Linguistics

First Year

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<tr>
<td>CSD 110 The Field of CSD</td>
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<td>CSD 120 Introduction to Audiology</td>
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<td>PSYC 100S Introduction to Psychology</td>
<td>3</td>
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<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
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<td>ENEX 101 Composition</td>
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<td>PHYS 121N Fundamentals of Physics I</td>
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<tr>
<td>COMM 173 Language, Culture and Society</td>
<td>3</td>
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<td>BIOL 110N Principles of Biology</td>
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Second Year

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<td>CSD 120 Introduction to Audiology</td>
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<tr>
<td>CSD 330 Anat &amp; Phys Speech Mech</td>
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<td>PSYC 240 Child/Adolescent Development</td>
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<td>CSD 220 Aural Rehabilitation</td>
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<td>CSD 230 Language Disorders</td>
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Third Year

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<td>PSYC 120 Intro to Psych Research Methods</td>
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<td>CSD 320 Phon DoDev &amp; Phonetics</td>
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<td>CSD 340 Foundations Speech Disorders</td>
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Fourth Year

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<tr>
<td>Electives</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.

Communicative Sciences and Disorders (CSD)

U 110 The Field of Communicative Sciences and Disorders
3 cr. Introduction to the scientific study of human communication and its disorders and to the professions of Speech-
Language Pathology and Audiology. Overview of biological systems of speech, language, and hearing and the nature and treatment of communication disorders.

U 120 Introduction to Audiology 3 cr. Introduction to principles of acoustics as a basis for understanding hearing assessment. Development of ability to interpret audiograms as well as the results from a hearing evaluation. Includes pure tone and speech audiometry, acoustic immittance and reflex testing. Hearing screening procedures are also included.

U 210 Speech and Language Development 3 cr. Topics include typical speech and language development, phonology, semantic, morphological, syntax, and pragmatics, along with individual differences, second language acquisition and literacy.

U 220 Aural Rehabilitation 3 cr. Fundamental skills in speech reading and various types of hearing aids, and the tools necessary to assess and implement auditory training. Both children and adults are included.

U 230 Language Disorders 3 cr. Identification, assessment, and intervention for a variety of childhood and adult language disorders. Other topics include secondary conditions, potential developmental, psychosocial and educational concerns, multicultural considerations, and family roles.

U 240 International and National Issues of Speech, Language and Hearing 3 cr. Topics include: dynamics of community and culture; strategies to communicate with people from a variety of backgrounds; learning English as a second language; and phonological and linguistic analysis of differences between Standard English speakers and culturally diverse populations. International differences in service delivery.

U 310 The Clinical Process 3 cr. Underlying principles of clinical methods and practice including the observation of human behavior and clinical processes, assessment of communication differences, and clinical management of these differences, delays and disorders, behavior, interview/counseling, lesson planning and writing skills.

U 320 Phonological Development and Phonetics 3 cr. Exploration of the sounds and sound structure of American English and some of its dialects. Introduction to the theory and practice of phonetic and phonological analysis and trained in the transcription of speech into the International Phonetic Alphabet.

U 330 Anatomy and Physiology of the Speech and Hearing Mechanisms 3 cr. Prereq., CSD 210. Introduction to anatomy and physiology of the speech and hearing mechanisms including the anatomical orientation and embryological development, the breathing mechanism, structures of phonation, articulators, audition and the nervous system.

U 340 Foundations of Speech Disorders 3 cr. Nature of various speech disorders and basic understanding of principles underlying assessment and treatment of these disorders.

U 350 Introduction to Clinical Audiology 3 cr. Theoretical background of clinical audiology, application of tests, and clinical assessments (observations and testing).

U 370 Issues in Hearing Loss 3 cr. Reviews the basic principles of hearing and hearing loss. Explores the principles of basic audiologic rehabilitation, amplification technology and cochlear implants. Includes psychosocial aspects of hearing loss, counseling, communication modalities and deaf culture.

U 410 Professional Issues 3 cr. Professional skills, ethics, and multicultural issues. Topics include career development, professional and research ethics, evidence-based practice, legal issues, licensing and certification, service delivery issues, and uses of technology.

U 420 Speech Science 3 cr. Physiologic, neurologic, and acoustic aspects of human communication, theoretical framework for speech science, and principles of acoustics applied to speech pathology.

U 430 Senior Capstone I 3 cr. Part one of a two course sequence where the student completes an independent project. Students will prepare a literature review, and ethics application, and a proposal in preparation for a major research project of their design.

U 440 Senior Capstone II 3 cr. Prereq., CSD 430. Part two of a two course sequence where the student completes an independent research project. Students research and write about a topic of their choice and present their findings at the end of the semester.

U 495 Special Topics 3 cr. Offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 497 Independent Research 3 cr. Offered autumn and spring. Prereq., consent of instructor.

Faculty

Associate Professors:
AI Yonovitz, Ph.D. CCC-A, MaudiSA (University of Connecticut, 1973 (Chair)

Department of Educational Leadership

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 upon completion of the degree programs.

Graduate Programs: 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 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.

Courses
U = for undergraduate credit only, UG = for undergraduate or
graduate credit, $G = \text{graduate credit}$. $R$ 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.

**Educational Leadership (EDLD)**

U 295 Special Topics in Educational Leadership 3 cr. 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.

G 502 Philosophy of Education 3 cr. Offered spring and summer odd-numbered years. Same as C&I 502. Major philosophical schools of thought and leading proponents of each. Concepts of society, the educative process, and the role of education.

G 504 History of American Education 3 cr. Offered spring and summer odd-numbered years. Same as C&I 504. Exploration of the ideas, individuals, and events that have influenced the curriculum, pedagogy, and operation of the American public school, from colonial America to the present time.

G 512 Educational Futures 3 cr. Offered summer even-numbered years and autumn odd-numbered years. Predicting and projecting the impact of change on both short-term 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., standing graduate. Explanation and practice in measurement and statistical analysis of educational data. Preparation in measurement and statistical analysis for educational research.

G 520 Educational Research 3 cr. Offered every term. Same as C&I and HHP 520. An understanding of basic quantitative and qualitative research methodology and terminology, particularly as they are used in studies presented in the professional literature.

G 540 Higher Education Finance 3 cr. Offered autumn even-numbered years. Prereq., EDLD 550 and consent of department. Overview of how colleges and universities make financial and budgetary decisions; current trends in state and federal policy related to finance; contemporary problems in finance of education.

G 542 The College Student 3 cr. Offered spring odd-numbered years. Prereq., EDLD 550 and consent of department. Survey of today's college student including discussion of demographics, student development theories, learning theories, and contemporary issues on college campuses related to college students.


G 546 Federal and State Higher Education Policy 3 cr. Offered spring even-numbered years. Prereq., EDLD 550 and consent of department. Overview of policies at the local, state, and national levels that affect the conduct of higher education; current trends in higher education policy; changes in educational policy; how policies affect different institutional types.

G 550 Foundations of Educational Leadership 3 cr. Offered autumn and summer. Prereq., C&I 551 or consent of instr. Basic functions of K-12 administration and supervision and how contemporary views have evolved; models of leadership style and practice compared; responsibilities and relationships of school boards and chief school officers.

G 551 Foundations of Curriculum Leadership 3 cr. Offered autumn and summer. Prereq., elementary or secondary teaching experience or consent of instr. The history and theoretical bases of current K-12 curriculum and instructional leadership.

G 552 The Supervision and Evaluation of Public School Educators 3 cr. Offered autumn odd-numbered years, spring and summer. Prereq., EDLD 550. Conflicting views and models of supervision; supervision in relation to administration and evaluation. Development of instruments for the formative and summative evaluation of teaching and their use in simulated cases.

G 554 School Law 3 cr. Offered autumn odd-numbered years, spring and summer. Prereq., EDLD 550. Key Montana and national legislation regarding public education. Landmark cases of the U.S. Supreme Court and other federal, regional, and state courts as they affect the operation of public schools and the rights of school board members, administrators, teachers, students, and parents.

G 556 The Finance of Public Education 3 cr. Offered autumn even-numbered years, spring and summer. Prereq., EDLD 550. Revenue sources for K-12 public schools; proper expenditures; Montana's foundation program and related legislation; major court cases and how they have affected ways of funding schools; developing effective school and district budgets.

G 559 School Public Relations for the Principal 3 cr. Offered autumn even-numbered years, spring and summer. Investigation of the appropriate leadership and management roles of the modern school principal as they relate to public relations. Understanding of political theory as it relates to developing and maintaining relationships within 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 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 Super-
vision 2-3 cr. Offered intermittently. Prereq., EDLD 560 or 565. Fieldwork at the school level (when the student is not completing an internship), with the cooperation of the principal and under the guidance of a University of Montana professor.

G 594 Seminar Variable cr. (R-9) Offered intermittently. Prereq., consent of instr. Group analysis of problems in specific areas of education.

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

G 596 Independent Study Variable cr. (R-9) Offered intermittently. Prereq., consent of instr.

G 597 Research Variable cr. (R-10) Offered autumn and spring. Prereq., consent of instr.

G 598 Internship Variable cr. (R-10) Offered autumn and spring. Prereq., consent of instr.

G 599 Professional Paper Variable cr. (R-9) Offered intermittently.

G 618 Educational Statistics 3 cr. Offered spring. Prereq., C&I or HHP 486 or equiv. or consent of instr. Same as C&I 618. Advanced statistical methods and use of the mainframe computer and microcomputer for data analysis. Use of a recognized statistical package for research applications.

G 620 Qualitative Research 3 cr. Offered autumn. Prereq., EDLD 520 or 618 or equiv. Same as C&I 620. In-depth review of qualitative research methods, designs, and approaches. The development of a research proposal.

G 625 Quantitative Research 3 cr. Offered spring. Prereq., EDLD 520 and C&I 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 site- and district-level internal and external relations; conducting needs assessments, inservice workshops, and funding campaigns; improving administrators' writing, listening, and speaking skills; composing press releases and newsletters; working with the media.

G 660 Adult and Continuing Education 3 cr. Offered spring. Adult learning theory and the special needs and motivations of adult learners in postsecondary institutions; principles and practices of administering postsecondary continuing education programs.

G 662 History of Higher Education 3 cr. Offered autumn odd-numbered years. Survey of the historical roots of higher education from world and comparative perspectives; examination of the historic and contemporary missions, organizational structures, governance, and administration of various types of postsecondary and higher education institutions in America and abroad.

G 664 The Community College 3 cr. Offered intermittently. The organization and administration of American postsecondary education in two-year collegiate institutions; current trends in governance, finance, curriculum, faculty and students.

G 667 The American College Professor 3 cr. Offered autumn 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.

G 676 Internship in Higher Education Administration 1-3 cr. (R-6) Offered intermittently. Prereq., EDLD 668 and consent of instr. Supervised and guided work in an administrative unit/department at the college/university level.

G 694 Advanced Seminar: Educational Administration and Supervision Variable cr. (R-9) Offered intermittently.

G 697 Advanced Research in Educational Administration and Supervision Variable cr. (R-9) Offered autumn and spring.

G 699 Professional Seminar/Dissertation Variable cr. (R-12) Offered intermittently.

Faculty

Professors

Robert Evans, Ed.D., The University of Nevada, Reno, 1988

Catherine Jenni, Ph.D., Saybrook Institute, 1990 (Chair)


Donald L. Robson, Ph.D., Michigan State University, 1976

Coren Wesley Snyder, Jr., Ph.D., University of Pennsylvania, 1970

Rita Sommers-Flanagan, Ph.D., The University of Montana, 1999

L. Dean Sorenson, Ph.D., Washington State University, 1984

Associate Professors


John Sommers-Flanagan, Ph.D., The University of Montana, 1986

Assistant Professors

Mel Ferrier, Ed.D., The University of Montana, 1998 (Program Director, Educational Leadership)

Aida Hutz, Ed.D., Northern Arizona University, 2003
Department of Health and Human Performance

Thomas Whiddon, Chair

Within the liberal arts tradition of the University of Montana and the mission of the School of Education, the Department of Health and Human Performance engages in professional education, scholarly activity, and meaningful public service. The department emphasizes all dimensions of health and human movement to enhance the longevity and quality of life. The undergraduate curriculum in health and human performance at the University of Montana prepares graduates to be competent entry-level professionals in health and human performance-related occupations or candidates for advanced study in related disciplines. Development of the following is considered essential in achieving those outcomes: 1) knowledge of the scope of the profession, 2) basic and professional skills germane to effective practice as a health and human performance professional or successful pursuit of advanced studies, 3) higher order thinking skills which increase the students' involvement in their own learning and promote a lifelong quest for knowledge, 4) knowledge of the multiple dimensions of health, and possession of health promotion skills applicable in a variety of settings, 5) understanding of the role played by health and human performance professionals, a sense of responsibility, personal attributes, and professional behaviors requisite for effective functioning within that role, and 6) respect for the uniqueness and dignity of self and others.

HHP majors choose from one of the following options in the undergraduate curriculum: Exercise Science; Applied Health Science; and Health Enhancement. Students complete requirements for one or more of the options consistent with their professional aspirations.

Athletic Training is a major in the Health and Human Performance Department. The goal of the Athletic Training major is to prepare competent entry-level athletic trainers for employment in educational and clinical settings or post-graduate study. The Athletic Training curriculum is designed to help students develop proficiency in the acute care of injuries/illnesses, risk management and injury prevention, psychosocial intervention and referral, therapeutic exercise, pharmacology, pathology of injuries/illnesses, health care administration, general medical conditions and disabilities, assessment and evaluation, professional development and responsibilities, and nutritional aspects. Successful graduates should possess the knowledge and skills to qualify for the Board of Certification Examination. The Exercise Science option is designed to provide students with an in-depth science background and prepares students for post-baccalaureate study in exercise physiology and related health sciences. Successful graduates of this option should possess the knowledge and skills to qualify for the ACSM Exercise Specialist Certification. 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 provide educational strategies designed to facilitate the adoption of healthy behaviors in students K-12.

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 or 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 either the University of Montana Graduate Programs and Admissions catalog (http://www.umt.edu/grad/programs/default.htm) or The School of Education Graduate website (www.soe.umt.edu/hhp/grad/default.htm). The department also provides a large activity program (HHP classes numbered 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. Any University of Montana student may elect to apply up to four credits from HHP 100-179 toward a baccalaureate degree. For descriptions of the activity classes offered, refer to the website at http://www.soe.umt.edu/hhp/> and select Health & Human Performance Activity Classes (H2PAC).

Special Degree Requirements

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

Students must fulfill the requirements listed below. All HHP majors and minors must earn a minimum grade of C- in all required courses, including prerequisite courses, except for special cases of higher requirements in Athletic Training and Health Enhancement noted below. 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 majors 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 major (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 program who receive less than C (2.00) on any required courses will be placed on program suspension and will not be allowed to continue any sequential courses until they 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 may be dismissed from the
program.

**Admission Policies for Health Enhancement Option**

The Health Enhancement option is designed for individuals who wish to teach in the public school system. Application for admission to the School of Education must be made (refer to http://www.soe.umt.edu/hhp). Applications are accepted twice a year; however, the number of students admitted into the program is limited. Application is made no sooner than after the completion of 30 hours of course work. A cumulative GPA of 2.75 is necessary for application.

To successfully complete the program in Health Enhancement, a student must receive a grade of C (2.00) or above in every course in the following areas: teaching major, professional education courses, a drug abuse course, PSYC 1003, ENEX 101, and C&I 427. None of these courses may be taken as credit/no credit except where that is the only grade available.

**Admission Policies for the Athletic Training Major**

**Athletic Training Education Program (ATEP)**

The University of Montana offers a Bachelor of Science 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 offers a variety of professional career opportunities upon graduation.

Following are the requirements and various options available with respect to students' professional goals. Academic advisors are available to assist students in this interesting and challenging professional program.

**Admission.** Students who desire admission into the ATEP must submit a formal application to the program director. Prior to applying, students must complete all pre-professional requirements (2-3 years), see (https://www.soe.umt.edu/hhp/athletic_training/) for details. The application deadline is October 1. The application packet is available from the HHP department or the ATEP office 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, the clinical coordinator, clinical instructors, and other professionals. Formal notification of admission to the professional ATEP is sent to each candidate prior to the preregistration period for spring semester.

All candidates may not be admitted to the professional ATEP due to the limited number of clinical openings or lacking other specific qualifications.

**Interview Requirements.** The following selection criteria must be met to be considered for an interview:

1. Obtain a minimum overall GPA of 2.75. All pre-professional ATEP course requirements must have no grade lower than "C".
2. Submission of 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. Submission of three professional letters of recommendation.
4. Completion of 70 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. Completion of blood-borne pathogen requirements. See website http://www.soe.umt.edu/hhp/athletic_training/.
6. Completion of the prerequisite courses (see above website or contact the program director prior to application to the Professional ATEP).
7. Meet established technical standards and pass a pre-program physical examination by the team physician (please contact the program director).
8. Completion of a successful Criminal Background Check (see Program Director for details).

**Professional ATEP.**

The ATEP is divided into a pre-professional program lasting approximately three semesters (1.5 years) and a professional program during the final five semesters (2.5 years). The professional program requires 5 semesters of clinical education and sequential courses; therefore, students must enter the program during spring 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. Liability insurance provided by the University of Montana for all ATEP professional students.
3. Accumulate a minimum of 1,000 hours of clinical practicum within a two year period. No more than 300 (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 a Board of Certification (BOC) examination 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.umt.edu/catalog/hhp.htm).
8. Maintain a 2.75 overall GPA and receive no lower than a "C" in any professional course.
9. Complete a 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:**
  - 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)
    - American Red Cross (Professional Rescuer)
  - 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 major and the
Health Enhancement Option.


Exercise Science Option (required courses). Within Department (39 crs.): 342, 366, 367, 368, 372W, 373, 377, 378, 384, 446, 450, 475E, 483, 482 or 484, 499. Upper division electives: (9 crs. including at least 3 HHP crs); Courses appropriate to your study focus in agreement with your advisor. Out of Department (45 crs.): COMM 111A; CHEM 151N, 152N, 154N; SCN 201N, 202N or BIOL 312, 313; FOR 220; MATH 241; PHYS 121N, PSYC 100S; 11 crs. of electives from biology, biochemistry, mathematics, physics, psychology upon consent of advisor.

Applied Health Science Option (required courses). Within Department (39 crs.): 342, 366, 367, 368, 372W, 373, 377, 378, 384, 446, 450, 475E, 483, 482 or 484, 499. Upper division electives: (9 crs. including at least 3 HHP crs); Courses appropriate to your study focus in agreement with your advisor. Out of Department (45 crs.): COMM 111A; CHEM 151N, 152N, 154N; SCN 201N, 202N or BIOL 312, 313; MATH 117; FOR 220; PSYC 100S; CS 171. In addition, students must complete an additional 24 credits, including at least 18 from the list below. The remaining 6 credits can be obtained from courses not on the list with the prior approval of advisor. HHP 368, 369, 370, 371, 384, 386, 415, 425, 426, 427, 481, 482, 485, 486; ACCT 201; ANTH 388, 444; BIOL 265N; CHEM 152N; EVST 225; MATH 241; MKTG 360; PSYC 260, 352; SW 423, 455S (note: at least 16 of the 24 credits must be at the 300 level or higher and students may not count more than 60 HHP credits toward graduation).

Health Enhancement Option (required courses). Within Department (50-54 crs.): 181, 184, 224, 225, 226, 233, 236N, 288 or appropriate certification, 289 or appropriate certification, 290, 377, 378, 450, 465, 475E, 483, 484, 4 crs. of 498. Out of Department (31-35 crs.): COMM 111A; CHEM 151N; BIOL 106N; BIOL 121N or SCN 250; SCI 201N-202N or 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 368, 369, 370, 371, 384, 386, 415, 425, 426, 427, 481, 482, 485, 486; ACCT 201; ANTH 388, 444; BIOL 265N; CHEM 152N; EVST 225; MATH 241; MKTG 360; PSYC 260, 352; SW 423, 455S (note: at least 16 of the 24 credits must be at the 300 level or higher and students may not count more than 60 HHP credits toward graduation).

Suggested Course of Study

Athletic Training Major:

<table>
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<th>Course</th>
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<td>BIOL 121N or BIOL 313</td>
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<td>CHEM 151N-152N</td>
<td>3</td>
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<td>ESL 101 or ENEN 101</td>
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<td>ENEX 101</td>
<td>3</td>
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<td>HHP 181 Foundations of Health and Human Performance</td>
<td>3</td>
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<tr>
<td>HHP 184 Personal Health and Wellness</td>
<td>3</td>
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<tr>
<td>MATH 117 Probability and Linear Math</td>
<td>3</td>
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<td>HHP 226 Basic Exercise Prescription</td>
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Second Year

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<td>CHEM 151N-152N</td>
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<td>FOR 220 Technical Writing</td>
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<td>PSYC 100S Introduction to Psychology</td>
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<tr>
<td>HHP 240 Prevention and Care of Athletic Injuries</td>
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<tr>
<td>HHP 241 Prevention and Care of Athletic Injuries Laboratory</td>
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<td>HHP 242 Clinical Orientation in Athletic Training</td>
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Third Year

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<td>HHP 340-341 Practicum in Athletic Training I, II</td>
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<td>HHP 342 Advanced Techniques of Athletic Training</td>
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<tr>
<td>HHP 366 Measurement and Modalities</td>
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<td>HHP 367 Measurement and Modalities Laboratory</td>
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<td>HHP 368 Applied Anatomy and Kinesiology</td>
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<td>HHP 372 Rehabilitation of Athletic Injuries</td>
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<td>HHP 373 Rehabilitation of Athletic Injuries Laboratory</td>
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<td>HHP 384 Motor Control and Learning</td>
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<td>HHP 463 Leading HHP Organizations</td>
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Fourth Year

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<tr>
<td>HHP 377 Physiology of Exercise</td>
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<td>HHP 378 Physiology of Exercise Laboratory</td>
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<td>HHP 401 Evaluation of Athletic Injuries</td>
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<td>HHP 411-412 Advanced Practicum in Athletic Training I, II</td>
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<td>HHP 446 Nutrition for Sport</td>
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<td>HHP 475E Legal and Ethical Issues in Exercise Professions</td>
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<td>HHP 485 Athletic Training Organization and Administration</td>
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<td>HHP 485 Theories of Health Behavior and Counseling</td>
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Other suggested courses: HHP 288-289 First Responder/Emergency Care and CPR - 3 cr., or competency, HHP 334 Athletic Training Techniques

Exercise Science Option:

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<tbody>
<tr>
<td>CHEM 151N General and Inorganic Chemistry</td>
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<td>COMM 111A Introduction to Public Speaking</td>
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<td>ENEX 101 Composition</td>
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<tr>
<td>HHP 181 Foundations of Health and Human Performance</td>
<td>3</td>
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<td>HHP 184 Personal Health and Wellness</td>
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<tr>
<td>HHP 226 Basic Exercise Prescription</td>
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<td>MATH 117 Probability and Linear Math</td>
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<td>PSYC 100S Introduction to Psychology</td>
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Second Year

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<tr>
<td>CHEM 152N Organic and Biological Chemistry</td>
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<td>CHEM 154N Organic and Biological Chemistry Laboratory</td>
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<td>HHP 236N Nutrition</td>
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<td>MATH 241 Statistics</td>
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Third Year

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<td>HHP 377 Physiology of Exercise</td>
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<td>Year</td>
<td>Course</td>
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<td><strong>Fourth Year</strong></td>
<td>HHP 378 Physiology of Exercise Laboratory</td>
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<td>HHP 384 Motor Control and Learning</td>
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<td>HHP 368-369 Applied Anatomy and Kinesiology and Laboratory</td>
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<td>HHP electives 300-400-level</td>
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<td>Science Electives 300+ level (may be HHP or out of department)</td>
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<td>PHYS 121 General Physics I</td>
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<td><strong>Applied Health Science Option:</strong></td>
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<tr>
<td></td>
<td>HHP 288 First Responder/Emergency Care and CPR Lecture</td>
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<td>HHP 289 First Responder/Emergency Care and CPR Laboratory</td>
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<td>HHP 446 Nutrition for Sport</td>
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<td>HHP 475E Legal and Ethical Issues in the Exercise Professions</td>
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<td>HHP 483 Exercise and Disease</td>
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<td>HHP 484 Exercise and Disease Laboratory</td>
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<td>HHP 450 Analytical and Communication Techniques</td>
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<td>HHP 499 Senior Project and Research Design</td>
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<td>Science Elective 300+ level (may be HHP or out of department)</td>
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<td><strong>Second Year</strong></td>
<td>SC 201N-202N Anatomy &amp; Physiology I, II</td>
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<td>CS 171 Communicating Via Computers</td>
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<td><strong>Third Year</strong></td>
<td>HHP 465 Leading Health and Human</td>
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<td>HHP 184 Personal Health and Wellness</td>
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<td><strong>Fourth Year</strong></td>
<td>HHP 450 Analytical and Communication Techniques</td>
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<td>HHP 288 First Responder/Emergency Care and CPR Lecture</td>
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<td></td>
<td>HHP 483 Prevention, Detection, Rehabilitation for Coronary Heart Disease</td>
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<td>HHP 484 Prevention, Detection, Rehabilitation for Coronary Hearth Disease Laboratory</td>
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<td>HHP 498 Internship</td>
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**Health Enhancement Option:**

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<td><strong>First Year</strong></td>
<td>BIOL 106N Elementary Medical Microbiology</td>
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<td>CHEM 151N General and Inorganic Chemistry</td>
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<td>HHP 181 Foundations of Health and Human Performance</td>
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<td>HHP 226 Basic Exercise Prescription</td>
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<td>HHP 233 Health Issues/Child and Adolescents</td>
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<td>HHP 361 Assessment in Physical and Health Education</td>
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<td>PSYC 240S Child and Adolescent Development</td>
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<td><strong>Second Year</strong></td>
<td>C&amp;I 200 Exploring Teaching/Field Experience</td>
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<td>C&amp;I 301 or 302 Field Experience-mid-level or secondary</td>
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<td>HHP 224 Professional Activities: Outdoor Recreation</td>
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<td>HHP 225 Professional Activities: Individual Dual/Team Sports</td>
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<td>HHP 226 Basic Exercise Prescription</td>
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<td>HHP 233 Health Issues/Child and Adolescents</td>
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<td>HHP 361 Assessment in Physical and Health Education</td>
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<td>PSYC 240S Child and Adolescent Development</td>
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<td><strong>Third Year</strong></td>
<td>C&amp;I 306 Instructional Media/Computer Applications</td>
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<td>HHP 236N Nutrition</td>
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<td>HHP 301 Instructional Strategies in Secondary</td>
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<td>School Physical Education</td>
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<td>HHP 339 Instructional Strategies in Elementary Physical Education</td>
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<td>HHP 377 Physiology of Exercise</td>
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<td>HHP 368-369 Applied Anatomy and Kinesiology and Laboratory</td>
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<td>HHP 466 Strategies in K-12 Health Education</td>
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<td>HHP 475E Legal and Ethical Issues in Exercise Professions</td>
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<td>C&amp;I 427 Literacy Strategies in Content Areas</td>
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<td>C&amp;I 303 Education Psychology and Measurement</td>
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<td>C&amp;I 407E Ethics and Policy Issues</td>
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<td>C&amp;I 410 Exceptionality/Classroom Management</td>
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<td>C&amp;I 481 Student Teaching Elementary</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>HHP 288 First Responder/Emergency Care and CPR Lecture</td>
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Courses

U = undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicator indicates that credit 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.slo.edu/hhp/hspe/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 hypothesized lifestyles, and on contemporary problems in life.

U 189 Basic First Aid and CPR 1 cr. Offered first summer session. Instruction will cover CPR, use of an automated external defibrillator (AED) and relief of foreign-body airway obstruction (FBAO). The First Aid component will cover general principles as well as medical, injury and environmental emergencies. Students will receive AHA Heartsaver CPR and First Aid certification. This class does not meet First Aid requirements for HHP majors.

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

U 200-223 Professional Activities for Majors and Minors 1 cr. Offered intermittently. All students required to meet proficiency entrance standards set by instructor. (200) Swim Skills/Aquatic Fitness, (209) Soccer, (215) Tennis, (223) Special Activities.

U 224 Professional Activities: Outdoor Recreation 2 cr. Offered autumn. The instruction of basic skills for selected outdoor and recreational type activities. Technical procedures, drills, and approaches to the teaching. Demonstration and instruction skills developed. HHP majors and minors only. Active participation required.

U 225 Professional Activities: Traditional Individual/Dual/Team Sports 2 cr. Offered spring. The instruction of basic skills for selected individual, dual, and team sports and activities. Technical procedures, drills, and approaches to the teaching. Demonstration and instruction skills developed. HHP majors and minors only. Active participation required.

U 226 Theory and Practice of Basic Exercise Prescription for Aerobic and Resistance Training 3 cr. Offered every term. Theory, principles, and practice of exercise prescription for aerobic and resistance exercise programs for health, fitness and performance. Students must register for the lecture and a linked lab.

U 233 Health Issues of Children and Adolescents 3 cr. Offered every term. Overview of current health issues affecting children and adolescents. Focus is on educational and preventive measures that can be implemented by teachers and schools through comprehensive school health education programs.

U 236 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 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 Orientation In Athletic Training 1 cr. Offered spring. Prereq. or coreq., HHP 240, 241. Orientation to clinical education in the university, high school, clinic, and non-traditional athletic training settings.

U 249 Wilderness First Responder 2 cr. Offered intermittently. Instruction in the prevention, recognition, and treatment of backcountry illness and injury. Successful students receive an Aerie Wilderness First Responder certification and an American Heart Association Heartsaver CPR certification. This course meets HHP department First Aid requirement but does not meet the CPR requirement.

U 250 Ski Instructor's Preparation 2 cr. Offered spring. Prereq., consent of instr. Open to all students with advanced to expert skiing skills. Techniques of teaching skiing including: skill concepts and contemporary skiing movements; teaching cycle; movement analysis; personal skiing improvement. Prepares student for certification with (PSIA) Professional Ski Instructors of America.

U 251 Snowboard Instructor Preparation 2 cr. Offered spring. Prereq., consent of instr. Open to students with advanced to expert riding skills. Techniques of teaching snowboarding including: skill concepts and contemporary snowboarding movements; teaching cycle; movement analysis; personal riding improvement. Prepares student for certification with (ASSI) American Association of Snowboard Instructors.

U 270 Principles of Optimal Performance 2 cr. Offered autumn and spring. Prereq., consent of instr. Introduction of optimal performance techniques and strategies for enhancing skills in goal-setting, imagery, confidence, teamwork, concentration, self-esteem, managing adversity, motivation, and leadership, and general life skills.


U 289 First Responder, Emergency Care, and CPR Laboratory 1 cr. Offered every term. Coreq., HHP 288. Development of knowledge of emergency care and CPR/AED 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 - typical and atypical.
populations in secondary school physical education for students in grades 7-12. Active participation required.

U 317 Coaching Clinic 1-2 cr. (R-4) Offered intermittently. Covers a variety of activities to include coaching theories, competitive coaching strategies, training methods and techniques. Covers requirements for the bronze level of the American Sport Education Program (ASEP).

U 330 Overview of Health Education and Health Promotion 3 cr. Offered spring. Prereq., HHP 181. History, philosophy, and theory related to health education and health promotion. Includes the application of health promotion strategies to wellness programs and community health programs.

U 331 Wilderness Emergency Technician 3 cr. Offered intermittently. EMT-Basic curriculum with significantly more detail concerning care for patients in remote settings. Students must be 18 year old and never been convicted of a felony. This course meets HHP department First Aid and CPR graduation requirements.

U 334 Athletic Training Techniques 1 cr. Prereq., HHP 242. Integration into athletic training practice emphasizing risk management, emergency procedures, acute care and athletic care in the pre-season.

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 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 CAATE 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 certificated athletic trainers.

U 361 Assessment in Physical and Health Education 3 cr. Offered autumn. Prereq., math course number above 100 and CS 171. Orientation to testing and measuring, the administrative use of tests, elementary statistical techniques and procedures.

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., SC 201N, 202N or equiv.; coreq., HHP 368. Laboratory and kinesthetics 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. Instruct in the areas of wellness, drug and alcohol abuse prevention, and sexual assault prevention. Students develop and implement a peer health program focused on prevention of major health problems among college students.

U 371 Peer Health Education Practicum 1-3 cr. (R-6) Offered autumn and spring. Prereq., HHP 370. Practical experience in planning, coordinating, and implementing health education activities for the campus community. Students address topics related to wellness, drug and alcohol prevention, or sexual assault awareness.


U 373 Rehabilitation of Athletic Injuries Laboratory 1 cr. Offered spring. Prereq., HHP 366, 367, 368, 369; coreq., HHP 372. Laboratory sessions examining principles of biomechanics and their application to athletic injury. Utilization of various practical applications of rehabilitation techniques and equipment used for reconditioning of incapacitating athletic injury.

U 377 Physiology of Exercise 3 cr. Offered every term. Prereq., BIOL 313 or SC 202N, HHP 226; coreq., HHP 378. A study of the physiological changes of the interface of the human body with the environment. 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 313 or SC 202N; coreq., HHP 377. Laboratory session examining the physiological effect of the physical work, activity and exercise on the functions of the human body. Credit not allowed toward graduate degree in the exercise science option in Health and Human Performance.

U 384 Motor Control and Learning 3 cr. Offered spring. Application of research in motor learning with emphasis on developmental and psychological factors related to motor skill acquisition and autonomous motor performance.

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


U 402 Evaluation of Athletic Injuries Laboratory 1 cr. Offered autumn. Prereq., HHP 368, 369 or consent of instr.; coreq., HHP 401. Laboratory sessions to develop recognition and assessment techniques for the identification of sport and activity related injuries.


U 415 Advanced Principles of Health Education and Health Promotion 3 cr. Offered spring even-numbered years. Prereq., HHP 184 and HHP 330, and junior standing. Assists students in applying the theory of Health Education and Health Promotion into practice. Students develop and apply methods and activities related to the roles, responsibilities, and competencies of health educators in practice settings. Emphasis is on enhancing program planning skills covered in HHP 330 and developing a comprehensive program plan based on the Precede-Proceed model.

U 425 Relaxation and Self Enhancement 3 cr. Offered
autumn and spring. Prereq., junior status. The study of psychosomatic and somatopsychic techniques for relaxation and self-enhancing strategies.

UG 430 Health Aspects of Aging 3 cr. Offered spring. Same as HS and SW 430. Overview of the health aspects of aging in the United States including biological theories of aging, normal physiological changes associated with aging systems, common pathological problems associated with aging, cultural and ethnic differences in the health of elders, health promotion and healthy aging, and the health care continuum for care of older persons.

UG 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.

UG 446 Nutrition for Sport 3 cr. Offered autumn and spring. Prereq., HHP 236N and SC 202N or BIOL 313 and junior standing. Nutritional parameters of athletic performance including intervention planning, energy production, the energy nutrients, vitamins and minerals, carbohydrate intake, fluids and diets, timing and composition of intakes, hydration, weight management strategies, and nutritional needs for special situations.

UG 448 Teaching Anatomy and Physiology 2 cr. (R-4) Offered every term. Prereq., students must have received at least a "B" in Human Anatomy and Physiology and consent of instructor. Students assist in preparation and grading of demonstrations and laboratory assignments, and provide laboratory instruction of undergraduate students enrolled in SCN 201/202. Students are given advanced instruction in principles of human anatomy and physiology.

UG 449 Teaching Health and Human Performance 2cr (R-4) Offered every term. Prereq., consent of instructor. Students assist in the preparation and grading of demonstrations and laboratory assignments, and provide laboratory instruction of undergraduate students enrolled in HHP laboratory courses. Students are given advanced instruction in principles of the HHP course.

UG 450 Analytical and Communication Techniques 3 cr. Offered every term. Prereq., ENEX 101 or equiv. Analysis and communicative critique of literature, cinema, and other forms of popular media with "sport is life in miniature" as a predominant theme. Substantial reading, speaking and writing component. Emphasis on maintaining or improving communication skills.

UG 455 Workshop Variable cr. (R-6) Offered intermittently. Special courses experimental in nature dealing with a relatively narrow, specialized topic of particular current interest. Credit not allowed toward a graduate degree.

UG 465 Leading Health and Human Performance Organizations 3 cr. Offered every term. Prereq., HHP 181 and junior standing. Leadership, management, organizational structure, assertiveness, conflict management, public relations, decision-making, budget management, and a broad overview of human resource management, all as they relate to health and human performance settings.

UG 466 Strategies in K-12 Health Education 3 cr. Offered autumn even-numbered years. Prereq., admission to the teacher education program. Focus on developing and implementing strategies to teach K-12 health education.

UG 470 Foundations in Sport and Exercise Psychology 3 cr. Offered autumn. Prereq., upper-division or graduate status. Introduction to professional practices, ethics, and employment opportunities in service and sport psychology. Additional course content is focused on individual and team motivation, team cohesion and leadership, youth sport applications, and health and wellness applications.

UG 475E Legal and Ethical Issues in the Health and Exercise Professions 3 cr. Offered autumn and spring. Prereq., lower-division course in Perspective 5, upper-division or graduate status. Legal and ethical bases for litigation in the health and exercise professions, with emphasis on tort, contract, and civil rights issues.

UG 478 Athletic Training Organization and Administration 2 cr. Offered spring. Prereq., HHP 342, 343, 465. Exploration of the aspects of athletic training organization and administration. Topics include program management, personnel management, insurance, risk management, ethics, pre-participation physical examinations, leadership styles, budget planning, equipment/inventory management and athletic training facility personnel.

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 electrophysiology and the assessment of electrocardiograms, both at rest and during exercise.

UG 483 Exercise, Disease and Aging 3 cr. Offered autumn and spring. Prereq., HHP 337 and HHP 378; Coreq., HHP 484. Focus on guidelines for exercise testing and prescription for individuals with chronic disease including heart disease, diabetes, hypertension, arthritis, osteoporosis, elderly and pulmonary disease. Class requires 25 assigned hours of service learning. Covers material necessary for ACSM clinical certification exam when combined with HHP 226, 377, 378, 482 and 484.

UG 484 Exercise, Disease and Aging Laboratory 1 cr. Offered autumn and spring. Prereq., HHP 377 and HHP 378. Coreq., HHP 483. Laboratory sessions focus on practical exercise testing and prescription for individuals with chronic disease including coronary heart disease, diabetes, hypertension, arthritis, osteoporosis, elderly and pulmonary disease; basic ECG testing and analysis. Covers material necessary for ACSM clinical certification exam when combined with HHP 226, 377, 378, 482 and 483.

UG 485 Theories of Health Behavior and Counseling 3 cr. Offered autumn. Exploration of the helping role as it relates to health behavior, health assessment, problem-solving and referral skills. Application of theories to facilitation of healthy behavior changes.

UG 486 Statistical Procedures in Education 3 cr. Offered autumn even-numbered years. Prereq., MATH 117 or equiv. or consent of instr. Same as C&I 486. Concepts and procedures characterizing both descriptive and inferential statistics. Awareness of common mathematical errors.

UG 493 Omnibus 1-3 cr. (R-6) Offered every term. Prereq., consent of instr. Independent work under the University omnibus option. See index.

UG 494 Seminar 1-3 cr. (R-6) Prereq., consent of instr. Offered intermittently.

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

UG 496 Independent Study 1-3 cr. (R-6) Offered every term. Prereq., consent of instr.

UG 497 Research 1-3 cr. (R-6) Offered every term. Prereq., consent of instr.

UG 498 Internship 1-4 cr. (R-4) Offered every term. Prereq., minimum junior standing. Supervised field experiences with private businesses, public agencies, or institutions. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

UG 499 Senior Project 3 cr. Offered autumn. Prereq., HHP senior standing. Theory and practical experience in research design, data collection, results analysis and report writing. Students will generally assist with ongoing research as well as attend formal classroom presentations and discussions. Students will receive a developed research idea may be allowed to undertake independent research in addition to the formal
particularly as they are used in studies presented in the professional literature.

G 520 Educational Research 3 cr. Offered every term. Same as C&I and EDLD 520. An understanding of basic quantitative and qualitative research methodology and terminology, particularly as they are used in studies presented in the professional literature.

G 522 Cognitive-Behavioral Interventions in Performance Psychology 3 cr. Offered intermittently. Prereq., HHP 470 or equiv. Focus is on cognitive-behavioral interventions specific to enhancing human performance in a variety of individual and group settings. Strategies introduced based on research from health psychology, sport psychology, exercise psychology, clinical and counseling psychology.

G 523 Case Studies in Performance Psychology 2 cr. Offered intermittently. Prereq., consent of instr. Cognitive-behavioral performance psychology interventions in actual and hypothetical case study applications. Successful and unsuccessful approaches from sport psychology and sport counseling are reviewed as cases in progress; alternative outcomes discussed.

G 524 Ethics and Human Performance 3 cr. Offered spring, even numbered years. A critical examination of ethical issues as they relate to professional education, sport, fitness, and other areas of human performance.


G 530 Advanced Physiology of Exercise II 3 cr. Offered autumn even-numbered years. Prereq., HHP 377, 378 or equiv. Advanced study of system physiology (circulatory, respiratory and renal function) and environmental factors applied to physical work, activity and exercise.

G 531 Laboratory Procedures in Exercise Science 2 cr. Offered autumn. Prereq., HHP 521. Introduction to common laboratory tools associated with clinical and health assessment techniques, research measures, and data collection.

G 540 Health Promotion Strategies 3 cr. Offered autumn even-numbered years. Exploration of the role of the health professional in the development and implementation of educational, organizational, economic, and/or environmental strategies that promote individual and community health.

G 541 Program Development in the Health Professions 3 cr. Offered spring odd-numbered years. Overview of the issues, approaches, and techniques professionals utilize in the planning and development of health education and health promotion programs.

G 545 Advanced Nutrition and Chronic Disease 2 cr. Offered spring odd-numbered years. Instruction will investigate the relationship between nutrition and selected chronic diseases with special emphasis on understanding the research methodology and dissemination of study outcomes reported in the literature for nutrient-disease interactions.

G 594 Seminar 1-3 cr. (R-6) Offered spring. Prereq., consent of instr.

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

G 596 Independent Study Variable cr. (R-6) Offered every term. Prereq., consent of instr.

G 597 Research Variable cr. (R-6) Offered every term. Prereq., HHP 486, 520.

G 598 Internship Variable cr. (R-4) Offered every term. Prereq., HHP 520, consent of instr. Supervised field work in public and private agencies and institutions. Must demonstrate competency in First Aid/Emergency Care and CPR.

G 599 Professional Paper Variable cr. (R-3) Offered every term. Prereq., HHP 486, 520.

G 699 Thesis Variable cr. (R-6) Offered every term.

Faculty

Professors
Gene Burns, Ed.D., The University of Montana, 1988
Laura Dybdal, Ph.D., University of New Mexico, 1996
Steven Gaskill, Ph.D., University of Minnesota, 1998
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. Whidden, Ed.D., The University of Montana, 1975 (Chair)
Sharon Dinkel Uhlig, Ed.D., University of Utah, 1982

Associate Professors
Blakely Brown, Ph.D., R.D., University of Minnesota, 2000
Scott Richter, Ed.M., Oregon State University, 1982 (Program Director, Athletic Training)

Assistant Professors
Carla Cox, Ph.D., The University of Montana, 2003 (Adjunct)
Dennis T. Murphy, M.S., University of Arizona, 1976 (Head Athletic Trainer)
Charles Palmer, Ed.D., University of Montana, 2002
Valerie Rich, Ph.D., ATC, CSCS, University of South Florida, 2006

Instructors
Adrienne M. Corti, M.S., The University of Montana, 1989
Linda Green, B.S., Florida State University, 1976
Karla Judge, M.S., ATC, Idaho State University 1991
Ellen Parchen, B.S., West Chester University, 1994
J. C. Weida, M.S., ATC, The University of Montana, 1995

Emeritus Professors
Kathleen Miller, Ph.D., University of Iowa, 1971
Gary Nygaard, Ed.D., University of Oregon, 1971
Walter C. Schwank, Ph.D., State University of Iowa, 1955
Brian J. Sharkey, Ph.D., University of Maryland, 1965

Emeritus Associate Professors
George Cross, M.S., Indiana University, 1956
Mavis M. Lorenz, M.S., University of Washington,Seattle, 1954
School of Fine Arts

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 artists/faculty/scholars, staff and administrative personnel, all of whom are committed to providing a challenging, positive educational 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 students at The University of Montana-Missoula by teaching each of the performing and visual arts with rigor and devotion, and by offering preparation and experience that will enable students to take their places in the world of art, to perform and create with grace and maturity, and to teach with expertise and perspective;
- serve the University at large, as well as the community, state, region and nation, by presenting concerts, productions, and exhibitions of high quality, and by offering educational and research opportunities in the arts for non-majors as well as majors;
- provide national leadership in the arts by enhancing the excellence of traditional arts curricula, instruction and research with innovative and imaginative programs that utilize new technologies, new media, and new cultural and intellectual environments;
- inspire the pursuit of excellence, encouraging creativity and expression through the arts;
- preserve artistic values and traditions of the past, and provide fertile soil for the arts of the future.

Department of Art

M.A. Papanek-Miller, Chair
The department seeks to present an integrated and comprehensive introduction to studio art, including art history, criticism, and theory. Programs provide intensive professional training for students interested in careers in the field of art. Students may choose any of several areas and, with faculty guidance, construct an individual program fitted to particular objectives. Degree offerings include the B.A., B.F.A., M.A., and M.F.A. in Art. Areas of specialization which include Ceramics, Drawing, Painting, Photography, Printmaking, and Sculpture are offered in the B.F.A. and M.F.A. degrees. These specializations are also offered in the M.A. degree along with the added specialization of Art History. Courses in art criticism are included in the program. The curriculum also includes courses that prepare student for certification in teaching art.

Advanced Placement Policy
Undergraduate students wishing to challenge foundations courses for advanced placement must adhere to the following. Students can try to challenge only all foundation courses (Art 123A, Drawing Fundamentals; 125A, 2-D Color and Design; 135A, 3-D Fundamentals).

All students, including students who have taken AP examinations, must submit a portfolio to challenge art classes. Two weeks prior to the semester students may submit a portfolio of ten jpeg files or pieces of actual work to the department office. If challenging more than one course, students need ten works in each area, for example: 10 drawing samples for 123A, 10 color works for 125A, and/or 10 3-D pieces for 135A.

Submission of work does not guarantee advanced placement. Portfolios are reviewed at the beginning of autumn and spring semesters by a committee of representative faculty from the 2-D and 3-D areas. Note: Credits are not awarded for subjects that are successfully challenged.

Students with transfer credits from another institution must contact their advisor of the department for review of transfer transcripts to make an advanced placement assessment.

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

Students pursuing Bachelor of Fine Arts or Bachelor of Arts degrees with a major in Art must earn a “C” (2.00 on a 4.00 scale) grade or better in all Art courses fulfilling requirements in order to graduate.

Bachelor of Fine Arts Review Process
All students initially enter as Bachelor of Arts (B.A.) candidates. To qualify for the Bachelor of Fine Arts (B.F.A.) Program a student must have and maintain a 3.0 grade point average in Art and a 2.5 overall GPA on a 4.00 scale. B.F.A. portfolio review takes place each semester. Art majors and transfer students who would like to apply for the B.F.A. program must submit their portfolio once they have earned between 33 and 45 Art credits. Transfer students who enter with more than 45 earned credits must be reviewed the first semester of their residency. Completion of pre-requisite courses and the review can take place the same semester. Should a student not be admitted to the B.F.A. program with their first application, a second and final application the following semester is encouraged. Application forms are available in the Art office three weeks before the scheduled review. The following course selections are review prerequisites: ART 150H, 151H, 123A, 125A, 135A, four 200-level studio courses, and two 300-level studio courses. Applications for the B.F.A. program must include: the application form with the area faculty signature, statement of purpose, and portfolio. Applications are reviewed each semester prior to preregistration. Incomplete or late applications will not be considered.

Bachelor of Fine Arts with a major in Art
For the Bachelor of Fine Arts degree, areas of specialization are: Ceramics, Drawing, Painting, Photography, Printmaking, and Sculpture. This is a professional degree requiring 75 credits in art distributed as follows: art fundamentals, 9; beginning art history, 6; photography, 3; ceramics, 3; printmaking, 3; sculpture, 3; painting, 3; drawing, 3; introductory art criticism, 3; upper-division art history, 6; upper-division art criticism, 3; upper-division studio courses outside your area of concentration (to include Drawing II), 12; upper-division studio courses in the area of concentration, 12; professional practices/senior thesis, 6. All students must successfully complete an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. University General Education requirements must be fulfilled as listed previously in the catalog. See index.

ART 123A is a prerequisite for all 200-level two-dimensional
Studio art courses. ART 125A is a prerequisite for all 200-level painting and drawing courses. ART 135A is a prerequisite for all 200-level ceramic and sculpture courses.

**Bachelor of Arts with a major in Art**

Students seeking the Bachelor of Arts degree with a major in Art must complete 37 credits in art: art fundamentals, 9; beginning art history, 6; photography, 3; ceramics, 3; printmaking; sculpture, 3; painting, 3; drawing, 3; introductory art criticism, 3; upper-division art history, 6; upper-division (300- and 400-level) art studio courses to include 4 of the 6 studio areas counting Drawing II), 12; upper-division art criticism, 3. All students must successfully complete an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

University general requirements must be fulfilled as listed previously in the catalog.

**Bachelor of Arts with a major in Art, endorsement in Art Education**

Art education is an area of specialization designed for the student seeking an endorsement (K-12) in the extended major teaching field of art.


For an endorsement to teach Art K-12, a student must gain admission to Teacher Education and Student Teaching and meet the requirements for teacher certification (see the School of Education section of this catalog).

All students must successfully complete an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

University general requirements must be fulfilled as listed previously in the catalog.

**Suggested Course of Study**

**Programs for the B.A./B.F.A. Degree.**

Credits in parentheses are additional requirements for the B.F.A.

**First Year**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Art 123A</td>
<td>3</td>
</tr>
<tr>
<td>Art 125A</td>
<td>3</td>
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<tr>
<td>Art 150H-151H</td>
<td>3</td>
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<tr>
<td>Art 135A</td>
<td>3</td>
</tr>
<tr>
<td>Art 215A Photography I</td>
<td>3</td>
</tr>
<tr>
<td>Art 233A Beginning Printmaking</td>
<td>3</td>
</tr>
<tr>
<td>ENEX 101 English Composition</td>
<td>3</td>
</tr>
<tr>
<td>Other General Education courses</td>
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**Second Year**

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Credits</th>
</tr>
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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>
<td>3</td>
</tr>
<tr>
<td>Art 240A Painting I</td>
<td>3</td>
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<tr>
<td>General Education</td>
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**Third Year**

<table>
<thead>
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<th>Course Name</th>
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<tbody>
<tr>
<td>Art History (300-level)</td>
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<tr>
<td>Studio II courses</td>
<td>3</td>
</tr>
<tr>
<td>Studio courses (B.F.A. option courses)</td>
<td>3</td>
</tr>
<tr>
<td>Art 303L or 403L Art Criticism</td>
<td>3</td>
</tr>
<tr>
<td>Art 323 Drawing II</td>
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</tr>
<tr>
<td>General Education</td>
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**Fourth Year**

<table>
<thead>
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<th>Course Name</th>
<th>Credits</th>
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</thead>
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<tr>
<td>Studio courses (B.F.A., courses in option)</td>
<td>3</td>
</tr>
<tr>
<td>Studio art courses (300-400-level)</td>
<td>3</td>
</tr>
<tr>
<td>Art 494 Professional Practices (B.F.A.)</td>
<td>3</td>
</tr>
<tr>
<td>ART 499 Senior Thesis (B.F.A.)</td>
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</tr>
<tr>
<td>Elective &amp; General Education</td>
<td>6-12</td>
</tr>
</tbody>
</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 volume, pictorial depth, and figure/ground relationships. Research in historical and contemporary approaches to drawing.

**U 125A Color and Design** 3 cr. Offered autumn and spring. Prereq. or coreq., ART 123A. An introduction to the formal elements and principles of design, color theory, and predominant western and non-western historical styles. Emphasis on solving specific design problems.

**U 129A Ceramics for Non-Majors** 3 cr. Offered intermittently. A general introduction to art using ceramics. Less specialized than Ceramics I for fine arts majors. Credit not allowed toward a B.A., B.F.A., or minor in art.

**U 135A Three-Dimensional Fundamentals** 3 cr. Offered autumn and spring. Basic three-dimensional course for both general education and beginning art students. Prerequisite to beginning sculpture and beginning ceramics. Emphasis placed on conceptualization and formal development of the 3-D object in the areas of form, mass, scale, texture, space and color.

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

**U 215A Photography I** 3 cr. Offered every term. Prereq., ART 123A. Introduction to photography as an art form. Exposure, camera basics, composition, developing, printing, print finishing techniques. Focus on technical expertise and issues of content and personal expression.

**U 223 Drawing I: Figure Drawing** 3 cr. Offered autumn and spring. Prereq., ART 123, 125 and 150 or 151. Study of human anatomy with an emphasis on rendering and interpreting the figure. Research in historical and contemporary figuration as a basis for developing a portfolio.

**U 229A Ceramics** 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 for the B.F.A.
to problems of glazing and surface treatment.

U 233A Printmaking II 3 cr. (R-9) Offered autumn and spring. Prereq., ART 123. Introduction to various printmaking media.

U 235 Sculpture I 3 cr. Offered autumn and spring. Prereq., ART 135A. Introduction to basic technical skills in the areas of woodworking, welding, and casting. Problem-solving in the areas of concept, aesthetics, materials and process; studio theory. Individual content and formal criticism as it relates to personal expression.


U 293 Omnibus Variable cr. (R-10) Offered intermittently. Experimental offerings of current topics, including specific technical and conceptual aspects.


U 329 Ceramics II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A, 150, 151, 203, and 223A. Exploration and production of drawings with emphasis on individual expression. Studio practicum, lectures, critiques, reading and writing.

U 329 Ceramics II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 135A and 229. Further exploration of the ceramic process introducing more complex ways of handbuilding and developing the art of throwing. Examination of the technology and chemistry of clay, glazes and high temperature oxidation and reduction firing.

U 330 Clay and Glaze 3 cr. Offered autumn. Prereq., ART 135A, 229A. In depth study of the physical and chemical properties of clays and glazes. Hands on testing of various clay and glaze formulas and an introduction to kiln firing.

U 333 Printmaking II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 233A. Continued work in various printmaking media.

U 335 Sculpture II 3 cr. (R-12) Offered autumn and spring. Prereq., ART 135A and 235. Focus on contemporary issues and techniques of sculpture.

U 340 Painting II: The Figure 3 cr. Offered autumn and spring. Prereq., ART 150, 151, 203, 223, and 240. Exploration of painting with emphasis on the human figure and classical compositions and techniques, studio practicum, lectures, critiques, reading and writing.


U 393 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

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

U 414 Photography III 3 cr. (R-9) Offered autumn or spring. Prereq., ART 123A, 215A, 315. Further exploration of photographic theory, criticism, technique and expression as an art form.


U 416 Advanced Research in Photography 3 cr. (R-9) Offered intermittently. Investigation of photography with emphasis on student proposals, including specific technical and conceptual aspects.

U 423 Independent Study in Drawing 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A, 150, 151, 203, 223, and 323, and consent of instructor. Advanced drawing techniques.

U 424 Advanced Research in Drawing 3 cr. (R-9) Offered intermittently. Investigation of ceramics with emphasis on student proposals, including specific technical and conceptual aspects.

U 433 Independent Study in Printmaking 2-6 cr. (R-12) Offered autumn and spring. Prereq., 6 credits in ART 333, consent of instructor. Independent projects in printmaking.

U 434 Advanced Research in Printmaking 3 cr. (R-9) Offered intermittently. Investigation of printmaking with emphasis on student proposals, including specific technical and conceptual aspects.

U 435 Independent Study in Sculpture 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 135A, 235, 333, consent of instructor. Advanced techniques in sculpture.

U 436 Advanced Research in Sculpture 3 cr. (R-9) Offered intermittently. Investigation of sculpture with emphasis on student proposals, including specific technical and conceptual aspects.

U 440 Independent Study in Painting 2-6 cr. (R-12) Offered autumn and spring. Prereq., ART 123A, 125A, 150, 151, 203, 223, 240A, 341 and/or consent of instructor. Minimum of 9 credits at 300 level painting courses. (Exceptions for special circumstances such as January term courses, study abroad, etc.) Independent projects in painting.

U 442 Advanced Research in Painting 3 cr. (R-9) Offered intermittently. Prereq., ART 123A, 125A, 150, 151, 203, 223, 240A, 323, 340, and 341 and/or consent of instructor. Investigation of painting with emphasis on student proposals, including specific technical and conceptual aspects.

U 490 Supervised Internship Variable cr. (R-12 Offered intermittently. Prereq., consent of instructor. Special internships under direction of department faculty allowing students practical experience in a chosen area.

U 493 Omnibus Variable cr. (R-10) Offered intermittently. University omnibus option for independent work. See index.

U 494 Professional Practices Seminar 3 cr. Offered autumn. Prereq., senior or graduate status. Required of all graduating B.F.A. students. Introduction to professional practices and standards in the visual arts, including presentation, portfolio development, career and exhibition opportunities, arts advocacy and graduate school.

U 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.

Required of B.F.A. students. Focus on completion of artwork and preparation for the required spring B.F.A. exhibition. Further exploration of professional practices topics and career opportunities.

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/Printmaking 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. Advance research in painting.

G 560 Graduate Teaching Assistant Seminar 3 cr. Offered autumn. Prereq., graduate standing. Preparation to teach foundation and entry level art courses.

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

G 598 Internship 2-6 cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 699 Thesis and Terminal Project Variable cr. (R-12) Offered autumn and spring.

Art History

U 100L Art Appreciation 3 cr. Offered autumn and spring. An introduction to the visual arts exploring various approaches to understanding art, art history and terminology, techniques and media, motivating factors behind the creative act.

U 150H Art of World Civilization: Ancient to Medieval Art 3 cr. Offered autumn. Survey of history of visual art from prehistory 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 to the Gothic Revival.

U 367H History of Art 2-6 cr. Offered intermittently. Same as NAS 367H. Development of major aesthetic and stylistic movements from the beginning of European art to the present. Focus on the development of the modern European art from the colonial period to the present including Renaissance ideals in the "New World", and the advent of such movements as Academism, Modernism, Social Realism, Magic Realism and Post-Modernism.

UG 350H Art of the Ancient Americas 3 cr. Offered intermittently. Prereq., ART 150H or 151H or consent of instr. Same as NAS 350H. Ancient American art from the colonial period to the present including Renaissance ideals in the "New World", and the advent of such movements as Academism, Modernism, Social Realism, Magic Realism and Post-Modernism.

UG 386H Art of the 20th Century 3 cr. Offered intermittently. Prereq., ART 150H or 151H or consent of instr. Same as NAS 200H. The development of modern and contemporary art from the Colonial period to the present including Renaissance ideals in the "New World", and the advent of such movements as Academism, Modernism, Social Realism, Magic Realism and Post-Modernism.
and spring. Prereq., ART 150H-151H. Introduction to a range of
methods and philosophies in art criticism.
UG 303L Contemporary Art and Art Criticism 3 cr.
Offered autumn and spring. Prereq., ART 203L or consent of instr.
Survey of artists, art works, critics and theories from
1960s to the present. Introduction to major art movements and
ideas of the Post-Modern era. Special emphasis given to first­
hand experiences with art at local venues and direct
engagement with contemporary art criticism published in
newspapers, journals, magazines, and other media.
UG 403L Renaissance Theory and Criticism 3 cr.
Offered intermittently. Prereq., ART 150H or 151H or consent of instr.
An exploration of the writings of major thinkers of the 14th­
16th centuries, including theoretical treatises, works of
literature, contracts, and personal diaries.
UG 452 Advanced Research in Art Criticism 2-6 cr. (R-6)
Offered spring. Prereq., consent of instr.
G 501 Graduate Critiques Seminar 1 cr. (R-4)
Offered autumn and spring. Prereq., consent of instr. Weekly meetings
to critique graduate student work.
G 503 Critical Theories in the Visual Arts 3 cr.
Prereq., consent of instr. Seminar on the history of art criticism as a
particular type of discourse about art. Contemporary theories of
Modernism including Formalism, Abstraction, Marxism, and
Social Realism; and Postmodernism including Deconstruction,
Revisionism, and Feminism. Required of all M.A. and M.F.A.
students in 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 408 Teaching Art K-12 for Fine Arts Majors 3 cr.
Continuation and practical application of ART 407.
UG 427 Advanced Research in Art Education 2-6 cr. (R-
12) Offered intermittently. Prereq., ART 123A, 125A, 135A
and ART 314 or 407. Advanced research in art education
topics and/or field experiences.

Summer Arts Education Institute
(Offered through School of Fine Arts)
G 582 Arts Education Seminar I 2 cr. (R-4) Prereq., ART
581. Same as DRAM, MUS 582. Offered summers. Topics vary.
G 583 Arts Education Seminar II 1-2 cr. (R-4) Prereq., ART
582. Same as DRAM, MUS 583. Continuation of ART 582.
G 584 Arts Education Seminar III 1-2 cr. (R-4) Prereq.,
ART 583. Same as DRAM, MUS 584. Continuation of ART
583.
G 585 Arts Education Seminar IV 1-2 cr. (R-4) Prereq.,
ART 584. Same as DRAM, MUS 585. Continuation of ART
584.
G 586 Arts Education Seminar V 1-2 cr. (R-8) Same as
DRAM, MUS 586. Continuation and synthesis of preceding
seminars.
G 587 Arts Education Practicum 1 cr. (R-4) Same as
DRAM, MUS 587. Offered summers. The active application
of concepts and theories presented during the Arts Education
Institute and the arts education seminars within a small group
setting.
G 588 Arts Education Apprenticeship 1 cr. (R-4) Same as
DRAM, MUS 588. Exploration of art forms to develop new
artistic and communicative perceptions and awareness.
G 589 Arts Education Field Project 1 cr. (R-4) Same as
DRAM, MUS 589, creative/research activities.

Faculty

Professors
James Bailey, M.F.A., University of Wisconsin-Madison, 1989
Hippolito Rafael Chacon, Ph.D., University of Chicago, 1995
David James, M.F.A., University of Arizona, 1984
Elizabeth Lo, M.F.A., The University of Montana, 1974
M.A. Papanek-Miller, M.F.A., University of Houston, 1984
(Coordinator)
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
Barbara Forni, M.F.A., Vermont College of Norwich, 1999
Cathryn Mallory, M.F.A., University of Oklahoma, 1985

Assistant Professor
Bradley Allen, M.F.A., Southern Illinois University, 2005

Emeritus Professors
Marilyn Bruya, M.F.A., Bard College, 1986
James G. Todd, M.F.A., The University of Montana, 1969
Rudy Autio, M.F.A., Washington State University, 1952

The Bachelor of Arts with a major in Dance allows the student
who plans to enter a dance career to select another major to
complement that objective. The Bachelor of Arts with a major in
Drama provides the student with a broad liberal arts
education and a general focus in drama. The degree allows the
student to complete an additional major and may form the basis
for further training on the graduate level. The Bachelor of Arts
with a major in Dance or Drama and an area of specialization in
Education Endorsement Preparation is designed for the
student seeking teaching endorsement in the field of drama.
The Bachelor of Fine Arts with a major in Drama is a
professionally oriented degree designed for the student who
plans to pursue a career in theatre, dance, or a related field.
Areas of specialization are: Acting, Design/Technology,

Department of Drama/Dance

Mark Dean, Chair

The Department of Drama/Dance is accredited by the National
Association of Schools of Theatre. 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.
Choreography and Performance, and Studio Teaching. Graduate programs lead to the Master of Arts in Drama or Integrated Arts and Education and the Master of Fine Arts in Drama with areas of specialization in Acting, Design/Technology, or Directing.

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

Advisement
Each Drama/Dance major must have a faculty advisor who is assigned by the department and who is usually from the student's area. The department, through its advisement program, often recommends non-drama electives and specific General Education courses to the student depending on the student's area. 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 ongoing evaluations provide each student with the opportunity and challenge of individualized critiques from faculty and professional staff.

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

Bachelor of Arts with a major in Dance
The following courses constitute the complete Dance requirements for the Bachelor of Arts degree:

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>201A Beginning Composition (offered spring)</td>
<td>2</td>
</tr>
<tr>
<td>202 Rehearsal and Performance</td>
<td>2</td>
</tr>
<tr>
<td>300 Modern III</td>
<td>6</td>
</tr>
<tr>
<td>301 Intermediate Composition (offered autumn, odd-numbered years)</td>
<td>2</td>
</tr>
<tr>
<td>304 Ballet III (or higher level)</td>
<td>8</td>
</tr>
<tr>
<td>307A Jazz Dance III (or appropriate level)</td>
<td>2</td>
</tr>
<tr>
<td>334H 20th-Century Dance (offered spring, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>340 The Science of Dance Movement (offered autumn, odd-numbered years)</td>
<td>1</td>
</tr>
<tr>
<td>397 Junior Creative or Research Project (students must complete projects for graduation)</td>
<td>3</td>
</tr>
<tr>
<td>400 Modern IV</td>
<td>6</td>
</tr>
<tr>
<td>425 Dance Pedagogy (offered autumn, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>428 Internship in Children's Dance</td>
<td>2</td>
</tr>
<tr>
<td>429 Advanced Techniques of Modern Dance</td>
<td>3</td>
</tr>
<tr>
<td>434L World Dance</td>
<td>3</td>
</tr>
<tr>
<td>494 Senior/Senior Dance Seminar (offered autumn, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>497 Senior Creative or Research Project</td>
<td>3</td>
</tr>
<tr>
<td>427 Teaching Movement in the Schools (offered autumn odd-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>OR</td>
<td>3</td>
</tr>
<tr>
<td>320 Improvisation and</td>
<td>2</td>
</tr>
<tr>
<td>420 Contact Improvisation</td>
<td></td>
</tr>
</tbody>
</table>

Drama

<table>
<thead>
<tr>
<th>Drama</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>107A Theatre Production I: Construction Crew (Costume or Lighting)</td>
<td>3</td>
</tr>
<tr>
<td>378 Stage Management Practicum</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>58-59</td>
</tr>
</tbody>
</table>

There is an Admission Audition which a prospective major must pass at the end of the first year to continue in the program.

Bachelor of Arts with a major in Drama

The following courses constitute the complete Drama requirements for the Bachelor of Arts degree:

<table>
<thead>
<tr>
<th>Drama</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>103A Introduction to Theatre Design</td>
<td>3</td>
</tr>
<tr>
<td>106A Theatre Production I: Run Crew</td>
<td>1</td>
</tr>
<tr>
<td>107A Theatre Production I: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>108 Intro to House Management</td>
<td>1</td>
</tr>
<tr>
<td>202 Stagecraft I</td>
<td>3</td>
</tr>
<tr>
<td>207 Theatre Production II: Construction Crew</td>
<td>3</td>
</tr>
<tr>
<td>214 Acting I (or DRAM 111A)</td>
<td>3</td>
</tr>
<tr>
<td>220L Dramatic Literature I (Script Analysis)</td>
<td>3</td>
</tr>
<tr>
<td>320 Theatre History I</td>
<td>3</td>
</tr>
<tr>
<td>321 Theatre History II</td>
<td>3</td>
</tr>
<tr>
<td>379 Introduction to Directing</td>
<td>3</td>
</tr>
<tr>
<td>Drama/Dance/Media Arts electives (by advisement)</td>
<td>2</td>
</tr>
<tr>
<td>Senior project</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
</tr>
</tbody>
</table>

Education Endorsement Preparation Specialization
The Education Endorsement Preparation specialization is designed for the student seeking an endorsement in the major teaching field of Drama.

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>327A Dance in Elementary Education</td>
<td>2</td>
</tr>
<tr>
<td>Drama</td>
<td></td>
</tr>
<tr>
<td>104A Introduction to Theatre Design</td>
<td>3</td>
</tr>
<tr>
<td>106A-107A Theatre Production (Running and Production Crews)</td>
<td>4</td>
</tr>
<tr>
<td>108 Introduction to House Management</td>
<td>1</td>
</tr>
<tr>
<td>202 Stagecraft I</td>
<td>3</td>
</tr>
<tr>
<td>203 Stagecraft II</td>
<td>3</td>
</tr>
<tr>
<td>210 Voice and Speech I</td>
<td>2</td>
</tr>
<tr>
<td>214-215 Acting I, II</td>
<td>6</td>
</tr>
<tr>
<td>220L Dramatic Literature I (Script Analysis)</td>
<td>3</td>
</tr>
<tr>
<td>244 Stage Makeup</td>
<td>2</td>
</tr>
<tr>
<td>320-321 Theatre History I, II</td>
<td>6</td>
</tr>
<tr>
<td>327A Drama in Elementary Education</td>
<td>2</td>
</tr>
<tr>
<td>371 Stage Management I</td>
<td>2</td>
</tr>
<tr>
<td>379 Introduction to Directing</td>
<td>3</td>
</tr>
<tr>
<td>402 Methods of Teaching Theatre</td>
<td>2</td>
</tr>
<tr>
<td>Senior Project</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
</tr>
</tbody>
</table>

For endorsement to teach Drama, a student also must gain admission to Teacher Education and Student Teaching and meet all the requirements for certification as a secondary teacher (see the School of Education section of this catalog). The demand in Montana high schools for teaching of courses in this field is limited. Students should complete the required second endorsement (major or minor) in a field other than Economics, Geography, Journalism, Psychology or Sociology.

Bachelor of Fine Arts with a major in Drama

Normally, a student should declare intent to pursue the B.F.A. degree no later than the beginning of the second year of a four-year program. The student must declare an area of specialization, either acting or design/technology. Requirements for these areas are specified below. A student may elect a special concentration in directing, music theatre, or another discipline in addition to the B.F.A. core and area specialization requirements. The program is designed in consultation with the student's advisor and must be approved by the faculty. The special concentration may require five years to complete.

The following courses are required of all B.F.A. students in Drama with an area of specialization in Acting or Design/Technology:

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drama</td>
<td></td>
</tr>
<tr>
<td>106A Theatre Production I: Running Crew</td>
<td>1</td>
</tr>
<tr>
<td>107A Theatre Production I: Construction Crew</td>
<td>3</td>
</tr>
</tbody>
</table>
Acting Specialization
Students who intend to pursue the acting specialization will normally enter the University as Bachelor of Arts students in Drama. To be taken in addition to core courses:

<table>
<thead>
<tr>
<th>Drama</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>210 Voice and Speech I</td>
<td>2</td>
</tr>
<tr>
<td>211 Voice and Speech II</td>
<td>2</td>
</tr>
<tr>
<td>215 Acting II</td>
<td>3</td>
</tr>
<tr>
<td>216A Production Acting I</td>
<td>1</td>
</tr>
<tr>
<td>244 Stage Makeup</td>
<td>2</td>
</tr>
<tr>
<td>310 Voice and Speech III</td>
<td>3</td>
</tr>
<tr>
<td>312 Physical Performance Skills I</td>
<td>2</td>
</tr>
<tr>
<td>313 Physical Performance Skills II</td>
<td>2</td>
</tr>
<tr>
<td>314 Acting III</td>
<td>3</td>
</tr>
<tr>
<td>315 Acting IV</td>
<td>3</td>
</tr>
<tr>
<td>316A Production Acting II</td>
<td>1</td>
</tr>
<tr>
<td>412 Physical Performance Skills III</td>
<td>3</td>
</tr>
<tr>
<td>414 Acting V (repeat once)</td>
<td>8</td>
</tr>
<tr>
<td>415 Acting VI (repeat once)</td>
<td>8</td>
</tr>
<tr>
<td>416 Production Acting III</td>
<td>1</td>
</tr>
<tr>
<td>420 Singing for Actors</td>
<td>2</td>
</tr>
<tr>
<td>439 Advanced Acting: Professional Skills</td>
<td>3</td>
</tr>
<tr>
<td>Sub total</td>
<td>49</td>
</tr>
<tr>
<td>Core Courses</td>
<td>27</td>
</tr>
<tr>
<td>Total</td>
<td>76</td>
</tr>
</tbody>
</table>

Design/Technology Specialization
Students wishing to pursue a B.F.A. with specialization in design/technology must:
1. Complete a one-year residency at the UM-Missoula campus which includes a minimum of 12 credits in design/technology.
2. Attain a cumulative 2.5 overall GPA and a 3.0 GPA in design/technology coursework.
3. Present a theatre resume and portfolio consisting of class and production work.
4. Prepare a written statement explaining their educational and professional goals.

Students who intend to pursue the design/technology specialization will normally enter the University as Bachelor of Arts students in Drama. To be taken in addition to core courses:

<table>
<thead>
<tr>
<th>Drama</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>103A Introduction to Theatre Design</td>
<td>3</td>
</tr>
<tr>
<td>106A Theatre Production I: Running Crew</td>
<td>2</td>
</tr>
<tr>
<td>107A Theatre Production I: Construction Crew (Repeat once)</td>
<td>6</td>
</tr>
<tr>
<td>206 Theatre Production II: Running Crew</td>
<td>1</td>
</tr>
<tr>
<td>231 Drafting for the Theatre I</td>
<td>3</td>
</tr>
<tr>
<td>Choose one from:</td>
<td></td>
</tr>
<tr>
<td>331 Drafting for the Theatre II</td>
<td>3</td>
</tr>
<tr>
<td>332 CAD for the Theatre</td>
<td></td>
</tr>
<tr>
<td>341 Flat Pattern Design and Drafting</td>
<td></td>
</tr>
<tr>
<td>307 Production Construction I</td>
<td>3</td>
</tr>
<tr>
<td>371 Stage Management I</td>
<td>2</td>
</tr>
<tr>
<td>Choose one from (Junior Project):</td>
<td></td>
</tr>
<tr>
<td>308 Production Team I</td>
<td>2</td>
</tr>
<tr>
<td>309 Production Design I</td>
<td></td>
</tr>
<tr>
<td>Choose one from (Senior Project):</td>
<td></td>
</tr>
<tr>
<td>408 Production Team II</td>
<td>3</td>
</tr>
</tbody>
</table>

Junior Projects
A junior project is required of all B.F.A. design/technology specialization students. The junior project is usually production-related and has both practical and written components. Requirements for the project are outlined in the Department of Drama/Dance Handbook.

Senior Projects
A senior project is required of all B.A. and B.F.A. students completing the acting or design/technology specialization. The senior project is usually production-related and has both practical and written components. Requirements for the project vary and are outlined in the Department of Drama/Dance Handbook.

Bachelor of Fine Arts with a major in Dance
The department offers two areas of specialization, one in choreography and performance and the other in studio teaching. Each requires the same sixty-six credits in core courses, plus additional specified credits in each area of specialization. All majors are required to do a junior and a senior creative or research project and a production project. If not qualified for advanced placement in Modern III, the student must take Modern II as a prerequisite.

<table>
<thead>
<tr>
<th>Core Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dance</td>
<td></td>
</tr>
<tr>
<td>201A Beginning Composition (offered spring)</td>
<td>2</td>
</tr>
<tr>
<td>202A Rehearsal and Performance</td>
<td>2</td>
</tr>
<tr>
<td>400 Modern IV</td>
<td>6</td>
</tr>
<tr>
<td>304 Ballet III (or a higher level)</td>
<td>12</td>
</tr>
<tr>
<td>320 Improvisation (offered autumn, even-numbered years)</td>
<td>1</td>
</tr>
<tr>
<td>334H 20th-Century Dance (offered spring, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>310 The Science of Dance Movement (offered autumn, odd-numbered years)</td>
<td>1</td>
</tr>
<tr>
<td>397 Junior Creative or Research Project (students must complete project for graduation)</td>
<td>3</td>
</tr>
<tr>
<td>400 Modern IV</td>
<td>6</td>
</tr>
<tr>
<td>420 Contact Improvisation (offered autumn, odd-numbered years)</td>
<td>1</td>
</tr>
<tr>
<td>425 Dance Pedagogy (offered autumn, even-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>426 Dance as a Healing Art (offered spring)</td>
<td>2</td>
</tr>
<tr>
<td>428 Internship in Children's Dance</td>
<td>2</td>
</tr>
<tr>
<td>429 Advanced Techniques of Modern Dance</td>
<td>6</td>
</tr>
<tr>
<td>434L World Dance (offered spring, odd-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>494 Jr/Sr Dance Seminar (offered autumn, odd-numbered years)</td>
<td>3</td>
</tr>
<tr>
<td>497 Senior Creative or Research Project (students must complete project for graduation)</td>
<td>3</td>
</tr>
<tr>
<td>Drama</td>
<td></td>
</tr>
<tr>
<td>106A Theatre Production I: Running Crew</td>
<td>1</td>
</tr>
<tr>
<td>107A Theatre Production I: Construction Crew (Costume or Lighting)</td>
<td>3</td>
</tr>
<tr>
<td>378 Stage Management Practicum</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>66</td>
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</table>

Studio Teaching Specialization

<table>
<thead>
<tr>
<th>Dance</th>
<th>Credits</th>
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<tbody>
<tr>
<td>328 Teaching Creative Movement for People with Disabilities</td>
<td>1</td>
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<tr>
<td>427 Teaching Movement in the Schools (offered autumn odd-numbered years)</td>
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</tr>
<tr>
<td>491 Teaching Projects</td>
<td>2</td>
</tr>
<tr>
<td>(assisting in a technique class for one semester)</td>
<td></td>
</tr>
<tr>
<td>Sub-Total</td>
<td>6</td>
</tr>
<tr>
<td>Core Courses</td>
<td>66</td>
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</tbody>
</table>
Choreography and Performance Specialization

Dance Credits
202A Rehearsal and Performance (performing in one piece equals one credit) ........................................ 2
301 Intermediate Composition (offered autumn, odd-numbered years) .................................................. 2
Choose two from:
  HHP 101, 141, 159, 162, 171, 173, 177, 179 ................................................................. 2
Sub-Total .......................................................................................................................... 6
Core Courses .................................................................................................................. 66
Total .................................................................................................................................. 72

Drama 214, Acting I, is optional.
There is an admission audition which a prospective major must pass at the end of the first year to continue in this program.

Special Projects
Junior and senior projects must be planned with the student’s project advisor and all journals and papers will be submitted to that advisor. All choreography/performance B.F.A. candidates are required to choreograph for both projects, but the senior project must be a piece of choreography produced off-campus in the Missoula community. Teaching B.F.A. candidates must choreograph for the junior project and complete a teaching project in the Missoula community for the senior project. Students also are required to meet the campus-wide General Education requirements. Students are urged to consult with their advisors before General Education courses are selected.

Suggested Course of Study
The recommended curriculum for the B.A., major in Dance is:

First Year
DAN 200A Modern II (or DAN 100A, if needed) ........................................ 6
DAN 201A Beginning Composition ............................................................... 2
DAN 204A Ballet II ............................................................................................ 8
DAN 207A Jazz Dance II .................................................................................. 2
Electives and General Education ................................................................. 12
Total ...................................................................................................................... 30

Second Year
DAN 204A Ballet II ............................................................................................ 4
DAN 300 Modern III (or 200A, if needed) ................................................... 6
DAN 301 Intermediate Composition .............................................................. 2
DAN 307A Jazz Dance III ............................................................................... 8
DRAM 378 Stage Management Practicum ...................................................(two semesters) ............................... 2
DRAM 434L World Dance ............................................................................. 3
Electives and General Education ................................................................. 12
Total ...................................................................................................................... 30

Electives and General Education ................................................................. 18
Total ...................................................................................................................... 48

The recommended curriculum for the B.A., major in Drama 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 .................................. 6
DRAM 108 Introduction to House Management .............................................. 1
DRAM 202 Stagecraft I .................................................................................... 3
DRAM 203 Stagecraft II ................................................................................... 3
Electives and General Education ................................................................. 10
Total ...................................................................................................................... 30

Second Year
DRAM 204AII or DAN 304 Ballet III ............................................................... 4
DAN 300 Modern III (or DAN 200A) ............................................................. 6
DRAM 106A Theatre Production: Running Crew ......................................... 1
DRAM 107A Theatre Production I: Construction Crew (Costume Lighting) 3
Electives and General Education ................................................................. 10
Total ...................................................................................................................... 24

Electives and General Education ................................................................. 18
Total ...................................................................................................................... 42

The recommended curriculum for the Choreography and Performance or Studio Teaching student in the B.F.A., major in Dance, is:

First Year
DAN 204AII or DAN 304 Ballet III ............................................................... 4
DAN 300 Modern III (or DAN 200A) ............................................................. 6
DRAM 106A Theatre Production: Running Crew ......................................... 1
DRAM 107A Theatre Production I: Construction Crew (Costume Lighting) 3
Electives and General Education ................................................................. 10
Total ...................................................................................................................... 24

Second Year
DAN 201A Beginning Composition .............................................................. 2
DAN 202A Rehearsal and Performance .......................................................... 2
DAN 300 Modern III (or DAN 200A) ............................................................. 6
DAN 304 Ballet III (or DAN 204A) ................................................................. 4
DAN 320 Improvisation ................................................................................... 1
DAN 329 Conditioning; Pilates Mat I ............................................................... 2
DAN 340 Science of Dance ............................................................................. 1
DRAM 378 Stage Management Practicum .................................................... 3
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 area.

Electives and General Education ................................................................. 18
Total ...................................................................................................................... 36

Credits
Dance Credits

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
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<tbody>
<tr>
<td>U 100A Modern Dance I (R-4)</td>
<td>2</td>
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<tr>
<td>U 104A Ballet I (or appropriate level)</td>
<td>2</td>
</tr>
<tr>
<td>U 107A Jazz Dance I (or appropriate level)</td>
<td>2</td>
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<tr>
<td>U 200A Modern II</td>
<td>2</td>
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<tr>
<td>U 201A Beginning Composition</td>
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<tr>
<td>U 202A Rehearsal and Performance</td>
<td>2</td>
</tr>
<tr>
<td>U 204A Ballet II (or appropriate level)</td>
<td>2</td>
</tr>
<tr>
<td>U 300 Modern III</td>
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<tr>
<td>U 330H 20th-Century Dance</td>
<td>3</td>
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<tr>
<td>U 320 Improvisation and 420 Contact Improvisation</td>
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<td>OR</td>
<td></td>
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<tr>
<td>choose from:</td>
<td></td>
</tr>
<tr>
<td>U 320 Improvisation and 420 Contact Improvisation</td>
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<tr>
<td>U 329 Pilates and 340 Science of Dance</td>
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</tr>
<tr>
<td>U 426 Dance as a Healing Art</td>
<td>2</td>
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<tr>
<td>U 428 Internship in Children's Dance</td>
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<td>Total</td>
<td>28</td>
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</tbody>
</table>

Courses

- U = for undergraduate credit only, UG = for undergraduate or graduate credit, G = for graduate credit. R after the credit indicates the course may be repeated for credit to the maximum indicated after the R. Credits beyond this maximum do not count toward a degree.
- Dance (DAN)
  - 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 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.
  - 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 208A Improvisation and 420 Contact Improvisation 2 cr. Offered autumn and spring. One-time offerings of current topics.

- UG 300 Modern III 3 cr. (R-12) Offered autumn and spring. Prereq., DAN 200A. Extension of the modern dance vocabulary through lengthier combinations of movement.
- UG 301 Intermediate Composition 2 cr. (R-6) Offered autumn odd-numbered years. Prereq., DAN 201A and 6 credits of dance technique. Explores ways to manipulate several dancers in space, through repetition of shapes, through related rhythms. May include choreography for videotape.
School of Fine Arts - Department of Drama/Dance

### 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 petit 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. Prereq., DAN 428. 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 194 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.

### UG 497 Senior Creative or Research Projects 3 cr. (R-6) Offered autumn and spring. Prereq., Dance major. Independent study in choreography or teaching. If the student is a B.F.A. candidate the project must take place off-campus in the Missoula community. The student is responsible for setting up the project. An initial proposal, a journal, and a paper are required.

### Drama (DRAM)

#### U 101L Theatre Appreciation 3 cr. Offered autumn and spring.
The various elements of play production and dance. The basic artistic principles underlying dance, theatre and all of the arts.

#### U 103A Introduction to Theatre Design 3 cr. Offered autumn. Basic understanding of the principles of design for the theatre and television, including the production elements of scenery, costumes and lighting.

#### U 104B Drafting Fundamentals 3 cr. Offered spring. Students will begin to develop skills in drawing the human form, perspective, and architecture.

#### U 106A Theatre Production I: Running Crew 1 cr. (R-4) Offered autumn and spring. Operation and running a show backstage on a scenery, costume, or prop crew for a major departmental production.

#### U 107A Theatre Production I: Construction Crew 3 cr. (R-9) Offered autumn and spring. The construction and completion of scenery, costumes and props under supervision. Most assignments involve very basic construction techniques. Involves two 4-hour labs a week.

#### U 108 Introduction to House Management 1 cr. (R-3) Offered every term. Introduction to the skills and experience of the front-of-house staff for a theatrical production.

#### U 111A Acting for Non-Majors I 3 cr. Offered every term. An introduction to the skills and techniques required of the actor to be effective in communication with others on stage and off stage.

#### U 112A Acting for Non-Majors II 3 cr. Offered autumn and spring. Prereq., DRAM 111A. Continuation of 111A.

#### U 166L History of Musical Theatre 3 cr. Offered autumn and spring. Same as MUS 166L. Exploration of origins, developing trends, and cultural/historical contexts of musical theatre through films, lectures, and discussion.

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

#### U 200A Beginning Theatre Workshop Variable cr. (R-8) Offered autumn and spring. Credit for students engaged in any aspect of production including acting, directing, lighting, stagecraft, makeup, costumes, properties, business and publicity.

#### U 202 Stagecraft I 3 cr. Offered autumn. Fundamental theories and hands-on application in the areas of costuming, lighting, and sound.

#### U 203 Stagecraft II 3 cr. Offered spring. Fundamental theories and hands-on application in the areas of scenery, properties, and rigging.

#### U 206 Theatre Production II: Running Crew 1 cr. (R-4) Offered autumn and spring. Prereq., DRAM 106A. Operation and running a show backstage, as in scenery, costumes, or props for a major departmental production.

#### U 207 Theatre Production II: Construction Crew 3 cr. (R-6) Offered autumn and spring. Prereq., DRAM 107A. The construction and completion of scenery, costumes and props. Advanced construction assignments; supervision of a small construction crew.

#### U 210 Voice and Speech I 2 cr. Offered autumn. Voice production, phonetics and speech for the stage.


#### U 214 Acting I 3 cr. Offered autumn. Intensive development of basic acting skills through psycho-physical technique: dramatic action, image-making and improvisation.


#### U 216A Production Acting I 1 cr. (R-4) Offered autumn and spring. Credit for acting in approved Drama/Dance productions.

#### U 220L Dramatic Literature I 3 cr. Offered autumn. The study of representative texts in dramatic literature as a foundation for play analysis.

#### U 231 Drafting for the Theatre I 3 cr. Offered spring. Drawing techniques for the theatre with an emphasis on drafting as utilized by technicians, designers, stage managers and directors.

#### U 244 Stage Makeup 2 cr. Offered spring. Principles of and practice in theatrical makeup. Students will work on makeup for major productions.

#### U 296 Independent Study: Theatre Projects Variable cr.
(R-12) Offered autumn and spring. Independent study in all the arts of the theatre.

UG 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.

UG 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. Prereq., DRAM 107A and/or consent of instr. Students serve as the construction crew in either the sound, light, costume, or scene shop for departmental productions.

UG 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.

UG 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.

UG 310 Voice and Speech III 3 cr. Offered autumn. Prereq., DRAM 211. Dialects, accents, and continued development of good voice and speech skills.

UG 311 Voice and Speech IV 3 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 3 cr. Offered autumn. A survey of the major developments of the theatre from primitive beginnings to the 19th century, including various cultures and their representative plays and performances throughout the world.

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 II 3 cr. Offered autumn. Prereq., DRAM 231 or consent of instr. Scene design including elevations, drop-point perspective, measured drawings for furniture, and other techniques used by scene designers.

UG 332 Computer-Aided Drafting and Computer Applications for the Theatre 3 cr. (R-6) Offered autumn. Prereq., DRAM 231. Computer drafting for scenery, costumes, lighting, and sound design drawings, including 2-D and 3-D plans, layouts and renderings. Work with CAD, photo manipulation, spreadsheet, database, and word processing programs.

UG 333 Scene Design I 3 cr. Offered spring. Prereq., DRAM 311. Design requirements and choices of the built environment from prehistoric megalithic architecture to the start of the modern age.

U 340 Intermediate Costume Construction 3 cr. Offered spring. Intermediate costume construction focusing on the development of skills needed to function as a stitcher.

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 prosценium theatre design concepts.

U 352 Master Electrician for the Stage 2 cr. Offered intermittently. Prereq., DRAM 107A, Lighting, DRAM 202, or consent of instr. Training for the position of master electrician and assistant lighting designer. Practical application of production planning, lighting paperwork, overseeing lighting crews, advanced electrical theory, power distribution, and creative problem solving. Students will work on major departmental productions.

UG 361 Theatre Sound I 3 cr. Offered autumn. Prereq., DRAM 103A, 202, 203 or consent of instr. Introduction to principles and practices of theatre sound design. Training for position of sound designer for theatre. Principles, practices, and equipment used to create finished sound designs for
of Fine Arts - Department of Drama/Dance}

**315 Development and presentation of musical numbers in a position of technical director. The role and scope of technical stage manager concentrating on the rehearsal process in the non-professional theatre situation.**

**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.

**378 Stage Management Practicum I 1-3 cr. (R-6) Offered autumn and spring.**
Prereq., DRAM 371 or consent of instr. Stage management practicum involving stage managing a showcase production or assistant stage managing a major show. Involves evening work.

**379 Introduction to Directing 3 cr. Offered spring.**
Prereq., DRAM 105A, 214 or 111A, 220L. Open to juniors, seniors and graduate students. Introduction to the analytical skills, staging and conceptual techniques of the director; includes some practical application in scene work.**

**385 Spirit Squad 2 cr. (R-4) Offered autumn and spring.**
UM cheer and dance team selected during audition process each spring; students perform routines at the intermediate jazz level. Development of current dance performance, leadership, communication and organizational skills. (Only four credits of DRAM 385, HHP 100-179, MS 203 and MS 315 may count toward a degree.)

**393 Omnibus Variable cr. (R-10) Offered intermittently.**
University omnibus option for independent work. See index.

**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.

**396 Independent Study: Theatre Projects Variable cr. (R-12) 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.

**400 Professional Theatre 9 cr. (R-15) Offered spring.**
Prereq., consent of instr. Laboratory experience in total play production through participation in state, regional, national and international touring production programs.

**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.

**402 Methods of Teaching Theatre 2 cr. (R-6) Offered autumn.**
Prereq., consent of instr. Building and addressing specific curriculum in theatre arts.

**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.

**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.

**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.

**412 Physical Performance Skills III 3 cr. Offered autumn.**
Prereq., DRAM 313. Extremes of performance: stage combat, martial arts, and biomechanics/theatre of the grotesque.

**413 Physical Performance Skills IV 3 cr. Offered spring.**
Prereq., DRAM 412. Advanced specialized physical skills such as period styles, advanced combat/choreography, and commedia.

**414 Acting V: Company 4 cr. (R-8) Offered autumn.**
Prereq., DRAM 315. Selected speeches, scenes and projects from verse drama, especially Shakespeare.

**415 Acting VI: Company 4 cr. (R-8) Offered spring.**
Prereq., DRAM 414. Selected scenes and projects from various historical and stylistic periods.

**416 Production Acting III 1 cr. Offered autumn and spring.**
Performance of an approved role in a departmental production accompanied by written self-assessment.

**420 Singing for Actors 2 cr. (R-4) Offered spring.**
Prereq., audition, acting specialization, or consent of instr. Development and presentation of musical numbers in a dramatic context. A broad-based acquaintance with music theatre literature is acquired, and techniques for approaching songs are explored with an eye toward developing competency in music theatre forms.

**433 Advanced Scene Painting 3 cr. (R-9) Offered spring.**
Prereq., DRAM 333 and/or consent of instr. Students will explore advanced scene painting techniques.

**435 Advanced Acting: Personal Performance 3 cr. Offered autumn.**
Prereq., DRAM 415 or consent of instr. Developing personal performance skills.

**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.

**437 Advanced Acting: Acting for the Camera I 3 cr. Offered autumn.**
Prereq., DRAM 414 or consent of instr. Beginning techniques in acting for the camera.

**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.

**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.

**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.

**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.

**442 Tailoring 3 cr. Offered spring alternate years.**
Prereq., consent of instr. Principles used in the construction of tailored garments.

**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.

**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.

**451 Theatre Lighting II 3 cr. Offered spring.**
Prereq., DRAM 351 or consent of instr. Advanced study of principles and practices of theatre lighting design. Training for position
of light designer for theatre. Design requirements and decisions, color, development of stage picture; thrust and arena theatre.

UG 461 Theatre Sound II 3 cr. Offered spring. Prereq., DRAM 361 or consent of instr. Advanced study of principles and practices of theatre sound design. Training for position of theatre sound designer. Principles, practices and equipment used to create sound and music designs for the theatre, dance and related areas.

UG 471 Stage Management II 2 cr. Offered intermittently. Prereq., DRAM 371 or consent of instr. Additional study of stage management concentrating on pre-rehearsal duties, aspects of maintaining a show's integrity as established by the director, inter-production relationships, supervision of crews and union contracts. Understanding a stage manager's need for paperwork and writing skills. Students encouraged to enroll in DRAM 478 to use skills in a living situation.

UG 478 Stage Management Practicum II 3 cr. (R-9) Offered autumn and spring. Prereq., DRAM 471 or consent of instr. Stage managing a major show in the drama season in the Montana or Masquer Theatres or assistant stage managing for an Equity stage manager on a Montana Repertory Theatre production.

UG 479 Directing I 4 cr. (R-12) Offered autumn. Prereq., DRAM 379 and consent of instr. Directing skills for the advanced student; extensive scene work.

UG 480 Directing II 4 cr. (R-12) Offered spring. Prereq., DRAM 479. Continuation of 479. Course material coordinated with laboratory projects.

UG 493 Omnibus Variable cr. (R-24) Offered intermittently. Prereq., consent of department chair. Independent work under the University omnibus option. See index.

UG 494 Seminar 2 cr. (R-6) Offered intermittently. Prereq., 10 credits in drama or in English dramatic literature and consent of instr. Intensive study of dramatic theory relating to acting, directing, design and dramaturgy.

UG 495 Special Topics Variable cr. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

UG 496 Independent Study: Theatre Projects Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr. UG 497 Research Variable cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

UG 498 Internship Variable cr. Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation.

G 500 Professional Theatre 9 cr. (R-18) Offered spring. Prereq., consent of instr. Laboratory experience in total play production through participation in state, regional, national and international touring production programs.

G 501 Problems in Playwriting 1-3 cr. (R-12) Offered intermittently.

G 503 Introduction to Design Graduate Studies 2 cr. Offered autumn. Introduction to the design/technology program, research, history and expectations of program.

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 509 Graduate Rendering Techniques 2 cr. Offered spring. Students will begin to develop personal design styles using both traditional and digital drawing and rendering techniques.

G 510 Problems in Voice/Speech 3 cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 512 Problems in Movement/Dance 3 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 525 Graduate Design Seminar I 2 cr. Offered autumn. This course is designed to teach graduate students effective research, collaboration, and script-analysis methodologies and exploration practices.

G 526 Graduate Design Seminar II 2 cr. Offered spring. This course is designed to continue the design process skills developed in Seminar I. Effective research, collaboration and script analysis methodologies and exploration practices.

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 533 Graduate Computer-Aided Drafting and Design 3 cr. (R-6) Offered autumn. Students will further their understanding for how CADD software is used to create complete, accurate drawings for design and technology in theatre and theatre-related activities.

G 535 Problems in Scene Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in scene design.

G 540 Graduate Costume Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific design skills in costuming.

G 545 Problems in Costume Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in costume design.

G 550 Graduate Light Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in light design.

G 555 Problems in Light Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in light design.

G 560 Graduate Sound Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific
design skills in sound design.

G 565 Problems in Sound Design 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Development of specific technical skills in sound design.

G 571 Graduate Stage Management 3 cr. Offered autumn. Prereq., consent of instr. Study of duties of stage manager in rehearsal and performance process. Includes stage managing a production for a faculty or guest artist director.

G 574 Technical Direction 3 cr. Offered autumn and spring. Prereq., consent of instr. Role and scope of technical direction, production scheduling, design analysis, budgets and bookkeeping and methods of construction.

G 575 Problems in Theatre Management 1-6 cr. (R-18) Offered intermittently. Prereq., consent of instr.

G 577 Technical Direction Practicum 3 cr. (R-12) Offered autumn and spring. Prereq., consent of instr. Technical direction of a major show in the drama season in the Montana or Masquer Theatres.

G 578 Stage Management Practicum 1-6 cr. (R-18) Offered autumn and spring. Prereq., consent of instr. Practical work in stage management projects.

G 579 Directing III 3 cr. Offered autumn odd-numbered years. Prereq., DRAM 480 or consent of instr. Formalist styles of dramatic material. Through a variety of tools, textual and linguistic analysis, metrical and rhetorical analysis, archetypes, and musical structures, students analyze, interpret and stage projects drawn from opera and pre-modern drama, especially Shakespeare.

G 580 Directing IV 3 cr. Offered spring. Prereq., DRAM 579. Exploration of image; time manipulation; construction, delineation and manipulation of space; multi-media and nonlinear 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.

G 583 Arts Education Seminar II 1-2 cr. (R-4) Offered summer. Prereq., DRAM 582. Same as ART, MUS 583. Continuation of 582.

G 584 Arts Education Seminar III 1-2 cr. (R-4) Offered summer. Prereq., DRAM 583. Same as ART, MUS 584. Continuation of 583.

G 585 Arts Education Seminar IV 1-2 cr. (R-4) Offered summer. Prereq., DRAM 584. Same as ART, MUS 585. Continuation of 584.


G 587 Arts Education Practicum 1 cr. (R-4) Offered summer. Same as ART, MUS 587. The active application of concepts and theories presented during the Arts Education Institute and the arts education seminars within a small group setting.

G 588 Arts Education Apprenticeship 1 cr. (R-4) Offered summer. Same as ART, MUS 588. Exploration of art forms to develop new artistic and communicative perceptions and awareness.

G 589 Arts Education Field Project 1 cr. (R-4) Offered summer. Same as ART, MUS 589. Creative/research activities.

G 594 Seminar 1-3 cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 595 Special Topics Variable cr. (R-18) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

G 596 Independent Study 1-6 cr. (R-24) Offered autumn and spring. Prereq., consent of instr.

G 597 Research 1-6 cr. (R-24) Offered autumn and spring. Prereq., consent of instr.

G 598 Internship 2-6 cr. (R-24) Offered intermittently. Prereq., consent of instr. Extended classroom experience which provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office.

G 599 Professional Paper Variable cr. (R-4) Offered autumn and spring.

G 679 Directing V 3 cr. Offered intermittently. Prereq., DRAM 580. The history and literature of directing.

G 680 Problems in Directing I-3 cr. (R-18) Offered autumn and spring. Prereq., consent of instr.

G 699 Thesis Variable cr. (R-12) Offered autumn and spring.

Faculty

Professors

Randy Bolton, Ph.D., Florida State University, 1981
Mark Dean, M.F.A., Wayne State University, 1991 (Chair)
Greg Johnson, M.F.A., New York University, 1974
Karen Kaufmann, M.A., Antioch University, 1993

Associate Professors

Michele Antonioli, M.F.A., Texas Christian University, 1988
Nicole Bradley Browning, M.F.A., Arizona State University, 2000

Assistant Professors

Alessia Carpoca, M.F.A., Northwestern University, 2003
Wendy Stark, M.F.A., University of South Dakota, 1993

Emeritus Professors

Juliette Crump, M.A., George Washington University, 1975
Christine Milodragovich, M.A., Washington State University, 1973
Bill Raoul, M.A., University of Washington, 1969

Department of Media Arts

Richard Hughes, Chair

The Media Arts program offers a uniquely integrated curriculum on both the graduate and undergraduate level that is centered in digital technology as a storytelling and artistic medium. There are two areas of specialization within the department: Digital Filmmaking and Integrated Digital Media. The department offers a Master of Fine Arts in Media Arts, a Bachelor of Fine Arts in Media Arts and a Media Arts Minor. For more information on the academic programs, faculty, and students, please visit our website at: www.umn.edu/mediasarts.

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

**The Media Arts Graduate Program**

This program is a three-year term and the curriculum is for the use and education of students pursuing the M.F.A. degree. The program offers a spacious and secure graduate lab that serves as a comprehensive post-production space. It focuses on digital filmmaking and provides the student with comprehensive training in the areas of writing, directing and editing. For application information please visit our website at www.umt.edu/mediaarts.

**Bachelor of Arts in Media Arts**

The B.A. program offers two areas of specialization. The course of instruction in the digital filmmaking area focuses on the three primary components of pre-production, production and post-production and includes directing, writing, sound design, and editing. The course of instruction in the integrated digital media area focuses on the relationship between digital technology and aesthetics and includes still image, motion design, sound design and web design. History and theory courses in both areas provide students with a deeper understanding of artistic principles and best practices. The undergraduate program has a large production space including a green screen area, two computer labs with 40 total stations and an audio recording room. For more information please visit our website at www.umt.edu/mediaarts. The process for earning a Bachelor of Arts degree in Media Arts is as follows:

A. **Prerequisites**

Offered every term. Each student must complete the four core classes (12 credits) from one of the areas of specialization for course descriptions see Courses section:

- **Digital Filmmaking**
  - MAR 112A Intro to Non-Linear Editing 3cr.
  - MAR 210 Creation of Media Story 3cr.
  - Both are open to all university students and may be taken in the same semester.

- Students must achieve a 3.5 grade point average for these two courses in order to qualify for the following:
  - MAR 211 Principles of Digital Video Production 3cr.
  - MAR 250 Visions of Film 3cr.
  - Both may be taken in the same semester.

- **Integrated Digital Media**
  - MAR 111A Integrated Digital Art 3cr.
  - MAR 102 Digital Technology in the Arts 3cr.
  - Both are open to all university students and may be taken in the same semester.

  - Students must achieve a 3.5 grade point average for these two courses in order to qualify for the following:
    - MAR 201 Intro to Digital Still Imaging 3cr.
    - MAR 202 Intro to Motion Design 3cr.
    - Both may be taken in the same semester.

B. **Application to the Major**

Upon satisfactory completion of the core curriculum, the student then applies to the program. Acceptance requires faculty approval, a 3.0 GPA in Media Arts classes and no less than a 2.5 GPA in the student’s overall studies. Please see the Media Arts office for complete information on the application process.

C. **Required course for the Major**

Once accepted, the student must then complete 30 credits in one of the two areas (see below) for a total of 42 credits. GPA requirements continue through each assessment period with annual reviews occurring at the end of spring semester each year.

**Track in Integrated Digital Media:**

- MAR 221 Fundamentals of Digital Design
- MAR 222 Fundamentals of Digital Compositing
- MAR 321 Digital Image Design Techniques
- MAR 322 2D Motion Design
- MAR 325 Fundamentals of Digital Animation
- MAR 330 Principles of Sound Design
- MAR 340 Principles of Web Design
- MAR 422 3D Motion Design
- MAR 425 Techniques of Digital Animation
- MAR 440 Web Design Techniques

**Track in Digital Filmmaking:**

- MAR 251 Digital Video Production Techniques
- MAR 252 Screenwriting
- MAR 253 Digital Video Production Lab
- MAR 301 Digital Film Practices
- MAR 330 Principles of Sound Design
- MAR 355 Directing the Fiction Film
- MAR 356 Directing Lab
- MAR 357 Techniques of Non-Linear Editing
- MAR 442 Experimental Film
- MAR 450 Topics in Film and Media Studies
- MAR 455 Visions of Documentary Film
- MAR 465 Special Projects

**Advisement**

Upon acceptance into the B.A. program in Media Arts, each student is assigned a faculty advisor from their area of specialization. Students will not be assigned a Media Arts faculty advisor until then. Please see the department chair for details.

**Media Arts Minor**

This program is designed 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. For more information please visit our website at www.umt.edu/mediaarts.

Requirements for the minor consist of the following:

A. **Required Courses for the Minor**

Offered every term. Each student must complete the four core classes (12 credits) from one of the areas of specialization for course descriptions see Courses section:

- **Digital Filmmaking**
  - MAR 112A Intro to Non-Linear Editing 3cr.
  - MAR 210 Creation of Media Story 3cr.
  - Both are open to all university students and may be taken in the same semester.

  - Students must achieve a 3.5 grade point average for these two courses in order to qualify for the following:
    - MAR 211 Principles of Digital Video Production 3cr.
    - MAR 250 Visions of Film 3cr.
    - Both may be taken in the same semester.

- **Integrated Digital Media**
  - MAR 111A Integrated Digital Art 3cr.
  - MAR 102 Digital Technology in the Arts 3cr.
  - Both are open to all university students and may be taken in the same semester.

  - Students must achieve a 3.5 grade point average for these two courses in order to qualify for the following:
    - MAR 201 Intro to Digital Still Imaging 3cr.
    - MAR 202 Intro to Motion Design 3cr.
    - Both may be taken in the same semester.

B. **Elective Classes**

Students must complete nine additional credits outside of their major that support their work and development in Media Arts. These credits need to be approved by the department. Please see the department chair for a complete list of acceptable 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.

**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 102 Digital Technology in the Arts 3 cr. Offered every term. An introduction to the relationship between aesthetics and the emerging capacities of digital technology. The course will explore the basic evolution of hardware, system software, and the internet and will present a brief history of the pioneers of both traditional and digital art. It will also look at contemporary and emerging trends in the artistic application of digital technology.

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 112A Intro to Non-Linear Editing 3 cr. Offered each term. Study of the history, process and philosophy of narrative film/video editing and an introduction to Final Cut Pro non-linear editing software.

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 201 Intro to Digital Still Imaging 3 cr. Offered autumn and spring. Prereq., MAR 102 and MAR 111A. This course provides a thorough introduction to the practices of digital still imagery, with emphasis on content, layering, and digital manipulation of images. Production techniques, project planning, narrative, and the integration of various forms of digital design are fundamental components of this course.

U 202 Intro to Motion Design 3 cr. Offered autumn and spring. Prereqs., MAR 102 and MAR 111A. This project-oriented course will introduce students to the basic technical and aesthetic components of digital motion design using the industry standard software programs Photoshop and After Effects.

U 210 Creation of Media Story 3 cr. Offered autumn and spring. 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. Prereq., MAR 112A, MAR 210. 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., Media Arts Major. 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., Media Arts Major. 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 112A, MAR 210. Study of major film theories that led to the constitution of visual film language and their application in contemporary film narrative and direction.


U 252 Screenwriting 3 cr. Offered autumn. Prereq., Media Arts Major. Intermediate level writing class devoted to short films, with an emphasis on writing camera-ready scripts for spring production. Feature film structure and techniques also discussed.

U 253 Digital Video Production Lab 1 cr. Offered autumn. Prereq., Media Arts Major; Coreq., MAR 251. Incorporates studio and on-location production work.

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 Film Practices 1-6 cr. (R-6) Offered every term. Prereq., Media Arts Major. Practical application of the principles of production through work on graduate and upper level undergraduate projects, either as a crew member, production manager, designer, editor, director of photography or actor.

U 321 Digital Image Design Techniques 3 cr. Offered spring. Prereq., MAR 221. Introduction to the digital vector-based graphics and drawing using Adobe Illustrator and the process of integration between Photoshop and Illustrator, as well as their relationship to video production and animation.

U 322 2D Motion Design 3 cr. Offered spring. Prereq., MAR 222, 321. Project-oriented course which builds on the fundamentals of compositing introduced in MAR 222. Students create a more sophisticated body of integrated 2D work that explores multi-layered digital art and design in greater detail.

U 325 Fundamentals of Digital Animation 3 cr. Offered autumn. Prereq., MAR 321, 322. Introduction to two-dimensional digital animation, focusing on character and motion design animation fundamentals including: cell animation (frame by frame), motion-tweening, working with key frames and motion paths, moving elements on a 2D stage, object choreography and text animation.

U 330 Principles of Sound Design 3 cr. Offered autumn. Prereq., Media Arts Major. 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. film or video from the written form to the final product.

U 355 Directing the Fiction Film 3 cr. Offered spring. Prereq., Media Arts Major. Coreq., MAR 356. 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 356 Directing Lab 1 cr. Offered spring. Prereq., Media Arts Major. Coreq., MAR 355. Incorporates studio, on-location production and post-production computer lab time.

U 357 Techniques of Non-Linear Editing 3 cr. Offered spring. Prereq., Media Arts Major. Investigation of different techniques of narrative editing, including continuity, construction and montage. Students edit short project using
supplied footage. Emphasis on finding and shaping the story. Final project uses student’s own footage from the project in MAR 355.

U 396 Independent Study 1-6 cr. (R-12) Offered intermittently. Prereq., consent of instr.

U 422 3D Motion Design 3 cr. Offered spring. Prereq., MAR 325. 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 3D 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 442 Experimental Film 3 cr. Offered autumn. Prereq., Media Arts Major. Surveying a wide range of experimental cinema (film/video) from the 1920’s to the present with a central focus being artistic practice in the context of historic and cultural concerns. Students will also create projects focusing on exploring film/video both as a form of personal expression and as a medium, rather than as mass entertainment.

U 450 Topics in Film and Media Studies 3 cr. Offered autumn. Prereq., Media Arts Major. 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 Special Projects 3 cr. Offered spring. Prereq., Media Arts Major. Focus on the production of short commercial works, including advertisements, industrial work, “how to” video, as well as paper projects with potential clients. Students develop a DVD/Web portfolio for entry into the profession upon graduation. The class serves as a synthesis point for analysis and presentation of techniques and principles learned throughout the program.

UG 495 Special Topics 1-12 cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, and one-time offerings of current topics.

UG 496 Independent Study 1-12 cr. (R-12) Offered intermittently. Prereq., consent of instr.

G 508 Media Production 4 cr. 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-composing programs.

G 509 Media Production 4 cr. Offered spring. Continuation of production and post-production practices and techniques introduced in MAR 508.

G 515 Editing Dramatic Action 4 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 4 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 4 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 4 cr. Offered autumn. 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 580 Principles of Cinematography 4 cr. Offered autumn. Intermediate study of digital cinematography including color theory, composition, lens choice, continuity, camera movement/support, lighting for film and video, and grip in both studio and location situations.

G 584 Media Writing I 4 cr. Offered autumn. 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 4 cr. Offered autumn. Prereq., MAR 586. Continued work in media writing at an advanced level.

G 595 Special Topics 1-6 cr. (R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, and one-time offerings of current topics.

G 596 Independent Study 1-6 cr. (R-12) Offered autumn and spring. Prereq., consent of instr.

G 597 Research 1-12 cr. (R-12) Offered intermittently. 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 683 Media Directing IV 4 cr. Offered spring. Prereq., MAR 577, 578, 579. In depth analysis of significant works in film and media story with emphasis on genre and question of narrative voice. Students analyze and articulate creation of story in foreign film, areas of narrative de-construction, performance art, installation work and theoretical literature dealing with media in other art forms. Several short projects are completed, based on this area of research.

G 687 Final Portfolio Production 4 cr. Offered autumn. Ongoing production and content work relating to thesis projects.

G 688 Media Production Lab 3 cr. (R-6) Offered autumn and spring. Participation as support/design team member for another student’s thesis work.

G 690 Media Apprenticeship 3 cr. (R-6) Offered autumn and spring. Work outside of program in an area of professional interest.

G 699 Final Portfolio Post-Production 6 cr. Offered spring. Final work on thesis portfolio. Approval by the student’s thesis committee is required for graduation.
Faculty

Professor
Michael R. Murphy, M.F.A., The University of Montana, 1994

Associate Professor
Richard Paul Hughes, M.M., M.F.A., The University of Montana, 1999 (Chair)

Assistant Professor
Mark Shogren, M.F.A., Ohio University, 2003
Andrew J. Smith, M.F.A., University of Iowa, 1997


Emeritus Professor
James D. Kriley, Ph.D., University of Utah, 1971 (Dean Emeritus)

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 areas of specialization in performance or composition/music technology; and Bachelor of Arts in music. Graduate degree programs include the Master of Music with areas of specialization in music education, performance, composition/technology; and musical theater.

The University of Montana-Missoula is an accredited institutional member of the National Association of Schools of Music. In general, admission as a major in the Music Department is by certificate from the high school from which the student graduates. The faculty of the Music Department is more concerned with evidence of talent, conspicuous achievement in music, promise of development, and scholarship in general than it is in the precise content of the program which the prospective music student has followed prior to admission to the University.

The Music Department welcomes the opportunity for prospective students and parents to consult with faculty and administration by paper and electronic correspondence and/or by appointment interviews on the campus. Every student wishing to become a music major or minor must take the Music Theory Assessment Examination and a Piano Proficiency Evaluation during orientation and also must audition and be accepted officially into the applied studio of a music faculty member prior to confirmation as a fully-admitted major or minor in music.

Special Degree Requirements

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

1. For the Bachelor of Music Education degree, course requirements in Curriculum A must be completed.
2. For the Bachelor of Music degree, course requirements in Curriculum B must be completed.
3. For the Bachelor of Arts degree, course requirements in Curriculum C must be completed.
4. All majors seeking an undergraduate degree in music and who are registered for 5 or more credits must participate in an ensemble specified by their degree curriculum each semester of residence of the regular school year. (See specific curricula for maximum ensemble credits applicable toward minimum degree requirements.) Majors whose principal performance area is wind/percussion must register for:
   - Music 110A/310A, section 1, Symphonic Wind Ensemble (or Music 110A/310A, section 2, University Concert Band, or Music 108A/308A, section 1, University Orchestra, if designated) every semester.
   - String majors must register for:
     - Music 108A/308A, section 1, University Orchestra, every semester.
     - Music 107A, section 1 (University Choir).
   Upon completion of the upper-division recital performance, B.M., Vocal Performance, and B.A., voice, majors must register for:
     - a minimum of 4 credits in Music 107A, section 1 (University Choir).
     - Music 307A, section 1 (University Choir), or -Music 307A, section 2 (Chamber Choarale), or -Music 307A, section 3 (Women's Chorus), or -Music 313A (Opera Theater), or -Music 350A, section 11 (Jubes)
   B.M.E. voice majors must take a minimum of:
     - 6 credits in 107A/307A, section 1 (University Choir) and -1 cr. of 104A (Marching Band).
   Ensemble requirements for piano and organ are listed separately for each curriculum.

5. Seniors pursuing the B.M.E. or B.A. degrees and deemed outstanding in performance ability by their applied music teacher may perform a one-half recital only. Students in the B.M. program must present a full recital, a requirement which may be satisfied at the discretion of the area faculty by giving two half recitals.
6. Candidates for all undergraduate degrees in music enrolled in performance study above the Music 100A level shall take divisional juries as scheduled by area faculties. Students may be excused from divisional juries if graduating in that semester, or if they have performed a half or full recital that term, or have successfully completed an upper-division recital performance during that semester.
7. Successful completion of all lower-division music core requirements is necessary for admission to upper-division academic study in music and for students pursuing the B.M.E. degree, student teaching in music. Transfer students shall be admitted to 300 or above courses with the stipulation that lower-division requirements be completed within their first two semesters of residence. The required lower-division core includes:
   - Music 135L (Introduction to Music Literature) 3 crs.
-Music 111-112 (Theory I, II), 4 crs.
-Music 211-212 (Theory III, IV), 4 crs.
-Music 237-238 (Aural Perception III, IV), 4 crs.
-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, Curriculum B and Curriculum C will satisfy this requirement with one course from the MUS 424, 436, or 437.

13. All lower-division music courses, as well as MUS 324H-325H, counted toward the major must be passed with a grade of C- or better. Requests for exceptions to any published music degree requirements require written approval by the music faculty executive committee and in the case of general university requirements, the Graduation Appeals Subcommittee.

**Curriculum A- Bachelor of Music Education Degree**

For students who feel the challenge and vital service opportunity in the teaching profession and whose high school background includes experience in musical organizations, the University offers the Bachelor of Music Education degree. Included in this curriculum are state requirements for certification for public school teaching (see School of Education for special certification requirements) and training and background for instructing instrumental and choral groups and teaching general music (K-12).

Music course requirements total 71 credits:

-151 (Major Performance Area I), 2 crs.
-251 (Major Performance Area II), 2 crs.
-351 (Major Performance Area III), 1 cr.
-100A (Performance Study), 2 crs.;
-107A/307, section 1 (University Choir), 108A/308 (Orchestras), 104A (Marching Band), 110A/310 (Concert Bands), 150A/350 (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/350 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)
-117 (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) 3 crs. in addition to upper-division music electives.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double degree program requires a minimum of 150 credits.

**Curriculum B-Bachelor of Music Degree**

The serious instrumentalist or vocalist may enroll for preparation leading to the Bachelor of Music degree in performance while students with a strong interest in composition and music technology may select the B.M. specialization designed to challenge and prepare them for a career in this field. Prior to full acceptance, all candidates for the Bachelor of Music degree in performance must successfully pass a special entrance audition in an applied area. Composition and music technology students must also obtain approval of the appropriate faculty. This degree does not qualify a student for public school teaching in Montana.

**Areas of Specialization in the Bachelor of Music Degree Program Include:**

**Piano (B-1)**

Music course requirements for an option in piano performance total 85 credits:

-151 (Major Performance Area I), 4 crs.
-251 (Major Performance Area II), 6 crs.
-351 (Major Performance Area III), 8 crs.
-431 (Major Performance Area IV), 8 crs.
-107A/307 (Choral Ensembles), 108A/308 (Orchestras), 104A (Marching Band), 110A/310 (Concert Bands), 150A/350 (Piano Ensembles) or 196/496 (Independent Studies/Piano Accompanying) 8 crs. of which at least 4 must be in 150A/350 or 196/496 and at least 2 in 107A/307, 108A/308, or 110A/310
-100A (Secondary Keyboard Study), 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.
-220 (Upper-Division Required Performance)
-302 or 303 (Instrumental Conducting or Choral Conducting), 2 crs.
-324H-325H (Music History I, II), 6 crs.
-346 (Advanced Functional Piano), 1 cr.
-361-362 (Form and Analysis I, II), 4 crs.
-388 (Concert Attendance)
-430-431 (Piano Pedagogy I, II), 6 crs.
-432-433 (Keyboard Literature I, II) 6 crs.
-445 (Senior Recital), 2 crs.

-upper-division music electives, 3 crs.

A minimum of 24 non-music credits is required for piano
majors. 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.

Organ Performance (B-2)
Music course requirements for a specialization in organ performance 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.
- 107A/307 (Choral Ensembles), 108A/308 (Orchestras), 104A (Marching Band), 110A/310A (Concert Bands), 150A/350 (Piano Ensembles) or 196/496 (Independent Studies/Piano Accompanying), 8 crs. of which at least 4 must be in 150A/350 or 196/496 and at least 2 in 107A/307, 108A/308A, or 110A/310.
- 100A (Secondary Keyboard Study), 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.
- 220 (Upper-Division Required Performance).
- 303 (Instrumental Conducting or Choral Conducting), 2 crs.
- 324H-325H (Music History I, II), 6 crs.
- 346 (Advanced Functional Piano), 1 cr.
- 361-362 (Choral Conducting - I, II), 4 crs.
- 388 (Concert Attendance).
- 430-431 (Piano Pedagogy I, II), 6 crs.
- 451* (Senior Recital), 2 crs.
- 496 (Readings in Piano Pedagogy), 2 crs.
- upper-division music electives, 3 crs.

A minimum of 24 non-music credits is required for piano majors or which piano performance and pedagogy majors must take Introduction to Psychology 100S, 4 crs., Child and Adolescent Development 240S, 3 crs., and Teaching Creative Movement in the Schools, DAN 427, 3 crs. At least 39 credits, music or non-music, numbered 300 or above is required.

*Piano Performance/Pedagogy Senior Recital may be two half-recitals. One half-recital may include pedagogical lecture/demonstration and/or collaborative repertoire.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double-degree program requires a minimum of 150 credits.

Voice Performance (B-4)
Music course requirements for an option in voice total 84 credits:
- 151 (Major Performance Area I), 4 crs.
- 251 (Major Performance Area II), 4 crs.
- 351 (Major Performance Area III), 4 crs.
- 451 (Major Performance Area IV), 4 crs.
- a minimum of 4 credits in 107A, section 1 (University Choir) and, upon completion of the upper-division recital performance, 107A/307, section 1 (University Choir), 107A/307, section 2 (Chamber Chorale), 307, section 3 (Women's Chorus), 113A/313 (Opera Theater), or 150A/350, section 11 (Jubileers) for an additional 4 credits.
- 113A/313 (Opera Theater), 2 crs.
- 111-112 (Theory I, II), 4 crs.
- 211-212 (Theory III, IV), 4 crs.
- 135L (Introduction to Music Literature), 3 crs.
- 137-138 (Aural Perception I, II), 4 crs.
- 237-238 (Aural Perception III, IV), 4 crs.
- 219 (Piano Proficiency Assessment).
- 220 (Upper-Division Required Performance).
- 324H-325H (Music History I, II), 6 crs.
- 181-182 (Diction), 4 crs.
- 303 (Choral Conducting), 2 crs.
- 361-362 (Form and Analysis I, II), 4 crs.
- 342-343 (Vocal Repertoire I, II), 4 crs.
- 388 (Concert Attendance).
- 441 (Vocal Pedagogy), 2 crs.
- 445 (Senior Recital), 2 crs.
- upper-division music electives, 11 crs.

A minimum of 31 non-music credits is required to include Drama 111A (Acting for Non-Majors). 3 crs., and 10 credits of foreign language chosen from French, German, or Italian. At least 39 credits, music or non-music, numbered 300 or above is required.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double-degree program requires a minimum of 150 credits.

Instrumental Performance (B-5)
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/308 (Orchestras) or 110A/310A (Concert Bands), 8 crs.
- 150A/350A (Chamber Ensembles), 4 crs.
- 111-112 (Theory I, II), 4 crs.
- 211-212 (Theory III, IV), 4 crs.
- 135L (Introduction to Music Literature), 3 crs.
- 137-138 (Aural Perception I, II), 4 crs.
- 237-238 (Aural Perception III, IV), 4 crs.
- 219 (Piano Proficiency Assessment).
- 220 (Upper-Division Required Performance).
- 324H-325H (Music History I, II), 6 crs.
Music students with an interest in a broader liberal arts education may choose one of the specializations in curriculum C. With more opportunities to take electives outside of music, this program offers flexibility for students with diverse interests, including those who pursue a double major. The bachelor of Arts Degree in Music may be particularly attractive to students who wish to pursue graduate degrees in academic areas of music, or for those who seek careers in institutions or music-related industries. Students may choose from one or more of the following areas of specialization: (C-1) Musical Studies, (C-2) Applied Music, (C-3) Music History, and (C-4) Composition and Music Technology.

Minimum credit requirements for this degree are 51 credits in music and 51 credits of non-music courses. At least 36 of the non-music credits must be in the College of Arts and Sciences, to include foreign language, 10 crs., and Liberal Studies 151L-152L, 8 crs.

At least 39 music and/or non-music credits must be numbered 300 or above.

Students in curriculum C will participate in ensembles as required by the Department of Music once MUS 151 status or higher has been achieved. Students who have completed an upper-division required performance on an instrument or voice, or have otherwise been placed in Applied Music 351 or 451 may take ensembles or upper-division credit.

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 Study/Piano Accompanying) to a maximum of 12 credits Large and Chamber Ensemble Music.

Those with voice as their principal must take a minimum of 2 to 4 credits in 107A, section 1 (University Choir), depending on specialization, and, upon completion of the upper-division required proficiency, 107A/307, section 1 (University Choir), 107A/307, section 2 (Chamber Choirale), 307, section 3 (Women’s Chorus), 113A/313 (Opera Theater), or 150A/350, section 11 (Jubileers) for an additional 4 credits.

See Specializations C-1 through C-4 for specific ensemble and course requirements.

**Specialization in Musical Studies (C-1)**

Music course requirements for a specialization in musical studies total 51 credits:
- 151 (Major Performance Area I), 2 crs.
- 251 (Major Performance Area II), 2 crs.
- 351 (Major Performance Area III), 2 crs.
- 108A/308 (Orchestras), 104A (Marching Band), or 110A/310 (Concert Bands), 6 crs.
- 152A/313 (UM Jazz Bands), 5 crs. (Keyboard and Voice principals see above)
- Chamber Ensemble Music 113A/313, 114A/314, 150A/350, 0-4 crs. (Keyboard principals see above)
- 111-112 (Theory I, II), 4 crs.
- 111-121 (Theory I, II), 4 crs.
- Composition I, 4 crs.
- Composition II, 4 crs.
- Composition IV, 4 crs.
- Computer Music Programming, 2 crs.
- Music of the 20th Century, 3 crs.
- Professional Projects, 2 crs.
- and 2 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.

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 of original music (Music 499, Professional Projects) including compositions for small, medium, and large vocal or instrumental ensembles, as well as works that employ music technology.

Degrees are possible in both Curriculum A and B if all requirements in both curricula are completed. A double degree program requires a minimum of 150 credits.

**Curriculum C-Bachelor of Arts Degree in Music**
above are required.

**Specialization in Applied Music (C-2)**

Music course requirements for a specialization in applied music total 51 credits:

- 151 (Major Performance Area I), 2 crs.
- 251 (Major Performance Area II), 2 crs.
- 351 (Major Performance Area III), 2 crs.
- 451 (Major Performance Area IV), 2 crs.
- 108A/308 (Orchestras), 104A (Marching Band), or 110A/310 (Concert Bands), 8 crs. (Keyboard and Voice principals see above)
- Chamber Ensemble Music 113A/313, 114A/314, 150A/350, 0-4 crs. (Keyboard principals see above)
- 111-112 (Theory I, II), 4 crs.
- 211-212 (Theory III, IV), 4 crs.
- 135L (Introduction to Music Literature), 3 crs.
- 137-138 (Aural Perception I, II), 4 crs.
- 237-238 (Aural Perception III, IV), 4 crs.
- 220 (Upper-Division Required Performance)
- 115A-116A (Piano in Class), 2 crs.
- 324H-325H (Music History I, II), 6 crs.
- 361-362 (Form and Analysis I, II), 4 crs.
- 388 (Concert Attendance)

- Upper-division academic music electives, 4 crs.

Minimum credit requirements for this degree is 51 credits in music and 51 credits of non-music courses. At least 36 of the non-music credits must e in the College of Arts and Sciences, to include foreign language, 10 crs., and Liberal Studies 151L-152L, 8 crs.

At least 39 credits, music or non-music, numbered 300 or above are required.

**Specialization in Music History (C-3)**

Music course requirements for a specialization in music history total 51 credits:

- 151 (Major Performance Area I), 2 crs.
- 107A/307 (Choral Ensembles), 108A/308 (Orchestras), 104A (Marching Band), or 110A/310 (Concert Bands), or 196/496 (Independent Study Piano Accompanying), 2 crs.
- 111-112 (Theory I, II), 4 crs.
- 211-212 (Theory III, IV), 4 crs.
- 35L (Introduction to Music Literature), 3 crs.
- 137-138 (Aural Perception I, II), 4 crs.
- 237-238 (Aural Perception III, IV), 4 crs.
- 115A-116A (Piano in Class), 2 crs.
- 136H (Music of the World's Peoples), 3 crs.
- 220 (Upper-Division Required Performance)
- 324H-325H (Music History I, II), 6 crs.
- 361-362 (Form and Analysis I, II), 4 crs.
- 388 (Concert Attendance)
- 424 (Music of the 20th Century to Present), 3 crs.
- 436/437 (Topics in Music History/Cultural Studies), 6 crs.
- 499 (Senior Research Project), 2 crs.

- Upper-division academic music electives, 2 crs.

Minimum credit requirements for this degree is 51 credits in music and 51 credits of non-music courses. At least 36 of the non-music credits must e in the College of Arts and Sciences, to include foreign language, 10 crs., and Liberal Studies 151L-152L, 8 crs.

At least 39 credits, music or non-music, numbered 300 or above are required.

**Specialization in Composition and Music Technology (C-4)**

Music course requirements for a specialization in composition and music technology total 51 credits:

- 151 (Major Performance Area I), 2 crs.
- 107A/307 (Choral Ensembles), 108A/308 (Orchestras), 104A (Marching Band), or 110A/310 (Concert Bands), or 196/496 (Independent Study Piano Accompanying), 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.
- 115A-116A (Piano in Class), 2 crs.
- 117, 124-131 Voice/Instruments in Class, 4 crs.
- 159 (Composition I) 2 crs.
- 170 (Introduction to Music Technology), 2 crs.
- 220 (Upper-Division Required Performance)
- 259 (Composition II), 2 crs.
- 271 (Sequencing, Synthesis, and Notation), 2 crs.
- 324H-325H (Music History I, II), 6 crs.
- 361-362 (Form and Analysis I, II), 4 crs.
- 388 (Concert Attendance)
- 359 (Composition I), 1 cr.
- 459 (Composition II), 1 cr.
- 428 (Orchestration) 2 crs.

Minimum credit requirements for this degree is 51 credits in music and 51 credits of non-music courses. At least 36 of the non-music credits must be in the College of Arts and Sciences, to include foreign language, 10 crs., and Liberal Studies 151L-152L, 8 crs.

At least 39 Credits, music or non-music, numbered 300 or above are required.

**Suggested Course of Study**

**Bachelor of Music Education (A)**

**First Year**

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<th>Course</th>
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<tr>
<td>MUS 107A-110A, 150A, 196 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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**Second Year**

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<td>MUS 107A-110A, 150A, 196 Ensembles</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 II</td>
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<td>MUS 219 Piano Proficiency Assessment</td>
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<td>MUS 220 Upper-Division Required Performance</td>
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<td>MUS 237-238 Aural Perception III, IV</td>
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<td>MUS 251 Major Performance II</td>
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**Third Year**

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<td>MUS 100A Performance Study</td>
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<td>MUS 126-131 Woodwinds, Brass or Percussion in Class</td>
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<td>MUS 302 Instrument Conducting</td>
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<td>MUS 303 Choral Conducting</td>
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<td>MUS 305 Instrument Methods and Materials</td>
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<td>MUS 306 Choral Methods and Materials</td>
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<td>MUS 307A-310A, 350A, 496 Ensembles</td>
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<td>MUS 322-323 General Music Technology</td>
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<td>Methods &amp; Materials I, II</td>
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**Fourth Year**

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MUS 338 Concert Attendance .................................................. 0
*Upper-division music electives ........................................... 3-4
**Student Teaching ............................................................... 12
Professional education ......................................................... 7
Electives and General Education .............................................. 18

*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 117.
**May be scheduled autumn semester with appropriate adjustments in remaining schedule.

**Bachelor of Music, Specialization in Piano Performance (B-1)**

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<td>MUS 107A-110A, 150A, 196 Ensembles</td>
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<td>MUS 137-138 Aural Perception I, II</td>
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<td>MUS 211-212 Theory III, IV</td>
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<td>MUS 346 Advanced Functional Piano</td>
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A minimum of 28 non-music credits is required for organ majors to include 10 credits in French and/or German. At least 39 credits, music or non-music, numbered 300 or above is required.

**Bachelor of Music, Specialization in Piano Performance and Pedagogy (B-3)**

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A minimum of 24 non-music credits is required for piano majors. At least 39 credits, music or non-music, numbered 300 or above is required.
Adolescent Development 240S, 3 crs., and Teaching Creative Movement in the Schools, DAN 427, 3 crs.
At least 39 credits, music or non-music, numbered 300 or above is required.

**Bachelor of Music with Major in Music, Voice Performance (B-4)**

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*String principals also must take Music 409 (Pedagogy of Strings).*

**Bachelor of Music with Major Music, Composition and Music Technology (B-6)**

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<td>MUS 111-112 Theory I, II</td>
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<td>MUS 424 Music of the 20th Century to the Present</td>
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**Third Year**

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**Fourth Year**

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**Bachelor of Music with Major in Music, Instrumental Performance (B-5)**

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<td>MUS 111-112 Theory I, II</td>
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**Electives and General Education** ........................................ 7 8

* MUS 424 is offered only Fall semester in odd-numbered years. Students will have the opportunity to enroll in either the third or fourth year.

**Bachelor of Arts in Music, Specialization in Musical Studies (C-1)**

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<td>3 3</td>
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<tr>
<td></td>
<td>Elective and General Education</td>
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<tr>
<td>Fourth Year</td>
<td>MUS 388 Concert Attendance</td>
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<td>Upper-division academic music electives</td>
<td>2 2</td>
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<tr>
<td></td>
<td>Elective and General Education</td>
<td>12 12</td>
</tr>
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</table>

**Specialization in Applied Music (C-2)**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
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<tbody>
<tr>
<td>First Year</td>
<td>MUS 107A-110A Ensembles</td>
<td>1 1</td>
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<tr>
<td></td>
<td>MUS 111-112 Theory I,II</td>
<td>2 2</td>
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<tr>
<td></td>
<td>MUS 115A-116A Piano in Class I, II</td>
<td>1 1</td>
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<tr>
<td></td>
<td>MUS 135L Introduction to Music Literature</td>
<td>2 2</td>
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<tr>
<td></td>
<td>MUS 137-138 Aural Perception I, II</td>
<td>2 2</td>
</tr>
<tr>
<td></td>
<td>MUS 151 Major Performance I*</td>
<td>1 1</td>
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<td></td>
<td>Elective and General Education (English 101)</td>
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<tr>
<td>Second Year</td>
<td>MUS 211-212 Theory III, IV</td>
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<td>MUS 220 Upper-Division Required Performance</td>
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<td>MUS 237-238 Aural Perception III, IV</td>
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<tr>
<td></td>
<td>MUS 251 Major Performance II</td>
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<td></td>
<td>MUS 324H-325H Music History I, II</td>
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<td>LS 151L-152L Intro to Humanities</td>
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<td>Third Year</td>
<td>MUS 307-310, 313, 350 Ensembles</td>
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<td>MUS 351 Major Performance III</td>
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<td>MUS 361-362 Form and Analysis I, II</td>
<td>2 2</td>
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<td>Foreign Languages</td>
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<td>Fourth Year</td>
<td>MUS 307-310, 313, 350 Ensembles</td>
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<tr>
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<td>MUS 388 Concert Attendance</td>
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**Specialization in Music History (C-3)**

<table>
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<th>Semester</th>
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</thead>
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<tr>
<td>First Year</td>
<td>MUS 107A-110A Ensembles*</td>
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<tr>
<td></td>
<td>MUS 111-112 Theory I,II</td>
<td>2 2</td>
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<tr>
<td></td>
<td>MUS 115A-116A Piano in Class I, II</td>
<td>1 1</td>
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<tr>
<td></td>
<td>MUS 135L Introduction to Music Literature</td>
<td>2 2</td>
</tr>
<tr>
<td></td>
<td>MUS 137-138 Aural Perception I, II</td>
<td>2 2</td>
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<tr>
<td></td>
<td>MUS 151 Major Performance IV*</td>
<td>1 1</td>
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<tr>
<td></td>
<td>MUS 156 Music of the World’s Peoples</td>
<td>3 3</td>
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<tr>
<td></td>
<td>Elective and General Education</td>
<td>6 3</td>
</tr>
</tbody>
</table>

* Students in curriculum C-3 will participate in ensembles as required by the Department of Music upon achieving MUS 151 status or higher. An audition will determine semester of eligibility for acceptance into MUS 151.

**Specialization in Composition and Music Technology (C-4)**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
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<td>First Year</td>
<td>MUS 107A-110A Ensembles*</td>
<td>1 1</td>
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<tr>
<td></td>
<td>MUS 111-112 Theory I,II</td>
<td>2 2</td>
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<tr>
<td></td>
<td>MUS 115A-116A Piano in Class I, II</td>
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<tr>
<td></td>
<td>MUS 135L Introduction to Music Literature</td>
<td>3 3</td>
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<tr>
<td></td>
<td>MUS 137-138 Aural Perception I, II</td>
<td>2 2</td>
</tr>
<tr>
<td></td>
<td>MUS 151 Major Performance IV*</td>
<td>1 1</td>
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<tr>
<td></td>
<td>MUS 170 Introduction to Music Technology</td>
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<tr>
<td></td>
<td>Elective and General Education</td>
<td>6 3</td>
</tr>
</tbody>
</table>

* Students in curriculum C will participate in ensembles as required by the Department of Music upon achieving MUS 151 status or higher. An audition will determine semester of eligibility for acceptance into MUS 151.
Electives and General Education ................................. 15 16

* UDP to consist of a minimum of 2 works as approved by the C/T faculty.

Third Year
MUS 117, 124-131 Voice/Instruments in Class 1 1
MUS 359 Composition III 1
MUS 461-462 2 2
Foreign Languages 5 5
Electives and General Education 6 6

Fourth Year
MUS 388 Concert Attendance - 0
MUS 459 Composition IV 1
MUS428 Orchestation 2
Electives (music, non-music) 12 15

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 (Orchestrations), 104A (Marching Band), 110A (Concert Bands), 113A (Opera Theater), 114A (UM Jazz Bands), 150A (Chamber Ensembles), taken concurrently with 151
- 111-112 (Music Theory I, II) 4 crs.
- and 12 crs. of music electives which must be approved in advance by the Music Department chair. Contact the office at the Department of Music for detailed information.

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

Music (MUS)
U 100A Performance Study 1-2 cr. Offered autumn and spring. Prereq., consent of instr. Individual instruction in voice, piano, organ, harpsichord, caIleen, 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 6 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 concertos 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 112 Theory 2 cr. Offered spring. Prereq., MUS 111.
Coreq., MUS 138. Continuation of MUS 111.
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 U M 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 118A Singing for Non-Majors 3 cr. Offered autumn and spring. An introduction to the skills which enable and enhance artistic singing. As a group, students work to understand and exercise good tone production, musicality, and performance skills.
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 11 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 11 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 The Art of Western Music 3 cr. Offered autumn and spring. What makes the music of Bach, Mozart, and Beethoven so unique? Discover the power and beauty of the great musical masterworks of the western world. Learn to actively listen in a way that will help you appreciate all styles of music. For non-majors only; no musical background required. Credit not allowed for both MUS 134L and 135L.
U 135L Introduction to Music Literature 3 cr. Offered spring. Prereq., for non-majors consent of instr. A survey of representative examples of the standard music literature of the Western European tradition. Particular attention to musical styles and forms and their relationship to musical understanding and effective listening. A basic knowledge of music fundamentals is expected. Credit not allowed for both
MUS 134L and 135L.
U 136H Music of the World’s Peoples 3 cr. Offered autumn and spring. Introduction to the diversity of music among the world’s peoples. Selected music systems throughout the world examined in their broad cultural contexts: religious, historical, and social. Introduction to ethnomusicology—a combination of musicology, anthropology and other related disciplines.
U 137 Aural Perception I 2 cr. Offered autumn. Coreq., MUS 111. A laboratory course in singing and dictation to supplement Theory I.
U 138 Aural Perception II 2 cr. Offered spring. Prereq., MUS 137; MUS, MUS 112. Continuation of 137.
U 142 Jazz Theory and Improvisation I 2 cr. Offered autumn. A performance oriented course to provide a basic understanding of jazz harmony. Application of scales and melodic patterns in improvising over various harmonic progressions.
U 143 Jazz Theory and Improvisation II 2 cr. Offered spring. Prereq., MUS 142. Continuation of 142.
U 147A Beginning Folk Guitar 2 cr. Offered autumn. A beginning course in the fundamentals of playing folk guitar. Includes introduction to the rudiments of music.
U 150A Chamber Ensembles 1 cr. Offered autumn and spring. See MUS 107A for repeatability limitations. Prereq., consent of instr. String, woodwind, brass, percussion, piano and vocal ensembles as appropriate to meet student needs.
U 151 Major Performance Area I 1-4 cr. (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Instruction in voice, piano, organ, string, wind and percussion instruments. Students entering 151 must show talent for solo performance and evidence of the equivalent of a minimum of four years prior study. All private instruction requires concurrent ensemble participation.
U 159 Composition I 1-2 cr. (R-4) Offered autumn and spring. Prereq., consent of instr. An introduction to the basic techniques of music composition.
U 161 Language of Music I 3 cr. Offered autumn. Music fundamentals including scales, intervals, triads, and rhythm as they are written and heard. Practical application to the voice and/or keyboard.
U 162 Language of Music II 3 cr. Offered spring. Prereq., MUS 161. Continuation of 161 with emphasis on analysis of musical examples and aural recognition of basic harmonic patterns.
U 166L History of Musical Theater 3 cr. Offered autumn and spring. Same as DRAM 166L. Exploration of origins, developing trends, and cultural/historical context of musical theater through films, lectures, and discussion.
U 170 Introduction to Music Technology: Digital Audio and Multitracking 2 cr. Offered autumn and spring. Composition of computer music through recording, editing, and processing sound with digital audio software. Study of the theory and application of digital audio recording, multitracking, and digital signal processing, and electroacoustic music history. Survey of historical and current electronic and computer music composers, pieces, and practices.
U 181 English and Italian Diction for Singers 2 cr. Offered autumn even-numbered years.
U 182 German and French Diction for Singers 2 cr. Offered spring odd-numbered years.
U 195 Special Topics Variable cr. (R-9) Offered autumn and spring. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.
U 196 Independent Studies in Music 1-3 cr. (R-9) Offered autumn and spring.
U 212 Theory IV 2 cr. Offered spring. Prereq., MUS 211; coreq., MUS 238.
U 218 Intermediate Piano in Class I 1 cr. Offered autumn. Prereq., MUS 116A or equiv. Continuation of 116A.
U 219 Piano Proficiency Assessment 0 cr. Repeat 8 times. All majors pursuing a B.M. or B.M.E. degree must successfully complete all sections of the Piano Proficiency Assessment in order to attain upper-division standing in music. The eight-part exam is administered at the end of each semester. Successfully completed assessments will receive a grade of CR. U 220 Upper-Division Performance 0 cr. All majors seeking upper-division standing must present a juried public performance on his/her performing instrument of acceptable quality prior to enrollment in upper-division music coursework. A previous divisional jury based on performance ability, repertoire and sight-reading is a prerequisite for this performance. Successful completion of this requirement requires approval from a 2/3 majority of the music faculty in attendance. Successfully completed performances will receive a grade of CR.
U 237 Aural Perception III 2 cr. Offered autumn. Prereq., MUS 112 and 138; coreq., MUS 211. A lab course in singing and dictation to supplement Theory III.
U 238 Aural Perception IV 2 cr. Offered spring. Prereq., MUS 237; coreq., MUS 212. See 237.
U 251 Major performance Area II 1-4 cr. (R-12) Offered autumn and spring. Prereq., audition and consent of instr. Continuation of 151. All private instruction requires concurrent ensemble participation.
U 259 Composition II 1-2 cr. (R-4) Offered autumn and spring. Prereq., two semesters of MUS 159. An exploration of more advanced techniques of music 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 304 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 307 Choral Ensembles 1 cr. Offered autumn and spring. Prereq., upper-division standing in voice. See MUS 107A for description.
U 308 Orchestras 1 cr. Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUS 108A for description.
U 310 Concert Bands 1 cr. Offered autumn and spring. Prereq., upper-division standing in instrument of participation. See MUS 110A for description.
U 313 Opera Theater I cr. (R-8) Offered autumn and spring. Prereq., consent of instr. See 114A for description.

U 314 UM Jazz Bands I 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 I-2 cr. (R-4) Offered intermittently. Prereq. or coreq., MUS 430, 431. Student teaching of young pianists.

U 335 Music Education in the Elementary Schools 3 cr. Offered autumn and spring. Prereq., C&I 200. Integration of fundamental skills and basic rudiments of music into the various aspects of teaching music creatively in the elementary school. For non-music majors only.

U 342 Vocal Repertoire I 2 cr. Offered autumn odd-numbered years. Prereq., upper-division standing in music. Comprehensive acquaintance with styles and interpretation in British, German, and possible additional repertoire genres.

U 343 Vocal Repertoire II 2 cr. Offered spring even-numbered years. Prereq., upper-division standing in music. Comprehensive acquaintance with styles and interpretation in American, French and possible additional genres.

U 345 Junior Recital 2 cr. Coreq., MUS 351. Offered autumn and spring.


U 350A Chamber Ensembles 1 cr. Offered autumn and spring. Prereq., consent of instructor. See MUS 50A.

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 1-3 cr. (R-6) Offered autumn and spring. Prereq., upper-division standing in music. Detailed harmonic and formal analysis of representative works from the Baroque period to the present.

U 361 Form and Analysis I 2 cr. Offered autumn. Prereq., upper-division standing in music and two semester of MUS 259. Private study of music composition.

U 361 Form and Analysis II 2 cr. Offered spring. Prereq., upper-division standing in music and MUS 361. Continuation of 361.

U 379 Counterpoint 1 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 I-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.


U 430 Piano Pedagogy 1 cr. Offered autumn odd-numbered years. Prereq., upper-division or graduate standing in music or consent of instr. Methods and materials for teaching in private studios and classroom settings. Creative strategies for teaching beginning, intermediate and advanced students. Practical demonstrations and supervised teaching experience in private and group settings.

U 431 Piano Pedagogy II 3 cr. Offered spring even-numbered years. Prereq., MUS 430. Focus on technical development and pedagogical repertoire from the Baroque, Classical, Romantic and Contemporary periods. Continuation of 430.

U 432 Keyboard Literature I 3 cr. Offered autumn even-numbered years. Prereq., upper-division or graduate standing in music. Keyboard literature from the earliest extant manuscripts through the classical period.

U 433 Keyboard Literature II 3 cr. Offered spring odd-numbered years. Keyboard literature from the early romantic period to the present, including contemporary classical keyboard styles and techniques. Continuation of 432.

U 436 Topics in Music History 3 cr. (R-3) Offered intermittently. Prereq., MUS 325 and upper division standing in music or consent of instructor. Course materials will examine the development of musical styles, genres, forms and aesthetics important to Western music, introducing students to research methods in musicology.

U 451 Major Performance Area IV 1-4 cr. (R-12) Offered autumn and spring. Prereq., upper-division standing in music and consent of instr. Continuation of 351. All private instruction requires concurrent ensemble participation.

U 459 Composition IV 1-3 cr. (R-6) Offered autumn and spring. Prereq., two semesters of MUS 359. Private study of music composition in longer forms and for larger ensembles.

U 466 Computer Music Programming 2 cr. Offered autumn. Upper-division standing in music. Composition of computer music through programming. Study of object-
oriented programming, synthesis and digital signal processing
techniques, music-generating algorithms, sound spatialization,
graphical user interface design, and external control.
UG 495 Special Topics Variable cr. (R-9) Offered autumn
and spring. Experimental offerings of visiting professors,
experimental offerings of new courses, or one-time offerings of
current topics.
UG 496 Independent Studies in Music 1-3 cr. (R-9) Offered
autumn and spring. Prereq., consent of instr.
U 499 Professional Projects 1-4 cr. (R-4) Offered autumn
and spring.
G 500 Secondary Performance Area 1-2 cr. (R-6) Offered
every term. Prereq., audition and consent of instr.
Continuation of 100.
G 511 Advanced Conducting 2 cr. (R-6) Offered
intermittently. Prereq., MUS 331 and consent of instr.
Class and/or individual study of the art of conducting with emphasis
on performance with university performing groups.
G 512 Repertoire for Public School Music Students 2 cr.
(R-4) Offered intermittently. Prereq., graduate standing in
music. Concentrated study of repertoire for instrumental or
vocal soloists, chamber ensembles or large ensembles.
G 520 Research in Music 2 cr. Offered autumn and summer.
Prereq., graduate standing in music. Research problems: their
statement, organization, techniques, tabulation of materials, and
concepts necessary for interpretation of data. Development of
a research proposal.
G 521 Psychology of Music 2 cr. Offered intermittently.
Prereq., graduate standing in music. Investigation of the
perception, processing and cognition of music. Psychological
foundations of musical behavior: psychoacoustics,
measurement and prediction of musical ability, functional
music, music and society, music learning, and effective
response to music.
G 522 Philosophy of Music 2 cr. Offered intermittently.
Prereq., graduate standing in music. An investigation of the
meaning of music, the relationship to various societies and
social structures and the leading philosophical ideas which
relate to music and music instruction.
G 525 Seminar in Vocal Literature 2 cr. (R-6) Offered
intermittently. Prereq., graduate standing in music.
Concentrated study of opera literature, song literature or choral
literature.
G 526 Seminar in Instrumental Literature 2 cr. (R-4)
Offered intermittently. Prereq., graduate standing in music.
Concentrated study of symphonic literature or instrumental
chamber music literature.
G 551 Major Performance Area 1-4 cr. (R-12) Offered
every term. Prereq., audition and consent of instr.
Continuation of 451.
G 554 Analytical Techniques I 3 cr. Offered autumn odd-
numbered years. Prereq., graduate standing in music. A
survey of the theoretical approach of leading composers from
the polyphonic period to the present.
G 555 Analytical Techniques II 3 cr. Offered spring even-
numbered years. Prereq., MUS 554. Continuation of 554.
G 559 Composition Variable cr. (R-6) Offered intermittently.
Prereq., consent of instr. Continuation of 459.
G 581 Arts Education Institute 1 cr. (R-4) Offered summer.
Same as ART, DRAM 581. Open forum with national and
regional speakers, panels, and symposia to promote discussion,
understanding, and direction on significant national issues in
the arts and arts education.
G 582 Arts Education Seminar I 2 cr. (R-4) Offered summer.
Prereq., MUS 581. Same as ART, DRAM 582. Topics vary.
G 583 Arts Education seminar II 1-2 cr. Offered summer.
Prereq., MUS 582. Same as ART, DRAM 583. Continuation
of 582.
G 584 Arts Education Seminar III 1-2 cr. (R-4) Offered
summer. Prereq., MUS 583. Same as ART, DRAM 584.
Continuation of 583.
G 585 Arts Education Seminar IV 1-2 cr. (R-4) Offered
summer. Prereq., MUS 584. Same as ART, DRAM 585.
Continuation of 584.
G 586 Arts Education Seminar V 1-2 cr. (R-8) Offered
Continuation and synthesis of preceding seminars.
G 587 Arts Education Practicum 1 cr. (R-4) Offered
summer. Same as ART, DRAM 587. The active application
of concepts and theories presented during the Arts Education
Institute and the arts education seminars within a small group
setting.
G 588 Arts Education Apprenticeship 1 cr. (R-4) Offered
summer. Same as ART, DRAM 588. Exploration of art forms
to develop new artistic and communicative perceptions and
awareness.
G 589 Arts Education Field Project 1 cr. (R-4) Offered
summer. Same as ART, DRAM 589. Creative/research
activities.
G 593 Professional Projects Variable cr. (R-4) Offered
intermittently. Prereq., graduate standing in music.
G 595 Special Topics Variable cr. (R-8) Offered
intermittently. Experimental offerings of visiting professors,
experimental offerings of new courses, or one-time offerings of
current topics.
G 596 Independent Study Variable cr. (R-6) Offered
intermittently. Prereq., consent of instr. Students must have
projects approved by a music faculty member before enrolling.
G 599 Thesis Variable cr. (R-10) Offered intermittently.
Prereq., graduate standing in music.

Faculty

Professors
Margaret Baldridge, D.M.A., Eastman School of Music, 1994
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
Maxine Ramey-Anderson, M.M., Michigan State University,
1981
Patrick Williams, M.A., Eastern Michigan University, 1973

Associate Professors
Anne Basinski, M.M., Indiana University, 1989
Mary Jane Belz, Ph.D., University of Minnesota, 1994
Gary Funk, D.M.A., Arizona State University, 1982
Charles Nichols, Ph.D., Stanford University, 2003
Margaret Schuberg, M.M., The University of Montana, 1980

Assistant Professors
David Cady, D.M., Indiana University, 2000
Christopher Hahn, D.M.A., University of Oklahoma, 2005
Kimberly James, D.M., Indiana University, 2006
Luis Millan, D.M.A., Michigan State University, 1997
James Randall, Ph.D., University of Illinois, 2004

Adjunct Assistant Professors
Jeffrey Brandt, M.M., University of Montana, 2004
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

Instructors
Don Bell, M.M., VanderCook College of Music, 1975
Roger Logan, B.M., University of Idaho, 1976

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
School of Journalism

Peggy Kuhr, Dean
Carol Van Valkenburg, Chair, Department of Print Journalism
Ray Ekness, Chair, Department of Radio-Television

Courses in the School of Journalism examine the news media emphasizing their history, privileges and responsibilities and provide instruction in skills required for careers with newspapers, radio and television stations, magazines, web sites, print and online news services and related agencies. The School of Journalism offers Bachelor of Arts and Master of Arts degrees in journalism and radio-television. Students select options in print, photojournalism, broadcast news or broadcast production.

A quality education in journalism is built on a strong liberal arts foundation. Therefore, at the undergraduate level, at least 80 of the 120 credits required for graduation must be outside the School of Journalism and 65 of those credits must be in the liberal arts and sciences or be General Education courses.

For further information about the master's degree program, contact the Director of Graduate Studies, School of Journalism, The University of Montana, Missoula, MT 59812, or (406)243-4001.

Pre-Professional Program

In the first two years of study students are enrolled in pre-journalism or pre-radio-television and take courses primarily in the liberal arts and sciences. Journalism and radio-television courses in the pre-professional curriculum may be taken at The University of Montana-Missoula or at another school with a program accredited by the Accrediting Council for Education in Journalism and Mass Communications. All non-journalism courses in the curriculum may be completed at any college or university.

Students in the first two years of study may enter the pre-professional program during any semester. However, requirements in the pre-professional curriculum should be completed by the end of the second year of study to enable students to apply for admission to the professional program during the spring of the sophomore year.

Students should have completed at least 45 credits before applying for the professional program. At the time of application, students should have either completed all courses listed in the pre-professional curriculum or be taking the courses needed to fulfill requirements. A grade point average of 2.5 or better is required of applicants.

Professional Program

Students interested in print, photojournalism or broadcast news apply for admission to the two-year professional programs in journalism. Those interested in broadcast production apply for the radio-television professional program. Applications are accepted only in spring and granted only for admission in autumn semester. Deadline for applications is March 1. The admissions process is designed to admit the best overall class into the professional program.

Completed applications are evaluated by the School of Journalism Admissions Committee and recommendations are made by the faculty and dean based on the committee's recommendations. The primary admissions criteria are the students' grade point averages, both overall and in the pre-professional program, the student's progress in completing the pre-professional curriculum, and an evaluation of work submitted by the student. Successful applicants will have demonstrated, among other qualities, promise and professional aptitude through the quality of their course work and their overall performance in the pre-professional program, and will have demonstrated an interest in pursuing a career in journalism or broadcast production. Students with deficiencies in these requirements may on occasion be admitted provisionally. Once deficiencies are removed from the students' record they will be given full admission status.

The curriculum of the journalism professional programs is sequential. Therefore, students will enter the professional programs in the autumn semester only. Applications for admission to the professional programs may be obtained from the Office of the Dean, School of Journalism. Applications must be received no later than March 1 preceding the autumn semester for which admission is requested. A $15 non-refundable application fee must accompany the application.

Transcripts of all academic courses taken must be forwarded directly to the School of Journalism. Admission for one academic year cannot be deferred to another academic year. Students transferring from other ACEJMC-accredited programs in journalism or radio-television may be admitted on a space available basis. Transfer credit for pre-professional and professional courses taken at other institutions is accepted only for those courses that are deemed equivalent and in which a letter grade of C- or better is obtained.

Academic Progression

The general University academic standing requirements are listed separately in this catalog. See index. Admission to the professional program requires a cumulative grade average of 2.5. Students enrolled in the professional journalism program must maintain satisfactory academic progress. 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. In addition, students in the professional program who do not earn a grade of C- or better in required journalism courses in the fall semester of the junior year will be suspended from taking further professional program courses and must reapply in spring semester for admission the following fall. 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.

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
School of Journalism - Journalism and Radio-Television

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 or JOUR 280
- 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.)
- HIST 151 or 152, or an equivalent transfer course in American history, plus a second history course taught in the history department.
- 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, LS152L, PHIL 200E, PHIL 201E, PHIL 251H, PHIL 253H, ENLT 120L, ENLT 121L, ENLT 222L, ENLT 223L, ENLT 224L, ENLT 225L, HC 121.

Transfer credit to meet this humanities requirement must be approved by the journalism or R-TV chair.

In addition, before graduation, students must complete two semesters of a modern foreign language.

In addition to the core, students seeking admission to the photojournalism professional program must also complete JOUR 227-Photojournalism.

In addition to the core, students seeking admission to the broadcast journalism radio-television programs must also complete:
- R-TV 150-Introduction to Radio Production
- R-TV 151-Introduction to Radio-Television Production
- COMM 111A-Public Speaking

Professional Programs

Students in the professional programs must earn a C- or better grade in all journalism or R-TV required skills courses or they must repeat the course.

Upon admission to the professional program, students majoring in journalism with a print option will take the following courses:

First Year:
- Autumn semester:
  - JOUR 331-Public Affairs Reporting
  - JOUR 380-News Editing II
  - 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
  - JOUR 333-Magazine Freelance Writing or
  - JOUR 415-Feature Writing

All students must also complete JOUR 490, a one credit supervised internship. This internship may not be taken until after the successful completion of JOUR 331.

Also, students must successful complete a 3-credit visual literacy requirement. This may be met by any of the following courses:
- R-TV 151-Introduction to Television Production
- JOUR 227-Photojournalism
- JOUR 381-Editing II

Students must complete electives that will bring the total number of credits before graduation in journalism or radio-television to at least 35.

Students majoring in journalism with a photojournalism option must complete:

First Year:
- Autumn semester:
  - JOUR 328-Advanced Photojournalism
- Spring semester:
  - JOUR 380-News Editing I
  - JOUR 488-Preparing for an Internship

Second Year:
- Autumn semester:
  - JOUR 367-Law of Mass Communication
  - JOUR 381-News Editing I
  - JOUR 417 Multimedia Projects

Before graduation, students must also complete JOUR 490, a one-credit supervised internship, plus electives, including JOUR 420-Native News (offered spring) and JOUR 429-Documentary Photojournalism (offered fall) that will bring the total number of journalism credits to at least 35.

Students majoring in journalism with a broadcast option must complete:

First Year:
- Autumn semester:
  - R-TV 360-Advanced Broadcast Reporting
  - R-TV 489 Preparing for an Internship
- Spring semester:
  - R-TV 361-Newscast Reporting and Producing
  - JOUR 367-Law of Mass Communication

Second Year:
- Autumn semester:
  - R-TV 460-Broadcast Newsroom-Editorial
  - R-TV 494-Broadcast Senior Seminar

Students also must complete electives that will bring the total number of credits before graduation in journalism or radio-television to at least 35.

Students majoring in Radio-Television must complete:

First Year:
- Autumn semester:
  - R-TV 350-Television Directing and Production
  - R-TV 489-Preparing for an Internship
- Spring semester:
  - R-TV 351-Advanced Television Directing and Production
  - JOUR 367-Law of Mass Communication

Second Year:
- Autumn semester:
  - R-TV 450-Broadcast Newsroom-Production
  - R-TV 494-Broadcast Senior Seminar

If students complete more than 40 credits in journalism or radio-television they must take additional credits outside of the School of Journalism to meet the graduation requirement of at least 80 credits outside the school.

All journalism and radio-television majors must acquire practical experience through pre-approved internships (JOUR 490 or R-TV 490) or other employment approved by the faculty.

All journalism and radio-television majors must meet the Upper-division Writing Expectation by successfully completing an upper-division writing course from the approved list in the Academic Policies and Procedures section of this catalog. See index.

Courses

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

Journalism (JOUR)

U 100S Introduction to Mass Media 3 cr. Offered autumn and spring. A survey of the history, development and current status of the mass media in society, including newspapers,
magazines, radio, television, books, movies, recordings and the World Wide Web. Included are 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 198 Special Topics Variable cr. (R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 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 298 Special Topics Variable cr. (R-9) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 327 Intermediate Photojournalism 3 cr. Offered autumn. Prereq., JOUR 227. Mastery of the technical aspects of photojournalism: studio lights, portable strobes, lighting on location, color temperature. Students shoot weekly assignments on and a photo story on color slide film. Students must supply film, 35mm camera, and portable strobe. Introduction to PhotoShop.

UG 328 Advanced Photojournalism 3 cr. Offered spring. Prereq., JOUR 327. Advanced black and white and color photography. Students shoot news, features, sports, illustration and picture stories.

U 331 Public Affairs Reporting 3 cr. Offered autumn. Prereq., JOUR 270. Study and practice of reporting public issues with an emphasis on news sources, interpretive writing and the coverage of local, state and federal governments.

U 333 Magazine Freelance Writing 3 cr. Offered autumn. Prereq., JOUR 331 or consent of instr. Emphasizes writing and selling stories to magazines.

U 367 Law of Mass Communications 3 cr. Offered spring. Prereq., JOUR 270 or consent of instr. Overview of issues related to journalism and the law. Exploration of libel, privacy, prior restraints, access and other First Amendment questions along with ethical problems peculiar to media news gathering.

UG 375 Kaimin Reporting 1-3 cr. (R-3) Offered autumn and spring. Prereq., JOUR 331. Reporting for the Montana Kaimin.

UG 380 News Editing I 3 cr. Offered autumn. Prereq., JOUR 270. Fundamentals of editing and headline writing for the print media.

UG 381 News Editing II 3 cr. Offered spring. Prereq., JOUR 380 or consent of instr. Introduction to layout and design techniques for newspapers, magazines and other publications. Projects in design, typography, headline writing; use of photographs, art work and informational graphics.

UG 389 Literature of Journalism 3 cr. Offered intermittently. Study of literary journalism focusing on fiction and nonfiction by American journalists.

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

U 396 Advanced Journalism Problems Variable cr. (R-6) Offered every term. Prereq., consent of the dean. Independent study.

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 Multimedia Projects 3 cr. Offered spring. Prereq., JOUR 328 or consent of instr. Capstone class in core photo curriculum in which students discuss, research, photograph, design, write and record several stories and essays using still photography and audio/video equipment.

U 420 Native News Honors Project Variable cr. (R-6) Offered spring. Prereq., consent of instr. Researching, photographing and designing stories about Montana's Native American community. Photojournalism students travel with reporters to Montana's seven Indian reservations to document in depth stories on a single topic.

U 421 Reporting for Native News Honors Project Variable cr. (R-6) Offered spring. Prereq., consent of instr. Researching, reporting and editing stories about Montana's Native American community. Reporters travel to Montana's seven Indian reservations to investigate in depth a single story topic. Editors coach reporters and edit their stories. The stories appear in a publication distributed throughout the state and nation.

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 of legislative years. 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 of the Montana Journalism Review, a publication of the School of Journalism.

UG 471 Investigations 3 cr. Offered spring. Prereq., JOUR 331 for print students, R-TV 361 for broadcast students. Introduction to methods and ethics of investigative reporting, emphasizing computer-assisted research and analysis of public records and databases.

UG 477 Rural News Network 1-6 cr. (R-6) Offered autumn and spring. Prereq., professional program standing and consent of instructor. Students will visit rural towns in Montana that have lost their newspapers or never had one and will create an online newspaper. Students write, photograph and record stories for use on the site.

UG 478 Online News 2 cr. Offered intermittently. Practical experience in reporting, writing and photographing news stories to appear on the School of Journalism Web page.
local citizens and co-author pieces. Students and faculty train
townpeople to become citizen journalists to keep the news
site on going.
UG 481 Senior Seminar 3 cr. Offered autumn. Prereq.,
senior standing in journalism or consent of instr. Ideas,
individuals and movements shaping contemporary society and
which constitute the background for today’s news.
UG 488 Preparing for an Internship 1 cr. Offered autumn.
Prereq., admission to the journalism professional program or the
journalism graduate program. Acquaints students with
internship requirements including application procedures,
such as building a resume and learning what internships—local
through international—are available.
UG 489 Opinion Writing 3 cr. Offered intermittently.
Prereq., JOUR 331 or consent of instr. Practice in writing
editorials, columns, op-ed articles, and reviews. Study of the
role of editorial pages.
U 490 Supervised Internship 1-2 cr. (R-2) Offered every
term. Prereq., consent of instr.; for print students JOUR
331; for photojournalism students JOUR 327. Practical
experience working for newspapers, magazines or other
approved businesses, agencies or organizations.
UG 494 Polchner Seminar 3 cr. Offered autumn. Prereq.,
consent of instr. or print department chair. Seminar on a
topic selected by T. Anthony Polchner 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 541 Project/Thesis Seminar 2 cr. Offered spring.
Introduction to appropriate research methods and presentation
techniques for professional projects and theses in journalism.
G 505 Journalism and Society Seminar 3 cr. Offered
autumn. Prereq., graduate standing. Discussion and
research on current journalism issues. Study of traditional
and online research methodology.
G 527 Color and Lighting Techniques 3 cr. Offered autumn
and spring. Prereq., graduate standing and consent of instr.
Technical aspects of photography, electronic printing, color
techniques, lighting, filters. In-depth color photo essay.
G 551 Graduate Newscast Production 3 cr. Offered spring.
Prereq., JOUR 560 or consent of instr. Intensive instruction
and practice in reporting, writing, producing, directing and
delivering television newscasts. Work on a special program
for Montana PBS in tandem with students in R-TV 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 580 News Editing 3 cr. Offered autumn. Prereq., JOUR
570 or consent of instr. Fundamentals of copy editing and
story editing for the print news media. In addition, students
perform deadline editing on actual news stories for
publication.
G 585 Community News Service 1-3 cr. (R-3) Offered
autumn and spring. Prereq., consent of instr. Students
working under faculty supervision write articles of statewide
interest for publication in a network of Montana newspapers.
G 594 Seminar 1-9 cr. (R-9) Offered intermittently.
G 595 Special Topics Variable cr. (R-8) Offered
 intermittently. Experimental offerings of visiting professors,
experimental offerings of new courses, or one-time offerings of
current topics.
G 597 Methods of Journalism Research 3 cr. Prereq.,
consent of the dean.
G 599 Professional Project Variable cr. (R-6) Offered every
term. Planning, research and execution of a major project in
print, photographic or broadcast journalism.
G 620 Graduate Honors: Covering Native American Issues
3 cr. Offered spring. Prereq., consent of instr.
Researching, writing, photographing and/or editing in-depth
special reports on issues that affect the Indians who reside
within Montana’s borders.
G 640 Montana Journalism Review 1-3 cr. (R-6) Offered
spring. Prereq., consent of instr. Intensive laboratory
experience in all phases of magazine publication, including
writing, editing, layout, design, production and distribution of
Montana Journalism Review, an annual publication to the
School of Journalism.
G 650 Graduate Broadcast Newsroom-Editorial 3 cr. (R-6)
Prereq., JOUR 550, 551 or consent of instr. Students direct,
photograph and edit a daily Newsbrief report for Montana
PBS, and a weekly UMNews program for commercial
stations, in tandem with student R-TV 460, R-TV 450 and
550.
G 670 Covering the Environment 3 cr. Offered
intermittently. Prereq., JOUR 570 or consent of instr.
Practical opportunities to research and report on a variety
of public health and natural resource issues, combined with a
critical examination of how news media cover these issues.
G 690 Supervised Internship 1-2 cr. (R-2) Offered every
term. Prereq., JOUR 571. Practical experience working for
newspapers, magazines, wire services or other approved
businesses, agencies or organizations.
G 696 Advanced Problems Variable cr. (R-6) Offered every
term. Prereq., consent of the dean. Independent study.
G 697 Research in Journalism Variable cr. (R-9) Offered
every term. Prereq., consent of the dean.
G 699 Thesis Variable cr. (R-6) Offered every term.
Research and writing of master’s thesis.
Radio-Television (R-TV)
U 150 Introduction to Radio Production 3 cr. Offered
autumn and spring. Prereq., JOUR 100S or consent of instr.
Introduction to the fundamentals of audio and radio
production, including announcing, use of microphones,
recording equipment, editing techniques and programming.
U 151 Introduction to Television Production 3 cr. Offered
autumn and spring. Prereq., JOUR 100 or consent of instr.
Use of cameras, microphones, and lighting gear for field
production. Use of mixer and videotape editors for post
production.
U 280 Reporting for Broadcast 3 cr. Offered autumn and
spring. Prereq., JOUR 100S. Fundamentals of reporting and
writing news for broadcast including use of digital audio
recording and editing equipment.
U 295 Special Topics Variable cr. (R-6) Experimental
offerings of visiting professors, experimental offerings of new
courses, or one-time offerings of current topics.
U 350 Television Directing and Production 3 cr. Prereq.,
R-TV 151. Production and direction of studio and remote
television programs.
U 351 Advanced Television Directing and Production 3 cr.
Offered spring. Prereq., R-TV 350. Advanced production
and direction techniques in both the studio and field. Work
with students in R-TV 361 on special programs for Montana
PBS.
U 360 Advanced Broadcast Reporting 3 cr. Offered autumn.
Prereq., R-TV 280, R-TV 151. Radio and television reporting
including writing, interviewing, news gathering and
preparation of radio and television news stories.
U 361 Newscast Reporting and Producing 3 cr. Offered spring. Prereq., R-TV 360. Intensive instruction and practice in reporting, writing, producing and delivery of television newscasts. Work with students in R-TV 351 on special programs for Montana PBS.

U 370 KBGA Reporting 1 cr. (R-3) Offered spring. Students report, write and produce stories for KBGA, the student radio station, under supervision of KBGA News Director and a faculty member.

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

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 410 Legislative Reporting 1-6 cr. Offered spring semester during legislative years. Prereq., JOUR 430. Students produce daily radio news reports and newscasts from the Montana Legislature in Helena that are distributed to Montana radio and television stations for broadcast.

UG 420 Radio Deliberation Project 1-2 cr. (R-4) Offered every term. Prereq., consent of instr. Students will be responsible for producing The Footbridge Forum, a radio program airing on KBGA College Radio. Students learn the deliberative process, formulate program content, select guests, conduct research, promote the programs and are responsible for technical production of the shows.

UG 440 Television News Magazine Production 3 cr. Offered autumn. Prereq., R-TV 351 or 361 or consent of instr. Students produce report, write, photograph and edit segments for a television news magazine-style program.

U 450 Broadcast Newsroom-Production 3 cr. Offered autumn. Prereq., R-TV 351 or consent of instr. Students direct, photograph and edit a daily Newsbrief report, and a weekly UMNews program for commercial stations, in tandem with students in R-TV 460 and 450.

U 460 Broadcast Newsroom-Editorial 3 cr. (R-6) Offered autumn. Prereq., R-TV 361. Students report, write, produce and deliver a daily Newsbrief report, and a weekly UMNews program for commercial stations, in tandem with students in R-TV 450, 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 Montana PBS, in tandem with students in 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 Montana PBS, 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.

U 489 Preparing for an Internship 1 cr. Offered autumn to students admitted to the professional program. Acquaints students with internship requirements, including application procedures, such as building a resume and learning what internships--local through international--are available.

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 autumn. Students direct, photograph and edit a daily Newsbrief report, regular half-hour Montana Journal magazine programs for Montana PBS, and a weekly UMNews program for commercial stations, in tandem with students in R-TV 460 and 450.

G 681 Graduate Documentary 3 cr. Offered spring. Prereq., JOUR 650 or consent of instr. Students conceive, research, report, photograph and edit a one-hour documentary for Montana PBS in tandem with students in R-TV 481 and 482.

Faculty

Professors
Sharon Barrett, M.A., University of Wisconsin, 1967
Jerry E. Brown, Ph.D., Vanderbilt University, 1974
Peggy Kuhr, M.A., Gonzaga University, 1992 (Dean)
Carol B. Van Valkenburg, M.A., The University of Montana, 1986 (Chair, Print Journalism)
Clemens P. Work, J.D., Golden Gate University School of Law, 1975

Associate Professors
Raymond Ekness, M.A., The University of Montana, 1995 (Chair, Radio-Television)
Keith Graham, M.A., University of Missouri, 1979
Dennis McAuliffe, Jr., B.A., University of Maryland, 1976

Assistant Professor
Denise Dowling, M.A., Western Governor’s University, 2003
Raymone Fanning, M.S.T., Northwestern University, 1988; M.F.A., Brandeis University, 1981
Nadia White, M.S., Columbia University, 1992

Adjunct Professors
John Talbot, A.B., Harvard University, 1951

Lecturers
Printer Bowler
Jeff Hull
Courtney Lowery
William Marcus
Sally Mauk
Emeritus Professors
Nathaniel Blumberg, Ph.D., Oxford University, 1950

Charles E. Hood, Jr., Ph.D., Washington State University, 1980
William L. Knowles, B.A., San Jose State College, 1959
Gregory S. MacDonald, M.A., University of Michigan, 1973
Robert C. McGiffert, M.A., Ohio State University, 1965
The Law School is accredited by the American Bar Association and the Association of American Law Schools, and offers the degree of Juris Doctor (J.D.). Prerequisites for admission to the Law School are a baccalaureate degree and Law School Admission Test.

For detailed information concerning the Law School’s admission criteria, application procedures, facilities, and official course descriptions, consult the Law School Catalog, which may be obtained by calling (406)243-6169 or visiting the website www.umt.edu/law.

The Law School’s administrative regulations are contained in the Law School Student Handbook, which is on the website. The Law School conforms in most instances to the calendar established for the entire University. There are some differences, however, because the Law School operates on a different (and longer) semester system than the rest of the University.

Academic Year Calendar

Autumn Semester 2008
August 19 (Tuesday) Registration Finalization
August 20-26 (Wednesday-Tuesday) Introductory Program
August 25 (Monday) Classes Begin
September 1 (Monday) Labor Day (Holiday)
November 11 (Monday) Veterans’ Day (Holiday)
November 4 (Tuesday) Election Day (Holiday)
November 26-28 (Wednesday-Friday) Thanksgiving Holiday
Building Closed: Thursday, November 27
December 1 (Monday) Last day of classes
December 2-7 (Tuesday-Sunday) Reading period
December 8-20 (Monday-Saturday) Final exams

Spring Semester 2009
January 23 (Friday) Registration Finalization
January 26 (Monday) Classes begin
February 16 (Monday) President’s Day (Holiday)
March 30-April 3 (Monday-Friday) Spring Vacation
Building Hours: Monday-Friday, 7:00am - 5:30pm
Law Library Hours: Monday-Friday, 7:00am - 5:00pm
May 4 (Monday) Last day of classes
May 5-May 10 (Tuesday-Sunday) Reading period prior to exams
May 11-22 (Monday-Friday) Final exams
May 16 (Saturday) UM Commencement
May 23 (Saturday) Law School Hooding Ceremony

Required Curriculum

First Year
501 Civil Procedure I ........................................ 3
501 Civil Procedure II ....................................... 2
502 Contracts I ............................................. 3
503 Contracts II ............................................ 2
504 Pretrial Advocacy I ..................................... 2
505 Pretrial Advocacy II .................................... 1
506 Legal Research .......................................... 2
508 Legal Analysis ......................................... 1
509 Legal Writing I ........................................... 3
510 Criminal Law & Proc I .................................. 2
511 Criminal Law & Proc II .................................. 3
512 Torts I .................................................. 2
513 Torts II ................................................ 3

Second Year
550 Property I ............................................... 2
551 Property II ............................................... 3
552 Federal Tax .............................................. 3
(may be taken third year)
554 Business Organizations .................................. 3
555 Professional Responsibility .......................... 3
556 Business Transactions ................................... 2
557 Trial Practice ............................................ 2
558 Constitutional Law ..................................... 4
560 Evidence ................................................ 3
Electives (see below)

Third Year (minimum of 4 credits required)
599 Clinical Training II .................................... 1-8
600 Clinical Training III .................................... 1-6
601 Clinical Training IV .................................... 1-6
Electives (see below)

Elective Courses (Elective offerings vary from year to year)
Administrative Law (Law 665, 3 credits)
Advanced Criminal Procedure (Law 690, 2 credits)
Advanced Environmental Law (Law 649, 3 credits)
Advanced Legal Research (Law 615, 2 credits)
Advanced Legal Issues in Education (Law 686, 3 credits)
Advanced Legislation (Law 652, 2 credits)
Advanced Federal Indian Law (Law 617, 2 credits)
Advanced Public Land and Resources Law (Law 619, 2 credits)
Advanced Trial Advocacy (Law 685, 1 credit)
Agricultural Law (Law 656, 2 credits)
Alternative Dispute Resolution (Law 614, 3 credits)
American Indian Natural Resources (Law 619, 2 credits)
Appellate Advocacy (Law 616, 3 credits)
Bankruptcy (Law 621, 2 credits)
Child Advocacy (Law 670, 2 credits)
Client Counseling Team (Law 638, 2 credits)
Conflict of Laws (Law 653, 2 credits)
Consumer Transactions (Law 645, 3 credits)
Copyright Law (Law 682, 3 credits)
Cyber Law (Law 676, 2 credits)
Disability Law (Law 668, 2 credits)
Elder Law (Law 620, 3 credits)
Employment Law (Law 622, 3 credits)
Environmental Law (Law 650, 3 credits)
Estate Planning (Law 659, 3 credits)
Family Law (Law 669, 3 credits)
Family Law Mediation (Law 672, 2 credits)
Federal Courts (Law 671, 2 credits)
Federal Indian Law (Law 648, 3 credits)
First Amendment Seminar (Law 675, 2 credits)
Gender and the Law (Law 625, 3 credits)
Health Care Law (Law 637, 3 credits)
Independent Study (Law 660/1, 1-2 credits)
Insurance Law (Law 624, 3 credits)
International Business & Trade (Law 629, 2 credits)
Introduction to Environmental Law (Law 650, 3 credits)
Land Use Planning (Law 687, 3 credits)
Law & Literature (Law 607, 1 credit)
Law & Technology (Law 693, 2 credits)
Law Practice (Law 631, 1 credit)
Law Reviews I, II, III, IV (Law 564/5, Law 602/3, 1-2 credits)
Lawyers' Values (Law 630, 2 credits)
Legal History (Law 626, 2 credits)
Local Government (Law 646, 3 credits)
Moot Courts (Law 666, 2 credits)
Montana Constitutional Law (Law 618, 2 credits)
Natural Resource Development (Law 633, 3 credits)
Natural Resource Dispute Resolution (Law 613, 3 credits)
Negotiations (Law 641, 2 credits)
Negotiation Team (Law 642, 2 credits)
Non-profit Organizations (Law 674, 2 credits)
Patent Law (Law 627, 2 credits)
Philosophy of Law (Law 664, 3 credits)
Product Liability (Law 657, 2 credits)
Public Interest Lawyering (Law 673, 3 credits)
Public International Law (Law 634, 3 credits)
Public Land and Resources Law (Law 654, 3 credits)
Public Regulation of Business (Law 632, 3 credits)
Real Estate Transactions (Law 658, 2 credits)
Remedies (Law 628, 3 credits)
Sales & Leases (Law 692, 3 credits)
Secured Transactions (Law 636, 2 credits)
Special Topics in Criminal Law (Law 667, 2 credits)
Taxation of Business Organizations (Law 639, 4 credits)
Taxation of Estates & Gifts (Law 655, 3 credits)
Taxation of Property Transactions (Law 640, 2 credits)
Trademark Law (Law 693, 2 credits)
Tribal Courts/Tribal Law (Law 688, 3 credits)
Tribal/State Relations (Law 694, 2 credits)
UCC Articles 203 (Law 609, 3 credits)
Water Law (Law 663, 2 credits)
White Collar Crime (Law 644, 2 credits)
Workers’ Compensation (Law 662, 3 credits)

Faculty

Professors
Bari R. Burke, J.D., University of California, Davis, 1979
J. Martin Burke, LL.M., New York University, 1982
Scott J. Burnham, LL.M., New York University, 1981
William J. Corbett, LL.M., Harvard University, 1971
Raymond Cross, J.D., Yale University, 1973
William F. Crowley, LL.M., New York University, 1951 (Emeritus)
E. Edwin Eck II, LL.M., Georgetown University (Dean)
Larry M. Elison, S.J.D., University of Michigan, 1962 (Emeritus)
Cynthia Ford, J.D., Cornell Law School, 1978
Gregory S. Munro, J.D., University of Montana, 1975
Robert G. Natelson, J.D., Cornell Law School, 1973
David J. Patterson, LL.M., University of Michigan, 1966
Fritz Snyder, J.D., Washburn School of Law, 1979 (Associate Dean)
Robert E. Sullivan, J.D., Notre Dame, 1946 (Dean Emeritus)

Associate Professors
Elaine Gagliardi, LL.M., New York University, 1990
Stacey Gordon, J.D., University of Montana, 2000
Jeffrey T. Renz, J.D., University of Montana, 1979

Assistant Professors
Phillip Cousineau, MLS., University of Texas, 1993
Eduardo Capulong, J.D., City University of New York Law School, 1991
Larry Howell, J.D., M.A., The University of Montana, 1992
Kristen Juras, J.D., University of Georgia, 1982
Andrew King-Ries, J.D., Washington University, 1993
Elizabeth Krunk, J.D., University of Michigan, 2001
John W. McDonald, J.D., University of Montana, 1961
Jeffrey T. Renz, J.D., University of Montana, 1979
Maylinn Smith, J.D., University of Montana, 1987
Margaret A. Tonon, J.D., University of Montana, 1974

Adjunct Faculty
David Aronofsky, J.D., University of Texas, 1982
Klaus Sitte, J.D., University of Montana, 1972
CONTINUING EDUCATION
Undergraduate Advising Center
Affiliated UM Campuses
Expenses, Services, Organizations
Continuing Education and Summer Programs

Sharon E. Alexander, Dean

Mission
Continuing Education (CE) is the outreach arm of The University of Montana, and its mission reflects The University of Montana's commitment to provide high quality, innovative outreach programs that serve the lifelong learning needs of the citizens of Montana and beyond. Continuing Education’s primary goal is to provide access to UM's vast array of educational opportunities.

Continuing Education partners with academic units and external agencies to develop programs; write grant and contract proposals, for external funding; and offer focused training programs that contribute to the economic development of Montana. CE programs are delivered using a variety of delivery formats.

Continuing Education is located in the James E. Todd building, east of the University Center, and provides access to state-of-the-art technology in every room. In addition, CE provides conference and event planning, including equipment rental, technical support and logistical assistance. For more information, visit the web site at www.umt.edu/ce/.

UM Online courses are available to students both on- and off-campus at times and places convenient to the learner. Degree programs, General Education courses and many other online courses are offered in cooperation with academic units, to students locally, throughout Montana, nationally and globally. Online degree programs include the Library Media Endorsement Program, the AAS in Surgical Technology, the Masters of Public Administration, and the Masters of Education in Curriculum Studies, and others. For more information and course schedules, select UM Online at the web site http://umonline.umt.edu/.

Summer Semester offers several options for traditional and non-traditional students throughout the summer months. Graduate and undergraduate courses are offered in more than 30 disciplines, along with workshops and seminars. For more information about Summer Semester, visit www.montanasummer.com.

Wintersession offers UM students an opportunity to earn up to 6 credits during the 3-week session in January. Credits earned during Wintersession count toward full-time Spring Semester status. For example, students registered for 3 credits during Wintersession and 9 credits during the Spring Semester are considered full-time students. Students registered for 12 or more credits during the Spring Semester do not pay additional tuition for courses scheduled during Wintersession. Financial Aid applies to credits earned during Spring, including Wintersession. For more information, view our website at http://www.umt.edu/ce/deo/winter/.

Extended Courses and Degree Programs offers academic credit courses and programs in many disciplines. Designed to meet the diverse needs of students, programs are offered at locations throughout Montana and beyond using traditional classroom methods, videoconferencing and Internet instruction. For more information, visit the web site at www.umt.edu/ccesp/external.

Community and Professional Services
The mission of the Community and Professional Services Department is to provide comprehensive non-credit training opportunities to a broad spectrum of professional and community groups. The unit is responsible for the development and implementation of programs that included professional development, technical support, training, creative solutions, enhanced solutions and communications. These programs focus on health and the environment by offering custom tailored workshops, conferences, reports, strategic planning, regional training and community outreach programs. CPS works to empower community organizations by providing services that enable them to increase their levels of skill and efficiency. For more information, visit http://www.umt.edu/ee/cps/.

Montana Osher Lifelong Learning Institute
The mission of the Montana Osher Lifelong Learning Institute (MOLLI) is to promote lifelong learning and personal growth for adults +55. The institute offers an accessible and innovative learning environment for older adults from all backgrounds and levels of education. Faculty include emeritus and current faculty, as well as professionals from the community. Program offerings include lectures, ongoing discussions, short courses, and interest groups covering topics from the humanities, sciences and the arts, as well as community and regional issues. For more information, visit http://www.umt.edu/ce/plus55.
Undergraduate Advising Center

Melanie Hoell, Director

The Undergraduate Advising Center is the academic home for exploratory or undeclared students. It also provides academic advising to freshmen business, pre-psychology and pre-communication studies students. The 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 2 cr. 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.

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. Restricted to freshmen. Topics variable. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 195 Special topics 1-6 cr. (R-6) Offered autumn and spring. Restricted to freshmen. Topics variable. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

U 196 Independent Study 1-2 cr. (R-2) Offered intermittently. Restricted to freshmen. 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 198 Internship Variable cr. (R-6) 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 University of Montana Campuses

The University of Montana - Western

The unique mission of The University of Montana - Western emphasizes experiential learning that combines theory and practice through projects and field experiences. In order to better facilitate this type of learning, UM-W 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). The faculty is nationally recognized for its excellence, creativity, and genuine concern for maintaining the high quality academic and personal experience that is a tradition at Western.

In addition to fulfilling academic life, UM-Western offers National Association of Intercollegiate Athletics Frontier Conference sports in football, volleyball, men's and women's basketball and golf, and men's and women's National Intercollegiate Rodeo Association teams. A varied sports program is also available for students seeking intramural activities. Western's geographic location makes an ideal setting for individuals who enjoy the rugged outdoors. Yellowstone, Grand Teton, and Glacier national parks are nearby for those interested in viewing natural wonders and wildlife.

Although it has a small town atmosphere, Dillon offers all the amenities of a much larger community. Ranching, mining and tourism are the chief industries of the area. Western's picturesque 34 acre campus and friendly atmosphere blend with the community and area. For more information about The University of Montana - Western, call 800-962-6668 and request the admissions office.

The University of Montana - Helena College of Technology

The University of Montana - Helena College of Technology of The University of Montana offers two-year programs in business, trades, technical and health occupations designed to meet the state's business and industry needs for technologically-skilled workers. All of the curricula are industry-approved and emphasize learning in a hands-on environment. In addition, the college offers an Associate of Science degree and Associate of Arts degree designed to transfer to four-year institutions. The college, founded in 1939, is fully accredited by the Northwest Association of Schools and Colleges, the Montana State Board of Nursing, the Federal Aviation Administration, and the National Institute for Automotive Service Excellence.

Helena's students take a full compliment of courses in mathematics, communications, computer literacy, and career development. Located in Montana's beautiful capital 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@montana-tech.edu or see Tech's webpage at www.montana-tech.edu.
Fees

General

The student expense information provided in this catalog is based upon the rates for the 2008-09 academic year. Current information may be obtained by contacting Business Services, Lommasson Center, The University of Montana-Missoula, Missoula, Montana 59812. The phone number is 406-243-2223 or visit our website at http://www.umt.edu/bussrvcys/. 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 based upon the rates for the General

Fee Schedule

The fee schedules shown are for the 2008-2009 academic year. Students with WUE residency, graduate students, law students, unsubsidized residents, post baccalaureate and summer students using the student expense information provided in this catalog is not complete until fee payment/finalization has been processed. The fee schedules shown are for the 2008-2009 academic year. Students with WUE residency, graduate students, law students, unsubsidized residents, post baccalaureate and summer students using the student expense information provided in this catalog is not complete until fee payment/finalization has been processed. 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 in maintaining Division I status and to bring them into compliance with gender equity laws. This fee entitles full-time students to attend most UM athletic events. Part-time students may attend up to 3 football games in addition to most other events.

Main Campus Student Fee Schedule 2008-2009 Semesters

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<th>Acad Fac Fee</th>
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<td>189.00</td>
<td>8.00</td>
<td>42.00</td>
<td>81.75</td>
<td>30.00</td>
<td>28.50</td>
<td>2,592.50</td>
<td>36.00</td>
<td>5,601.60</td>
<td>8,227.85</td>
<td></td>
</tr>
</tbody>
</table>

* Students enrolled for 6 credits or fewer have the option of paying additional amounts to cover Activity, Campus Recreation, and clinical services provided by the 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, will be finalized following PFP responses.

***At 12 cr: Tech. $39.00; Comp. $41.40; Athletic $23 1-6cr; $46 7cr& above; Activity $33; Kamilin $4; Recycling $4; UC Renovation $30; Radio $6 and Trans. $22.50. Services of visit www.umt.edu/bussrvcys/ for more information. These fees may change without notice.
### College of Technology Student Fee Schedule 2008-2009 Semesters
#### Undergraduate Lower Division

<table>
<thead>
<tr>
<th>Course Credit</th>
<th>Regi. Fee</th>
<th>Tuition Fee</th>
<th>Bldg. Fee</th>
<th>Comput./ Tech Fee***</th>
<th>Equlp. Fee</th>
<th>Activity Fee*</th>
<th>Cam. Rec.</th>
<th>Health Fee / Recyc Fees**</th>
<th>Acad. Fac. Fee</th>
<th>UC OP Fee</th>
<th>Radio Trans Fee***</th>
<th>Resident Total</th>
<th>Nonres. Bldg. Fee</th>
<th>Nonres. Tuition Fee</th>
<th>Nonres. Total</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>30.00</td>
<td>99.40</td>
<td>2.90</td>
<td>6.70</td>
<td>1.85</td>
<td>Optional</td>
<td>22.00</td>
<td>0.00</td>
<td>3.50</td>
<td>0.00</td>
<td>166.35</td>
<td>3.00</td>
<td>254.50</td>
<td>423.85</td>
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</tr>
<tr>
<td>2</td>
<td>30.00</td>
<td>198.80</td>
<td>5.80</td>
<td>13.40</td>
<td>3.70</td>
<td>Optional</td>
<td>22.00</td>
<td>0.00</td>
<td>7.00</td>
<td>0.00</td>
<td>280.70</td>
<td>6.00</td>
<td>509.00</td>
<td>795.70</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>30.00</td>
<td>298.20</td>
<td>8.70</td>
<td>21.10</td>
<td>5.55</td>
<td>Optional</td>
<td>22.00</td>
<td>0.00</td>
<td>10.50</td>
<td>0.00</td>
<td>395.05</td>
<td>9.00</td>
<td>763.50</td>
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<td>4</td>
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<td>397.60</td>
<td>11.60</td>
<td>26.80</td>
<td>7.40</td>
<td>Optional</td>
<td>22.00</td>
<td>0.00</td>
<td>14.00</td>
<td>0.00</td>
<td>509.40</td>
<td>12.00</td>
<td>1,018.00</td>
<td>1,539.40</td>
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</tr>
<tr>
<td>5</td>
<td>30.00</td>
<td>497.00</td>
<td>14.50</td>
<td>33.50</td>
<td>9.25</td>
<td>Optional</td>
<td>22.00</td>
<td>0.00</td>
<td>17.50</td>
<td>0.00</td>
<td>623.75</td>
<td>15.00</td>
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<td>1,911.25</td>
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<tr>
<td>6</td>
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<td>596.40</td>
<td>17.40</td>
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<td>18.00</td>
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<td>12.95</td>
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<td>189.00</td>
<td>8.00</td>
<td>24.50</td>
<td>28.50</td>
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<td>21.00</td>
<td>1,781.50</td>
<td>2,891.45</td>
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<tr>
<td>8</td>
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<td>189.00</td>
<td>8.00</td>
<td>28.00</td>
<td>28.50</td>
<td>1,203.30</td>
<td>24.00</td>
<td>2,038.00</td>
<td>3,263.30</td>
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</tr>
<tr>
<td>9</td>
<td>30.00</td>
<td>894.60</td>
<td>26.10</td>
<td>60.30</td>
<td>16.65</td>
<td>33.00</td>
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<td>8.00</td>
<td>31.50</td>
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<td>1,317.65</td>
<td>27.00</td>
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<td>3,635.15</td>
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<tr>
<td>10</td>
<td>30.00</td>
<td>994.00</td>
<td>29.00</td>
<td>67.00</td>
<td>18.50</td>
<td>33.00</td>
<td>189.00</td>
<td>8.00</td>
<td>35.00</td>
<td>28.50</td>
<td>1,432.00</td>
<td>30.00</td>
<td>2,545.00</td>
<td>4,007.00</td>
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<tr>
<td>11</td>
<td>30.00</td>
<td>1093.40</td>
<td>31.90</td>
<td>73.70</td>
<td>20.35</td>
<td>33.00</td>
<td>189.00</td>
<td>8.00</td>
<td>38.50</td>
<td>28.50</td>
<td>1,546.35</td>
<td>33.00</td>
<td>2,799.50</td>
<td>4,378.85</td>
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<tr>
<td>12-21</td>
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<td>1192.80</td>
<td>34.80</td>
<td>80.40</td>
<td>22.20</td>
<td>33.00</td>
<td>189.00</td>
<td>8.00</td>
<td>42.00</td>
<td>28.50</td>
<td>1,660.70</td>
<td>36.00</td>
<td>3,054.00</td>
<td>4,750.70</td>
<td></td>
</tr>
</tbody>
</table>

* Students enrolled for 6 credits or less have the option of paying additional amounts to cover Activity, Clinical Services provided by Curry Health Center.

** Mandatory health insurance coverage, with right of waiver, is required for all students. The semester rate, subject to limits set by the BOR will be finalized following RFP responses.

*** At 12 credits Technology $39.00; Computer $41.40; Kalmin $4; Recycling $4; Radio $6; Transportation $22.50

### Building and Nonresident Building Fees
These fees are applied to the long term debt and used for the acquisition and renovation of buildings.

**Campus Recreation Fee**
This fee supports the services and programs of the Campus Recreation Department. It allows students to use the facilities at no charge, the Grizzly Pool at no charge at certain times, and to participate in recreation sports.

**Computer Fees**
Fee is used for the purchase or lease of computer equipment, software, maintenance, or related items which will benefit the instructional program.

**Curry Health Fee**
This fee supports the services and programs of Curry Health Center. Students who pay this fee receive services at low charges (many services are at no additional charge).

**Equipment Fees**
This fee is applied to the purchase, lease and maintenance of equipment which will provide a primary benefit to the educational program, including library and other related capital acquisitions.

**Medical Insurance Fee**

The University of Montana-Missoula requires all students to have and to maintain major medical insurance. Before you can register for classes, you will be prompted to elect or waive the student Blue Cross Blue Shield plan. You may waive this option only if you have other major medical coverage. You must make a selection (elect or waive) before you can proceed to the class selection area of Cyberbear. If you elect the insurance and fail to register for at least 1 credit before the 15th class day, your election will be voided and you will not have insurance coverage. More information on the student insurance program is available at http://www.umt.edu/sa/chc, then select "Student Insurance".

**Radio and Transportation Fee**
Students enrolled for 7 credits or more are assessed these fees. The Radio Fee is used to support the student radio station. The Transportation Fee is used to address transportation issues.

**Registration Fee**
This Fee is non-refundable and applied to instructional costs.

**Tuition Resident and Nonresident Fees**
These fees are applied to instructional costs.

**University Center Fees**
The University Center operation fee is applied to the operation of the University Center. The University Center renovation fee is
applied to renovation of the University Center.

### Kaimin and Recycling Fees
The $4.00 Kaimin fee supports the student newspaper and the $4.00 Recycling fee supports the recycling program.

### Academic Facilities and Technology Fee
The Academic Facility Fee was approved by students for the repayment of bonds. The proceeds from the bonds will be used to remodel classrooms and laboratories. The Technology Fee is used to support the technology infrastructure for Academic and Administrative Systems.

### Other Course Fees
The Board of Regents may approve additional fees at any time. Fees frequently are assessed for selected courses in subjects such as: Accounting Technology, Art, Biology, Biochemistry, Building Maintenance Engineering, Business, Chemistry, Computer Technology, Culinary Arts, Curriculum and Instruction, Dance, Diesel Equipment Technology, Drama, Educational Leadership, Electronics Technology, Forestry, Geology, Health and Human Performance, Heavy Equipment Maintenance Engineering, Business, Physical Therapy, Resource Conservation, Respiratory Therapy, Science, Secretarial Technology, Small Engines, Surgical Technology, Truck, Welding, and Wildlife Biology. This listing may not be all-inclusive and does not preclude a specific fee from being assessed. Special fees are assessed for extended field trips in various departments. An Educational Service Fee is charged for the off-campus M.B.A. and M.P.A. programs.

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 2008-2009 School of Law fees for 15 credits are approximately $2903 for autumn and $2883 for spring for an in-state student and $8601 for autumn and $8581 for spring for an out-of-state student. The Health Service fee is included. Health Insurance coverage is available to students for an additional charge.

### Law Special Fees
All persons who apply for admission to the School of Law must pay an acceptance fee of $300.00 ($150.00 is refundable if written notice is received by the due date if student does not want to attend) which is applied toward payment of fees upon entering and attending the School of Law in the semester for which application was made. In addition to the above fees, Law School students must pay an additional $145.00 per credit per semester. The amount is applied to instructional costs.

All law students are assessed a $26.00 law activity fee for autumn and a $6.00 law activity fee for spring.

### Continuing Education and Summer Programs
Fees, room and board costs for Summer Programs and fees for registration in Continuing Education are contained in separate publications. These publications can be obtained by contacting Continuing Education and Summer Programs, The University of Montana-Missoula, Missoula, MT 59812 or by visiting our website at www.umt.edu/ce.

### Refund for Withdrawal from the University
If a student decides to withdraw from classes, the student should contact The University of Montana Registrar’s Office in Griz Central, located in the Lommasson Center, and complete a withdrawal form to begin the official withdrawal process. This procedure will enable The University of Montana to prorate the fees assessed based upon the official date of withdrawal. Students must be attending classes to remain eligible for Federal Financial Aid. If a student drops courses, stops attending classes or withdraws from the University of Montana, the University and/or the student may be required to return federal funds awarded to the student. It is very important for students receiving Federal financial aid to contact Business Services prior to withdrawing. If a student officially withdraws during the first fifteen days of class, the tuition and fees will be reassessed for the semester based upon the official date of withdrawal.

A student’s official withdrawal date is determined by:
- the date the student began the institution’s withdrawal process or officially notified the institution of intent to withdraw; or
- the midpoint of the period for a student who leaves without notifying the institution; or
- the last date of attendance by the student at a documented academically related activity.

Students who withdraw from The University will receive pro-rated assessment of tuition and fees according to the following schedule.

<table>
<thead>
<tr>
<th></th>
<th>Before classes begin</th>
<th>1st Week</th>
<th>2nd Week</th>
<th>3rd Week</th>
<th>4th week or Later</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>none</td>
<td>none</td>
</tr>
<tr>
<td>Tuition/Fees</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Radio/Trans Fee</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Activity Fee</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Athletic Fee</td>
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<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Kaimin/Recycling</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Campus Rec.</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
<td>none</td>
</tr>
<tr>
<td>Health Services</td>
<td>100%</td>
<td>90%</td>
<td>75%</td>
<td>50%</td>
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</tr>
<tr>
<td>Blue Cross Ins.</td>
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<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>none</td>
</tr>
<tr>
<td>Other Fees</td>
<td>varies</td>
<td>varies</td>
<td>varies</td>
<td>varies</td>
<td>varies</td>
</tr>
</tbody>
</table>

**Students who desire to continue the Blue Cross Health Insurance must contact the Curry Health Center prior to withdrawal. Otherwise the insurance premiums will automatically be refunded and coverage will be lost.**

Charges for room and board will be re-assessed on a pro-rated bases. During the final two weeks of the semester, room charges will not be re-assessed. Student who do not formally and completely withdraw are not eligible for a refund. The University of Montana will reassess the tuition and fees for students using the Deferred Payment Plan if the student officially withdraws during the first fifteen days of a semester. However, the student may still owe a balance to the University.

### Return of Title IV Funds (Federal Financial Aid)
The University of Montana Refund Policy exists for calculating the refund of institutional charges. The federal “Return of Title IV Funds” formula dictates the amount of Federal Title IV aid that must be returned to the federal government by the University and the student. The federal formula is applicable to a student receiving Title IV Funds if that student withdraws on or before the 60% point of time in the semester. The student may also receive a refund of some institutional charges through The University of Montana’s refund policy. The federal formula requires a return of Title IV aid if the student received federal financial assistance in the form of a Pell Grant, ACG Grant, SMART Grant, Supplemental Educational.
Opportunity Grant, Federal Perkins Loan, Federal Stafford Loan, or a PLUS loan and withdrew on or before completing 60% of the semester. The percentage of Title IV aid to be returned is equal to the number of calendar days remaining in the semester (effective on the official withdrawal date) divided by the number of calendar days in the semester (scheduled academic breaks of five consecutive days or more are excluded). After all Title IV aid return requirements have been satisfied, remaining credit balances will first be applied to satisfy outstanding University tuition, fees, and institutional charges. Any remaining credit balances will then be refunded to the student.

Once you have completed more than 60% of the semester, you have earned all (100%) of your assistance. If you withdraw from The University of Montana before completing 60% of the semester, you may have to repay any unearned financial aid funds that were already disbursed to you. Please contact staff in The University's Business Services Department, located in Griz Central, if you have any questions about refunds or the calculation of refund amounts.

**Distribution Priority for Return of Title IV Funds**

1. Unsubsidized Federal Stafford Loan
2. Subsidized Federal Stafford Loan
3. Federal Perkins Loan
4. Federal Graduate PLUS Loan
5. Federal Parent PLUS Loan
6. Federal Pell Grant Program
7. ACG Grant Program
8. SMART Grant Program
9. Federal SEOG Program
10. Other Title IV Aid
11. Other Federal, State, Private, or Institutional Aid
12. The Student

**Hardship Withdrawal Policy**

Hardship withdrawals may be granted to students who experience a catastrophic unanticipated condition or event after the fifteenth class day of a semester if the condition prevents the student from completing academic course work. If medical, this must be documented by a health care provider and verified by the Curry Health Center. A medical hardship withdrawal will only be granted in cases of extreme hardship resulting from a serious or life threatening medical condition. In order for a student to receive a hardship withdrawal from The University of Montana, the student must contact the Registrar's Office (non-medical) or the Curry Health Center (if medical) to start the hardship withdrawal process. Upon approval of a hardship withdrawal, the Registrar will enter the appropriate withdrawal information on the student's academic record. A student receiving a hardship withdrawal will be eligible for a tuition waiver equal to the currently paid amount for the first semester of re-enrollment after a hardship withdrawal has been approved, for up to two (2) years, if the student meets the following criteria:

1. Is a degree seeking student, and
2. Is either a resident or non-resident student, and
3. Is a continuing student, and
4. Is maintaining satisfactory progress based upon The University of Montana's scholastic regulations.

Business Services will calculate the tuition waiver amount for all approved hardship withdrawals and will notify the Financial Aid Office of the tuition waiver amount. Upon re-enrollment, the Financial Aid Office will establish a tuition waiver for the eligible student's tuition equal to the pre-determined amount.

Students withdrawing during the first fifteen class days of a semester for medical reasons should contact the Curry Health Center in order to maintain the health insurance coverage. Otherwise, the medical insurance premiums will be automatically refunded and coverage will be lost. The hardship withdrawal process is not the appropriate venue to resolve or petition academic matters. Such concerns must be addressed in the student’s respective department, school, or college. In addition, the hardship withdrawal process is not an alternative means to drop classes after the normal drop date, to remove unwanted grades, or preclude resulting academic/financial aid actions (warning, probation, suspension, etc.)

**Late Registration**

A student who does not complete registration, including payment of fees or finalizing via Cyberbear.umt.edu, during the scheduled registration period (see current Schedule of Classes) is assessed a late registration fee of $40.00. After the fifteenth class day, a petition is required to register and, if approved, an additional $80.00 will be assessed.

**Returned Checks**

A charge of $15.00 will be assessed on checks (paper or electronic) returned from the bank. Any check tendered in payment of registration fees and not honored by the bank upon which it is drawn may result in cancellation of a student's registration. The student will be assessed the late registration fee of $80.00 maximum in addition to the $15.00 service charge.

**Fee Policy on Drop/Adds**

Students must pay for all courses for which they are enrolled at registration. However, within the first fifteen class days, they may drop or add courses. The courses for which students are enrolled on the fifteenth class day will determine any fee adjustments (see fee schedule) or financial aid adjustments. Beginning the sixteenth class day, courses dropped will not result in a reduction of fees but courses added will increase credit hour enrollment and may result in an additional charge. Payment is due at the time courses are added.

**Drop/Add Processing Fee**

A $10.00 processing fee will be charged for each course that is added or dropped after the fifteenth instructional day. See the summer class schedule for summer session deadlines.

**Deferred Payment Plan**

The Montana University System Board of Regents has authorized a Deferred Payment Plan for students who are unable to pay their bill at the time of finalization for the current term. Students' whose accounts are in good standing, have completed a FAFSA form for the current year, and are not able to secure other reasonable lines of credit through private financial institutions will be eligible. The plan provides for the payment of at least one third of the total fees along with a $30.00 administrative charge at the time of registration, payment of one third approximately 30 days after registration and payment of the full balance approximately 60 days after registration. Registration, tuition, Health Service, Activity, Kaimin, Recycling, Academic Facilities, Computer, Equipment, Athletic, Campus Recreation, Radio, University Center and Building Fees, and Residence Halls and Dining Service charges less any Financial Aid may be deferred. The signing and adherence to the terms and conditions of a promissory note will be required and no fees may be deferred by any person who owes the University any fees, fines, loans or other charges or who has previously deferred fees and failed to make timely payments. A $15.00 fee will be assessed each time a payment is late. This plan is not available for the summer session.

**Monthly Bill Statements**

Monthly bill statements will be mailed to the student's current mailing address displayed in Cyberbear. In addition, an electronic notification will be e-mailed to their official University of Montana e-mail account (http://grizmail.umt.edu). It is the student’s responsibility to check their mail and official University of Montana e-mail account for these statements and notices. Payments for billed amounts are due by the due date indicated on the statements and electronic message. Failure to make timely payments will result in an interest charge assessed on balances not paid in full by the following monthly billing. Payments can be made (1) online in Cyberbear; (2) at the cashiers station located in Griz Central (2nd floor Lommasson Center); or by mailing payments to Student Accounts, Business Services, The University
of Montana, 32 Campus Drive #2304, Missoula, MT 59812-2304.

Non Payment
A student who owes regular fees and charges including room and board or has an overdue debt owed to the University for any fees, fines, or other charges will not be able to register, secure any transcript or record, or access any University facilities or services until the full amount due has been paid or satisfactorily resolved with Business Services. Interest may be charged at the rate of 10% on the balance due from the day after the due date until the full amount has been paid and any attorney's fees or other costs or charges necessary for the collection of the amount owed may be added to the balance due.

Determination of In-State Fee Status
The Montana University System classifies all students as either in-state or out-of-state. This classification affects admission decisions and fee determinations. The basic rules for making the classification are found in Board of Regents' Policy. It is each student's responsibility to secure and review a copy of the policy. Failure to be aware of the rules will not be cause for appeal. Your actions during the 12-month period will be the 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. Can not be claimed as a tax exemption by residents of another state or file taxes a resident 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 educational 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 proof of 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 of the month 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 Regents' policy.

Costs of On-Campus Services

Housing and Dining Services
Students living in University residence halls are required to contract for a meal plan with Dining Services. 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*
2008-09 room rates in University residence halls are:

<table>
<thead>
<tr>
<th>Residence</th>
<th>Autumn/Spring Semesters</th>
<th>Fall/Spring Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lewis and Clark Village</td>
<td>$384.00 per month per person</td>
<td>$1390.00</td>
</tr>
<tr>
<td>Dining Services</td>
<td><em>The prices below are subject to approval by the Board of Regents and may change.</em></td>
<td></td>
</tr>
<tr>
<td>Meal Plan</td>
<td><em>Rates subject to change</em></td>
<td></td>
</tr>
<tr>
<td>All Campus</td>
<td>Autumn/ Spring Semester</td>
<td>$600.00</td>
</tr>
<tr>
<td>Lommasson Plus</td>
<td></td>
<td>$1390.00</td>
</tr>
<tr>
<td>Meals</td>
<td>Autumn/Spring Semesters</td>
<td>Fall/Spring Rates</td>
</tr>
<tr>
<td>All Campus</td>
<td>$600.00</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 a $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)
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 sit at http://www.umt.edu/finaid.

COT students only:
Enrollment Services-Financial Aid Office
909 South Avenue West
Missoula, MT 59801
(406) 243-7886
http://www.cte.umt.edu/departments/enrollment_services/enrollm ent.htm

All other students:
Enrollment Services-Financial Aid
Lommasson Center - Griz Central
Missoula, MT 59812-1254
http://www.umt.edu/finaid/

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 located on line at http://www.umt.edu. The filing deadline is December 31 for new incoming students and February 1 for continuing students. Students are notified in March.

The Western Undergraduate Exchange (WUE) scholarship may be available for applicants from participating states. Applications for a WUE scholarship will be considered if a completed Presidential or Freshman scholarship form is submitted by the deadline. Contact Enrollment Services-Admissions for further information.

Departmental Scholarships
Many departments, including the College of Technology, offer scholarships based on skill or academic potential. Students should contact their major departments for deadlines and more information.

Financial Aid Application
All students who wish to receive any federal funds, including
federal parent loans, need based or most non-need based assistance, must file the Free Application for Federal Student Aid (FAFSA). Applicants are strongly encouraged to use the federal web site at www.fafsa.ed.gov. Students whose FAFSA's are received and processed by the Department of Education by March 1, and who complete all other documentation requirements are given priority for limited funds. It is recommended that the student apply by February 15th. 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 Attendance.

**Financial Aid Package**

Packages of need-based aid can include a combination of grants, loans and work-study. 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 by-weekly 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. 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/financialaid.

**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 completing 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 Academic Progress**

Any student receiving financial aid is required to make satisfactory academic progress in a program leading to a degree. The minimum requirements are to maintain a cumulative grade point average of 2.00 and complete a minimum of 70% of all courses attempted. 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 tuition 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
- 65 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 $30,000 for a four year program. These benefits are very complex and are best understood by stopping in to visit with the Military Science Enrollment Officer.

Students have the opportunity to enroll in both the basic and advance courses offered by the Department of Military Science in the College of Arts and Sciences. The Basic Course is simply the Freshman and sophomore level courses offered by Army ROTC. Instructors and no financial benefits are received for enrolling unless the student is on a scholarship. The Advanced Course refers to our junior and senior level courses. All advanced course students are contracted and receive financial benefits. We welcome student involvement in Land Navigation and Drill and Conditioning courses but no benefits are provided for enrollment in these classes.

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## Services

### Housing and Dining Services

**Residence Halls Community**

The University of Montana-Missoula residence halls' community is very much a part of the total University and Missoula communities. The campus is a center for educational, cultural, and social activities. Residing in residence halls places the student at the center of these activities. Our mission is creating an atmosphere that is safe, provides for individual growth, and promotes academic exploration and learning. The University houses nearly 2300 students in nine residence halls on campus. The residence halls staff are resource people. Sharing ideas, observations or questions with them will benefit residents. Resident Assistants offer help when students experience problems with University life.

The University of Montana-Missoula requires all freshmen and students who have earned fewer than 30 semester credits to reside in the University's residence halls. Students are required to continue residence hall living until the student earns 30 semester credits. Any student who moves into a residence hall at the beginning of the semester is required to reside in the residence hall for the entire semester. (However, students must be enrolled for at least seven credits to be eligible to live in a residence hall.) Exceptions to residence hall living are made for students who reside with their parents and for students who are married or are single parents. Other exceptions are made under special circumstances on an individual basis. Any student requesting an exception to the residency requirements must submit a request in writing, accompanied by supporting documentation, to the Director of Residence Life. Students are not released from the residency requirements until the student receives an official notification from the Director of Residence Life.

Students who have earned 30 semester credits or more are not subject to the residency requirements but are encouraged to live on campus. All students living in the residence halls are required to contract for one of the on-campus meal plans. Rooms in residence halls are provided in order of application. Freshman students required to live in Residence Halls who submit their residence hall application and $220.00, which is a $20 non-refundable processing fee and a $200 prepayment, by the priority Admission deadline of March 1, will be guaranteed permanent housing assignments. Application forms and information may be obtained on the Residence Life Office website at [www.umt.edu/reslife](http://www.umt.edu/reslife). A number of rooms have been designed to accommodate students with disabilities. Application for these rooms is made to the Residence Life Office. The Director of Residence Life or the Office of Disability Services for Students, (406) 243-2243, should be contacted to ensure the necessary accommodations are provided or visit our website at [www.umt.edu/reslife](http://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 preference such as age, smoking, alcohol consumption, and length of agreement.

**HOW TO APPLY**

Applications are available on the website at [www.umt.edu/reslife](http://www.umt.edu/reslife), by calling in a request to the Residence Life Office at 406-243-2611, or sending an email message to housing@msou.umt.edu. Your application must be accompanied by $320.00, ($20.00 which is a non-refundable processing fee and a damage deposit of $300.00). A complete set of policies, photos and site map are available on the website at [www.umt.edu/reslife](http://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, University Center Food Court, Biz Buzz, and Think Tank. All University Dining Services locations accept cash, checks, the UM Debit Card and appropriate meal plans. The Food Zoo, located in the Lommasson Center, serves...
nutritious, buffet-style meals with unlimited seconds. The menu includes an ever-changing choice of entrees, homemade soups, an extensive salad bar, fresh fruits, fresh baked desserts, traditional fast food favorites, and vegetarian selections. The Cascade Country Store, located at the west end of the Lommasson Center, boasts a bright, food-court style atmosphere with pizzas, Mexican food, grilled favorites and a fresh deli. Soups, salads, deli sandwiches, Bear Claw Bakery specialties, a wide variety of grocery items, organic products, health and beauty aids are just some of the options available. The expansive outside deck is a popular stop for many students.

For a peak experience you’ll never forget... stop by La Peak, located in the Pacific Hall Center. La Peak features Craven’s gourmet coffee and espresso drinks, fresh crepes and Bear Claw Bakery goodies. The log furniture and lodge-like atmosphere make a great place to meet and socialize with friends.

The UC Food Court, located on the second floor of the University Center, rivals all other food courts with a contemporary, open atmosphere, and exceptional cuisine. Food choices include Pizza Hut, Garden City Greens, Soups & Such, Casa Nina, Mask Pi, Wing Shop, and Doc’s Sandwiches.

Biz Buzz, located on the lower level of the Gallagher Business Building can help you jump start your day with a fresh cup of Starbucks’ coffee, espresso, Chai tea, and a bagel or fresh baked goodie.

The Think Tank, located above the Urey Lecture Hall, offers Liquid Planet gourmet coffee, espresso, Chai tea, and a bagel or fresh baked goodie.

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The Think Tank, located above the Urey Lecture Hall, offers Liquid Planet gourmet coffee, espresso, Chai tea, and a bagel or fresh baked goodie.

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 656 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 six (6) credits per calendar year. The student must be registered for at least seven (7) credits the first semester of occupancy. Priority is given to students who are married or otherwise have a legal dependent relationship with another adult; single parents with at least one (1) legal dependent living in the apartment; and single students with disabilities who require a live-in care attendant. Single students may be assigned apartments if other priority applicants do not occupy all available units. Students residing in University Village must demonstrate satisfactory progress toward an educational degree by earning a minimum sixteen (16) credits per calendar year. After the initial year of residency, satisfactory progress is based upon credits earned during the preceding calendar year. In addition, a student or family with one or more members working toward an educational degree will have priority occupancy for a maximum of six (6) calendar years. Any exception from the above residency policies requires a written request for exception submitted to the University Village Office. The request is not approved until written consent is received from the University Village Office.

Housing is assigned according to the date of application and notification is given approximately twenty (20) days before housing becomes available. All applications must be updated every six (6) months in order for applicants to remain on the assignment list. A $250.00 deposit must be submitted when an apartment is assigned. The deposit is refundable when the rental agreement is terminated provided the apartment rental fees are current and no damage or cleaning fees are assessed. The deposit is forfeited if the student cancels after accepting the assigned apartment.

Due to the demand for University Village housing, the University Village Housing Office should be contacted early to make reservations and obtain detailed information including an application or visit our website at www.umt.edu/reslife.

Applications must be accompanied by a $20.00 processing fee.

Personal Property

The University of Montana-Missoula is not responsible, by state law, for damage to, or theft of, the personal property of students on campus (for example: damage to clothing or a stereo due to fire, smoke or water). Students are encouraged to adequately insure their personal property and to protect their property by locking their room/apartment and car and taking other simple precautions to prevent theft and damage.

Career Services

The Office of Career Services assists students in developing viable career objectives and the plans necessary to achieve those goals. Assistance is also provided to students and UM alumni who wish to modify their career goals and improve their employment options. Career Services provides a wide array of services designed to facilitate the transition from education to employment, including: career counseling and assessments; workshops on such topics as resume writing, interviewing and job search strategies; videotaped mock interviews; on-campus interviews with employers; career counseling services for teachers; alumni referral network program, an on-line job vacancy service, and student employment.

Career Services maintains an extensive on-line library of current resources on general and specific career options, resume, interviewing and job search reference materials and employment resources from companies, school districts and government entities. The Big Sky Career Fair is open to all students and is held in the spring semester. The Accounting and Health Professions Career 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 students 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, e-mail: careers@mso.umt.edu or visit our web site at: www.umt.edu/career.

Student Employment

Student Employment provides the opportunity for students and employers to connect. 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 Fair every fall. We also coordinate National Student Employment Week and the Student Employee of the Year (SEOTY) Award. For additional information, contact the office of Student Employment at 154 Lommasson Center, call (406) 243-5627, email studentjobs@msou.montana.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, PTCB, Novell, Sun Microsystems, etc. Additionally, Testing Services provides proctoring for faculty and online educational testing. For additional information, contact Testing Services at 154 Lommasson Center, call (406) 243-6257, email: testingservices@umontana.edu or visit: www.umt.edu/career/testing-services.

Internship Services
Internships are available to students in most disciplines offered at The University of Montana-Missoula. Internships allow a student to work in a field related to his or her academic and career goals while utilizing skills learned in the classroom. Internships are offered locally, state-wide, nationally and internationally in a variety of agencies including government, non-profits, and business. Information, applications and forms are available at Internship Services 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, a student affairs office, leads the University's program access efforts. Disability Services 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, Disability Services vigorously pursues the removal of informational, physical, and attitudinal barriers to all University programs. "Expect Access," the Disability Services 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 Disability Services prior to arriving on campus. For additional information, contact Disability Services' Director Jim Marks, Lommasson Center 154 or (406) 243-2243 (Voice/Text) or jim.marks@umontana.edu. Please visit the Disability Services homepage to find details on our services at www.umt.edu/dss/.

Foreign Student and Scholar Services
The office of Foreign Student and Scholar Services (FSSS) assumes responsibility for the general welfare of foreign students at The University of Montana from admission to graduation and practical training. It provides direct support services, consultation, and liaison. The office assists in the reception and orientation of foreign students and helps with their 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 UM Global Partner Program, a campus peer-mentoring program. It offers educational exchange programs with summer break activities, as well as direct and on-going orientation and educational programs on relevant topics. FSSS manages the campus' International House, an activity center for inter-cultural events.
Foreign Student and Scholar Services works closely with other service and advising offices on campus to optimize those services and their visibility to foreign students.
Foreign Student and Scholar Services prepares certificates or petitions for the Exchange visitor J-1 visa and advises foreign scholars who need to change or extend their visa status, travel temporarily out of the United States or bring dependents to this country. Finally, the office serves as liaison to federal agencies dealing with foreign student and scholar concerns, such as the US Citizenship and Immigration Service, Department of Labor, Department of State, Internal Revenue Service and Social Security Administration. For more information visit our website at: www.umt.edu/fsss/ or contact us at fsss@umontana.edu.

Office of International Programs
The Office of International Programs administers all campus-wide student, faculty, and staff exchange programs with international institutions and serves as the information and referral center for UM Faculty Directed Study Abroad programs. A wide variety of short and long term overseas study opportunities are available to UM students. The University of Montana-Missoula has direct student exchange agreements with universities in Australia, Canada, Chile, China, Denmark, Finland, Japan, Korea, Mexico, Morocco, New Zealand, Taiwan, Thailand and the United Kingdom. The office also administers the International Student Exchange Program (ISEP) which provides students with the opportunity to study at one of over 130 universities in 35 countries. Information is available regarding other study abroad programs and financial resources, including the Fulbright program. For additional information, contact the office of International Programs, International Center, call (406) 243-2288, e-mail goabroad@msou.montana.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, Atong National University, Inukura 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@msou.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
Services in the Medical Clinic, Health Enhancement and the
Student Assault Resource Center are available to all students.
Services in the Counseling Center and the Dental Clinic are
available only to students who pay the Curry Health Fee.
We recognize the busy nature of student schedules and seek to
provide accessibility for both urgent needs and more routine
care via appointments or drop-ins. We are happy to coordinate
care with providers "at home" or assist with referral to
community resources for problems beyond the scope of CHC.

Medical Services - 406-243-4330
Curry Health Center provides both primary health care
services as well as urgent care services to the University of
Montana student population.

Our primary care services include:
- Routine annual exams
- Sports physicals
- Health screens
- STD screens
- Women's Health
- PAP smears
- Birth control
- Colposcopy
- Depo-Provera injections
- Travel planning
- Immunizations
- Allergy shot administration
- Management of depression and anxiety
- Acne management
- Insomnia
- Mole checks/mole removals

Our urgent care services include:
- Care for minor illness/conditions such as:
  - Colds
  - Flu
  - Sore throat
  - Mono
- Gastroenteritis
- Urinary tract infections
- Upper respiratory infections
- Mild to moderate asthma exacerbations
- Migraine headache
- Sinus infection
- Care for minor injuries such as:
  - Simple lacerations that require stitches
  - Splinting or casting of simple fractures
  - Sprains/strains of muscles and joints
  - Mild concussion
  - Wound infections

If you have questions, or wish to schedule an appointment,
contact us at 243-4330.

Counseling and Psychological Services - 243-4711
Counseling and Psychological Services (CAPS) provides rapid
access and brief therapy for UM students. CAPS also serves
the urgent care 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 psychological
evaluations 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
1. Emergency dental care.
2. Fillings, root canals, simple extractions, crown and bridge
   procedures (as time permits).
3. Teeth cleaning, periodontal scaling, and oral hygiene
   procedures.
4. Routine exams and X-rays ('checkups') on a limited basis
   per year.
5. Night guards for TMJ disorders and protection from
   grinding.

Referrals to specialists or other dentists are provided for
students whose dental needs are beyond the scope/capabilities
of the clinic, e.g., oral surgery, complex root canals,
orthodontics, dentures, etc. Charges incurred at private offices
are the student's responsibility.

The Student Insurance plan does not cover dental charges.

Health Enhancement - 243-2809
The Health Enhancement Department of Curry Health Center
provides health education and wellness services to students to
help them stay safe and healthy, now and in the future. Health
Enhancement is also the home of the nationally recognized
peer education program Peers Reaching Out (PROs). PROs
provide programming on health issues that affect students like
healthy sexuality, safer sex, contraception, alcohol poisoning,
safe partying, nutrition, and stress management. The CARE
program, which provides free condoms through representatives
that live in the dorms and Greek houses, is also part of Health
Enhancement. Call us if you would like to be a PRO or a
CARE Representative.

Services include: free quit smoking and quit spit tobacco kits,
free condoms and safer sex supplies, nutrition information, stress management assistance, and wellness counseling.

**Student Assault Resource Center - 24-Hour Help - 243-6559 Office - 243-5244**

Student Assault Resource Center (SARC) 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. SARC 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 SARC include support groups, workshops, and training as well as an extensive resource library. There is no charge for SARC services. Professional counseling is available by referral to campus or community resources. SARC is located in the basement of the Curry Health Center. Enter through the east entrance (corner of Maurice St. and Eddy Ave). SARC walk-in hours are 10:00 a.m. to 5:00 p.m., Monday through Friday, when the University is in session.

**Health Services Pharmacy - 243-5171**

The Health Services Pharmacy, located in the Curry Health Center building, offers students a complete prescription service and accepts many 3rd party insurance plans at very reasonable rates. The pharmacy is operated by the School of Pharmacy in cooperation with Curry Health Center and is used for training pharmacy students under the supervision of registered pharmacists.

**Medical Insurance Billing - 243-2844**

Because of your privacy rights and concerns, Curry Health Center will not automatically bill your insurance plan for services received at CHC. If you would like to file an insurance claim for services received at Curry Health Center, you must request this through the Student Insurance Office located in CHC. CHC will assist you in filing insurance claims so that your insurance company will reimburse you directly. Because your insurance company reimburses you directly, you are responsible for paying charges incurred at CHC, not your insurance company. CHC is not a Medicare/Medicaid provider, nor do we accept direct payments from insurance companies.

**Clinical Psychology Center**

The Clinical Psychology Center (CPC) is a training clinic for doctoral students in Clinical Psychology operated by the Department of Psychology. The CPC offers a wide range of psychological services to the Missoula community (both students and non-students), including: individual, couples, child, family and group psychotherapy and psychological testing. All services are confidential, and all clients are charged on a sliding fee schedule. The CPC is located at 1444 Mansfield Avenue, on campus. To make an appointment, call: (406) 243-2367.

**Physical Therapy Clinic**

The UM Sports and Orthopedic Physical Therapy Clinic is open to all UM students, faculty and staff for the evaluation and treatment of problems related to injuries, surgeries and pain that limit or affect activities. The Physical Therapy Clinic Office is located in room 129 of the Skaggs Building, across from the Urey Underground Lecture Hall. The clinic is staffed by licensed physical therapists who are board certified in sports medicine, orthopedics and manual therapy. The clinic is a valuable component of the professional physical therapy program. The clinic is open Monday through Friday from 10:00 - 5:00 p.m. 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/massage 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, Special Events, Art Fair, Art Gallery, Art Exhibits, UC Theater, MultiCultural Alliance, Game Room, and the Center for Leadership Development, home to the Ursa Major Student Leadership Program. Visit us online at www.umt.edu/uc.

**Sports and Recreation**

Organized sports and recreational activities are an important part of academic and leisure life at the University.

**Intercollegiate Athletics**

The University of Montana-Missoula is a Division I member of the National Collegiate Athletic Association, and the nine-member Big Sky Conference. The athletic program consists of 14 varsity teams. The men's program includes competition in basketball, cross country, football (Football Championship Subdivision), indoor and outdoor track, and tennis. The women’s program offers competition in basketball, cross country, tennis, indoor and outdoor track, volleyball, golf, and soccer. The teams go by the nicknames Griz and Lady Griz. Athletic scholarships are offered in all sports.

**Recreation**

The Campus Recreation Department offers a wide variety of services and programs to the students, faculty and staff of The University of Montana-Missoula. A comprehensive intramural sports program provides opportunities for men’s, women’s and co-recreational team competition and individual events. Recreational facilities include gymnasia, weight rooms, and indoor running track, handball and racquetball courts, tennis courts, indoor swimming pool, and indoor climbing wall, and a golf course. Sports equipment such as balls, bats, gloves, etc. can be checked out for free and other equipment such as volleyball, nets, badminton sets, and horseshoes require a cash deposit. The Recreation Center in the University Center offers video games, billiards and table tennis for student use. The Outdoor Program offers services to students, faculty, staff and the general public, supplying information, training, and education about outdoor pursuits and sports. Classes are offered on a non-credit basis for activity credits through the Health and Human Performance Department. The Outdoor Program also organizes outdoor trips.

**University Golf Course**

The University of Montana-Missoula has a picturesque nine/eighteen hole golf course open to students, faculty, and staff, as well as the general public. It is located approximately one-half mile south of the main campus. The course has a clubhouse restaurant, driving range, putting and chipping green. The pro shop is well-stocked and club and cart rentals are available. Private lessons are offered by appointment with an assortment of rate structures.

**Grizzly Pool**
The University of Montana Grizzly Pool is a 7-lane, 25-yard indoor pool. Present programs include: fitness swims, recreational swims, classes for all ages (infant to adult), life guarding and WSI classes, pool rentals, Swim Shop, and competitive skills lessons.

Community Services

Bureau of Business and Economic Research

The Bureau of Business and Economic Research has been providing information about Montana’s state and local economies for over 50 years and is proud to be the most comprehensive economic analysis center in the state. House on the campus of The University of Montana-Missoula, the Bureau is the research and public service branch of the School of Business and Administration. On an ongoing basis, the Bureau:
- analyzes local, state, and national economies
- provides annual income, employment and population forecasts
- conducts extensive research on forest products, manufacturing and health care and Montana Kids Count
- designs and conducts comprehensive survey research at its on-site call center
- presents annual economic outlook seminars in cities throughout Montana
- publishes the award-winning Montana Business Quarterly

Montana Cooperative Wildlife Research Unit

The Unit investigates basic and applied problems in wildlife ecology and management. Graduate students majoring in Wildlife Biology or Biological Sciences, conduct much of the research supported through the Unit by USGS-Biological Resources Division, Montana Fish, Wildlife and Parks, and numerous other agencies and groups.

Montana Campus Compact

The University of Montana is a member in good standing of The Montana Campus Compact. MTCC is a statewide coalition of college presidents and chancellors committed to campus-community collaborations and civic engagement.

American Humanics

The University of Montana is an affiliate of the national American Humanics, Inc. The American Humanics program at UM is designed to be a degree enhancement certification program that complements a student’s major. The program provides students with academic and extra-curricular opportunities to gain skills and abilities in preparation for professional careers in the nonprofit sector. All American Humanics students acquire knowledge and skills in general nonprofit management, fund-raising principles and practices, board committee development, program planning, and grant writing. The Office for Civic Engagement operates the American Humanics program in addition to the minor in nonprofit administration. For more information contact (406) 243-5159 or browse the website at www.dhc.umt.edu/hec/humancis.htm.

Facilities

Information Technology

Information Technology (IT) is a campus service organization that provides computing and communication resources in support of the instructional, research, administrative, and public service activities of The University of Montana. IT maintains and operates complex information systems to support the University’s administrative activities and offers a variety of technology support services to assist the University in using the resources and services that IT is responsible for providing. The IT organization consists of the following areas: Campus Computing, Network, Directory and Telecommunication Services, Enterprise Information Systems, and Technology Support Services.

Additional information about IT services and facilities may be obtained at the IT website: http://www.umt.edu/it or by
contacting IT Central at 243-HELP (x4357).

**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 functioning as the Shafizadeh Experiment. 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) 342-6131 or the Office of the Vice President for Student Affairs (406) 243-5225. The University of Montana, Missoula, Missoula, MT 59812. The information can also be accessed on the web at www.umt.edu/studentaffairs/ and www.umt.edu/pulicsafety/campact.htm.

**Student Complaint Procedures**

Under the terms of the Collective Bargaining Agreement between The University of Montana University Faculty Association and The Montana University System, there is a formal procedure for students who have a complaint against a faculty member or an administrator. Information about this procedure is available at www.umt.edu/provost/pdf/cba.pdf under 21.000 on pages 55-59. The ASUM Student Resolution Officer is available to answer questions about procedures and to assist with the process. Time restrictions are important, so student should review procedures immediately if they feel they may have a complaint. The Resolution Officer receives voice mail at 243-5431 or email at asum.resolutionoff@msou.umt.edu.

**Family Educational Rights and Privacy Act of 1974 (Buckley Amendment)**

Consistent with the provisions of the Family Educational Rights and Privacy Act of 1974 and University policy, every person who is or has been a student at this University, and the parents of students under 18 who are not taking postsecondary courses, have the following rights:

1. Upon completion of the appropriate request form and submission thereof to the person responsible for the custody and maintenance of the records, a student has the right to inspect and review within 45 days from the date of initial request that portion of any official record which directly relates to the requesting student and to have a copy thereof upon payment of the cost of the copy. An "official record" is any record intended to be used for "school use" or to be available to parties outside the school or school system, specifically including but not necessarily limited to identifying data, academic work completed, level of achievement (grades, standardized achievement test scores), attendance data, scores on standardized intelligence, aptitude, and psychological tests, interest inventory results, health data, family background information, teacher or counselor ratings and observations, and verified reports of serious or recurrent behavior patterns. 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, dates of attendance, full time/part time status, date of graduation and degree received, school or college, major or class and academic awards or honors. Any student wishing to exercise this right must inform the University Registrar in writing within two weeks after the start of classes of any personally identifiable information which is not to be designated as directory information with respect to that student in that academic year;
5. The right to have available for inspection by the student a written form signed by any representative of the Comptroller General of the United States, the Secretary, or any administrative head of an education agency who requested and was granted access to the records which states the legitimate educational or other interest that each such person had in requesting access to that particular record.
6. The right to have personal student records transferred to third parties only on condition that such parties will not permit any other party to have access to such information without the written consent of the student. All student records transferred to third parties shall have printed or stamped thereon: "No other person may have access to this information without written 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
(406) 449-2884

Complaints must be filed within 60 days of the alleged discrimination if filing with the University Discrimination Grievance Officer and within 180 days if filing with the Montana Human Rights.

Organizations

Alumni Association
The University of Montana Alumni Association, established in 1901 by Eloise Knowles, represents over 80,000 graduates, former students and friends across the world. The mission of the Association, with offices in Brantly Hall, is to "identify and serve the needs of this University, its alumni, students and friends." The Alumni Association sponsors and helps coordinate Homecoming, Charter Day, Distinguished Alumni Awards, Senior Recognition Day, Scholarships, Internships and Commencement Reunions. The Association also co-sponsors with Career Services the Ask-An-Alum program, which connects alumni with currently enrolled students who are exploring career options. Visit their website at www.umontanaalumni.org for more information.

Student Government
By paying the student activity fee, a student becomes a member of the Associated Students of The University of Montana (ASUM). ASUM is governed by officers elected at large - president, vice president and business manager - and a 20-member Senate. Together they have full authority over the ASUM general fund, which consists of the yearly activity fee collections and a total annual cash flow in excess of 1.5 million dollars. The sole power to determine the allocation of the student budget resides with ASUM, pursuant to a 1970 Board of
Regents policy. After the ASUM president presents the annual executive budget recommendation, the Senate determines the final allocations. The business manager and the Budget and Finance Committee, along with the ASUM accountant and office manager, then assume full responsibility for the disbursement of student money. ASUM budgets money to its agencies - ASUM Administration, ASUM Child Care, UM Productions, ASUM Off-Campus Renter Center and ASUM Legal Services - as well as to a wide variety of special interest groups. It also co-sponsors Students Tutoring Students and the UM Advocates. For the special interest groups, ASUM designates special funds available for emergency expenses. Information about these groups may be obtained by visiting http://www.umt.edu/asum/stg_ac.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 and other special events. ASUM hires professional lawyers for Legal Services. Legal services are available to all activity fee-paying students for a minimal one-time fee plus office and court costs. Services include everything from tenant-landlord disputes to major legal needs of students, not including major felonies.

Also ASUM-affiliated are KBGA, a student-run alternative radio station; the ASUM Office of Transportation, which encourages and provides alternative transportation; and the Montana Kaimin.

Student appointments to full-voting membership on ASUM and University committees are made by the ASUM vice-president. Such committees virtually govern many aspects of the University, including curriculum, campus development, and scholarships and loans. Ad hoc committees may be appointed at any time by the ASUM president or vice-president.

ASUM has three semi-autonomous standing committees which share in student governance. Publications Board oversees all ASUM publications. The UC Board is charged with policy making for and administration of the University Center. The Student Political Action Committee oversees student interests in political affairs, both on and off campus, and organizes volunteers for various activities. It also assists the ASUM president in advising the full-time lobbyist hired by ASUM for state legislative sessions.

Special Interest Groups

Students have organized over 200 different special interest groups. Information about them can be obtained in the ASUM Offices in the University Center or by visiting our web site at http://www.umt.edu/asum/stg_ad.htm.

Fraternities and Sororities

The Greek Community of The University of Montana provides a comprehensive educational, social, and living experience for members through the promotion of friendship, leadership, personal development, academics, and services to the University and the Missoula community. The Greek members donate their time and support to over 50 recognized philanthropies. Additionally, they involve themselves in a wide variety of campus leadership organizations, such as Residence Life Staff, PRO's, ASUM Senate, Advocates, Peer Advising, and Mortar Board.

The Greek system has five (5) national fraternities (Sigma Alpha Epsilon, Sigma Chi, Sigma Nu, Kappa Sigma and Sigma Phi Epsilon) and four national sororities (Alpha Phi, Delta Gamma, Kappa Alpha Theta and Kappa Kappa Gamma). Information about Greeks can be obtained in the Office of Greek Life (UC 209B) or by visiting www.umt.edu/greek or calling 243-2005.
## Index

<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Absence policy</td>
<td>21</td>
</tr>
<tr>
<td>Academic advising</td>
<td>20</td>
</tr>
<tr>
<td>Academic Assistance</td>
<td>20</td>
</tr>
<tr>
<td>Academic Officers</td>
<td>4</td>
</tr>
<tr>
<td>Academic policies and procedures</td>
<td>21</td>
</tr>
<tr>
<td>Academic Performance</td>
<td>23</td>
</tr>
<tr>
<td>Academic probation</td>
<td>23</td>
</tr>
<tr>
<td>Academic suspension</td>
<td>23</td>
</tr>
<tr>
<td>Accounting</td>
<td>224, 261</td>
</tr>
<tr>
<td>Accreditation</td>
<td>4</td>
</tr>
<tr>
<td>ACT</td>
<td>12, 17</td>
</tr>
<tr>
<td>Adding and dropping courses</td>
<td>21, 342</td>
</tr>
<tr>
<td>Administration</td>
<td>3</td>
</tr>
<tr>
<td>Administrative Management</td>
<td>225</td>
</tr>
<tr>
<td>Administrative Systems</td>
<td></td>
</tr>
<tr>
<td>Management</td>
<td>277</td>
</tr>
<tr>
<td>Admission</td>
<td>12</td>
</tr>
<tr>
<td>Admission, returning students</td>
<td>16</td>
</tr>
<tr>
<td>Admission review</td>
<td>17</td>
</tr>
<tr>
<td>Admission by examination</td>
<td>16</td>
</tr>
<tr>
<td>Advanced placement</td>
<td>17</td>
</tr>
<tr>
<td>Advising</td>
<td>20</td>
</tr>
<tr>
<td>Affiliated campuses</td>
<td>350</td>
</tr>
<tr>
<td>African-American Studies</td>
<td>41</td>
</tr>
<tr>
<td>Alcohol and Drug Guidelines</td>
<td>364</td>
</tr>
<tr>
<td>Alumni Association</td>
<td>365</td>
</tr>
<tr>
<td>American College Testing program</td>
<td>12, 13</td>
</tr>
<tr>
<td>American Humanities</td>
<td>363</td>
</tr>
<tr>
<td>American Politics</td>
<td>157</td>
</tr>
<tr>
<td>Anthropology</td>
<td>42</td>
</tr>
<tr>
<td>Application for certificate or degree</td>
<td>25</td>
</tr>
<tr>
<td>Applied Arts and Sciences</td>
<td>217</td>
</tr>
<tr>
<td>Applied Science</td>
<td>14, 49, 217</td>
</tr>
<tr>
<td>Aquatic</td>
<td>192</td>
</tr>
<tr>
<td>Archaeology</td>
<td>43</td>
</tr>
<tr>
<td>Areas of Study</td>
<td>8</td>
</tr>
<tr>
<td>Art</td>
<td>304</td>
</tr>
<tr>
<td>Arts and Sciences, Applied</td>
<td>217</td>
</tr>
<tr>
<td>Arts and Sciences, College of</td>
<td>39</td>
</tr>
<tr>
<td>Asian Studies</td>
<td>50</td>
</tr>
<tr>
<td>Assault Recovery Services</td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>362</td>
</tr>
<tr>
<td>Associate of Applied Science Degree</td>
<td>14, 25</td>
</tr>
<tr>
<td>Associate of Arts Degree</td>
<td>14, 26, 217</td>
</tr>
<tr>
<td>Associated Students of The University of Montana, ASUM</td>
<td>365</td>
</tr>
<tr>
<td>Astronomy</td>
<td>152</td>
</tr>
<tr>
<td>Athletic training</td>
<td>296</td>
</tr>
<tr>
<td>Athletics</td>
<td>362</td>
</tr>
<tr>
<td>Attendance in classes</td>
<td>21</td>
</tr>
<tr>
<td>Audit status</td>
<td>22</td>
</tr>
<tr>
<td>Bacteriology</td>
<td>62</td>
</tr>
<tr>
<td>Biochemistry</td>
<td>52, 68</td>
</tr>
<tr>
<td>Biological Education</td>
<td>54</td>
</tr>
<tr>
<td>Biological Sciences, Division of</td>
<td>51</td>
</tr>
<tr>
<td>Biological Station</td>
<td>53</td>
</tr>
<tr>
<td>Biology</td>
<td>54</td>
</tr>
<tr>
<td>Board of Regents</td>
<td>4</td>
</tr>
<tr>
<td>Broadcast</td>
<td>336</td>
</tr>
<tr>
<td>Buckley Amendment</td>
<td>364</td>
</tr>
<tr>
<td>Building Maintenance</td>
<td>243</td>
</tr>
<tr>
<td>Bureau of Business and Economic Research</td>
<td>363</td>
</tr>
<tr>
<td>Business</td>
<td>224</td>
</tr>
<tr>
<td>Business Administration</td>
<td>259</td>
</tr>
<tr>
<td>Business and Information Technology Education</td>
<td>278</td>
</tr>
<tr>
<td>Business Technology</td>
<td>224</td>
</tr>
<tr>
<td>Calendar</td>
<td>2</td>
</tr>
<tr>
<td>Campus Recreation</td>
<td>362</td>
</tr>
<tr>
<td>Cancellation of courses</td>
<td>25</td>
</tr>
<tr>
<td>Candidacy for degree</td>
<td>25</td>
</tr>
<tr>
<td>Career Services</td>
<td>359</td>
</tr>
<tr>
<td>Carpentry</td>
<td>243</td>
</tr>
<tr>
<td>Cartography</td>
<td>101</td>
</tr>
<tr>
<td>Catalog governing graduation</td>
<td>25</td>
</tr>
<tr>
<td>Cellular Biology</td>
<td>54</td>
</tr>
<tr>
<td>Central and SW Asian Studies</td>
<td>67</td>
</tr>
<tr>
<td>Certification to teach</td>
<td>276</td>
</tr>
<tr>
<td>Certificate application</td>
<td>25</td>
</tr>
<tr>
<td>Certificate requirements</td>
<td>25</td>
</tr>
<tr>
<td>Change of major</td>
<td>32</td>
</tr>
<tr>
<td>Chemistry</td>
<td>68</td>
</tr>
<tr>
<td>Chinese</td>
<td>137</td>
</tr>
<tr>
<td>Civic Engagement, Office of</td>
<td>363</td>
</tr>
<tr>
<td>Class Attendance/Absence</td>
<td>21</td>
</tr>
<tr>
<td>Class level defined</td>
<td>24</td>
</tr>
<tr>
<td>Classical Civilization</td>
<td>136</td>
</tr>
<tr>
<td>Classical Languages</td>
<td>136</td>
</tr>
<tr>
<td>Classics</td>
<td>136</td>
</tr>
<tr>
<td>Classification of students</td>
<td>24</td>
</tr>
<tr>
<td>CLEP</td>
<td>17</td>
</tr>
<tr>
<td>Clinical laboratory technician</td>
<td>62</td>
</tr>
<tr>
<td>Clinical Laboratory Science</td>
<td>62</td>
</tr>
<tr>
<td>Clinical Psychology Center</td>
<td>362</td>
</tr>
<tr>
<td>College of Arts and Sciences</td>
<td>39</td>
</tr>
<tr>
<td>College of Forestry and Conservation</td>
<td>177</td>
</tr>
<tr>
<td>College of Health Professions and Biomedical Sciences</td>
<td>195</td>
</tr>
<tr>
<td>College of Technology</td>
<td>215</td>
</tr>
<tr>
<td>College Level Examination Program</td>
<td>17</td>
</tr>
<tr>
<td>Communication and Human Relationships</td>
<td>75</td>
</tr>
<tr>
<td>Communication Studies</td>
<td>75</td>
</tr>
<tr>
<td>Communications</td>
<td>218</td>
</tr>
<tr>
<td>Communicative Science and Disorders</td>
<td>291</td>
</tr>
<tr>
<td>Community and Environmental Planning</td>
<td>101</td>
</tr>
<tr>
<td>Community Services</td>
<td>363</td>
</tr>
<tr>
<td>Comparative Literature</td>
<td>78</td>
</tr>
<tr>
<td>Competency requirements</td>
<td>27</td>
</tr>
<tr>
<td>Complaint procedures</td>
<td>364</td>
</tr>
<tr>
<td>Composition, Music</td>
<td>324</td>
</tr>
<tr>
<td>Computational Physics</td>
<td>153</td>
</tr>
<tr>
<td>Computation of cumulative grade average</td>
<td>23</td>
</tr>
<tr>
<td>Computer Support</td>
<td>221</td>
</tr>
<tr>
<td>Computing and Information</td>
<td>363</td>
</tr>
<tr>
<td>Computer Science</td>
<td>79</td>
</tr>
<tr>
<td>Computer Technology</td>
<td>220</td>
</tr>
<tr>
<td>Conduct code</td>
<td>19</td>
</tr>
<tr>
<td>Conservation</td>
<td>188</td>
</tr>
<tr>
<td>Continuing Education</td>
<td>348</td>
</tr>
<tr>
<td>Corequisites</td>
<td>25</td>
</tr>
<tr>
<td>Correspondence study</td>
<td>26</td>
</tr>
<tr>
<td>Counseling Service</td>
<td>361</td>
</tr>
<tr>
<td>Counselor Education</td>
<td>289</td>
</tr>
<tr>
<td>Course numbering system</td>
<td>24</td>
</tr>
<tr>
<td>Course repeats</td>
<td>24</td>
</tr>
<tr>
<td>Courses, technical</td>
<td>18, 25</td>
</tr>
<tr>
<td>Creative Writing</td>
<td>87</td>
</tr>
<tr>
<td>Credit by examination</td>
<td>17, 24</td>
</tr>
<tr>
<td>Credit defined</td>
<td>24</td>
</tr>
<tr>
<td>Credit for military service and schooling</td>
<td>17</td>
</tr>
<tr>
<td>Credit for training programs</td>
<td>17</td>
</tr>
<tr>
<td>Credit load, maximum</td>
<td>24</td>
</tr>
<tr>
<td>Credit maximum</td>
<td>26</td>
</tr>
<tr>
<td>Credit, upper-division</td>
<td>26</td>
</tr>
<tr>
<td>Credits required for certificate</td>
<td>25</td>
</tr>
<tr>
<td>Credits required for degree</td>
<td>22</td>
</tr>
<tr>
<td>Credits required for major</td>
<td>32</td>
</tr>
<tr>
<td>Credits required for minor</td>
<td>32</td>
</tr>
<tr>
<td>Criminology</td>
<td>170</td>
</tr>
<tr>
<td>Cross-listed courses</td>
<td>24</td>
</tr>
<tr>
<td>Culinary Arts</td>
<td>226</td>
</tr>
<tr>
<td>Cumulative grade average</td>
<td>23</td>
</tr>
<tr>
<td>Curriculum and Instruction</td>
<td>274</td>
</tr>
<tr>
<td>Curry Health Center</td>
<td>361</td>
</tr>
<tr>
<td>Customer Relations</td>
<td>225</td>
</tr>
<tr>
<td>Cytotechnology</td>
<td>62</td>
</tr>
<tr>
<td>Dance</td>
<td>308</td>
</tr>
<tr>
<td>Davidson Honors College</td>
<td>35</td>
</tr>
<tr>
<td>Deans List</td>
<td>24</td>
</tr>
<tr>
<td>Declaring Major</td>
<td>25</td>
</tr>
<tr>
<td>Deferred payment</td>
<td>354</td>
</tr>
<tr>
<td>Degree application</td>
<td>25</td>
</tr>
<tr>
<td>Degree candidacy</td>
<td>25</td>
</tr>
<tr>
<td>Degree programs</td>
<td>8</td>
</tr>
<tr>
<td>Degree Requirements</td>
<td>25</td>
</tr>
<tr>
<td>Dental Services</td>
<td>361</td>
</tr>
<tr>
<td>Diesel Technology</td>
<td>244</td>
</tr>
<tr>
<td>Dining Services</td>
<td>355, 358</td>
</tr>
<tr>
<td>Directory Information</td>
<td>364</td>
</tr>
<tr>
<td>Directory, telephone</td>
<td>2</td>
</tr>
<tr>
<td>Disability services</td>
<td>21, 23, 360</td>
</tr>
<tr>
<td>Discrimination</td>
<td>365</td>
</tr>
<tr>
<td>Distance Education</td>
<td>16</td>
</tr>
<tr>
<td>Distributional requirements</td>
<td>29</td>
</tr>
<tr>
<td>Division of Biological Sciences</td>
<td>51</td>
</tr>
<tr>
<td>Double degree</td>
<td>26</td>
</tr>
<tr>
<td>Double major</td>
<td>32</td>
</tr>
<tr>
<td>Drama</td>
<td>308</td>
</tr>
<tr>
<td>Dropping and adding courses</td>
<td>21, 354</td>
</tr>
<tr>
<td>Drug Guidelines</td>
<td>364</td>
</tr>
<tr>
<td>Early Admission</td>
<td>18</td>
</tr>
<tr>
<td>Earth Sciences</td>
<td>108, 279</td>
</tr>
<tr>
<td>Ecology</td>
<td>54</td>
</tr>
<tr>
<td>Economics</td>
<td>83</td>
</tr>
<tr>
<td>Education</td>
<td>273</td>
</tr>
<tr>
<td>Educational Leadership</td>
<td>292</td>
</tr>
<tr>
<td>Educational Opportunity</td>
<td></td>
</tr>
<tr>
<td>Topic</td>
<td>Page</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Office for Civic Engagement</td>
<td>363</td>
</tr>
<tr>
<td>Omnibus</td>
<td>24</td>
</tr>
<tr>
<td>Options</td>
<td>8, 32</td>
</tr>
<tr>
<td>Organismic Biology and Ecology</td>
<td>56</td>
</tr>
<tr>
<td>Organizational Communication</td>
<td>75</td>
</tr>
<tr>
<td>Organizations</td>
<td>365</td>
</tr>
<tr>
<td>Orientation</td>
<td>20</td>
</tr>
<tr>
<td>Paralegal Studies</td>
<td>229</td>
</tr>
<tr>
<td>Parasitology</td>
<td>62</td>
</tr>
<tr>
<td>Parking</td>
<td>356</td>
</tr>
<tr>
<td>Performance, Music</td>
<td>321</td>
</tr>
<tr>
<td>Personal Property</td>
<td>359</td>
</tr>
<tr>
<td>Perspectives</td>
<td>29</td>
</tr>
<tr>
<td>Pharmacology</td>
<td>69</td>
</tr>
<tr>
<td>Pharmacology/Pharmaceutical Sciences</td>
<td>201</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>196</td>
</tr>
<tr>
<td>Pharmacy Technology</td>
<td>236</td>
</tr>
<tr>
<td>Philosophy</td>
<td>149</td>
</tr>
<tr>
<td>Photojournalism</td>
<td>337</td>
</tr>
<tr>
<td>Physical Education</td>
<td>296</td>
</tr>
<tr>
<td>Physical Geography</td>
<td>101</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>203</td>
</tr>
<tr>
<td>Physical Therapy Clinic</td>
<td>362</td>
</tr>
<tr>
<td>Physical Education</td>
<td>132</td>
</tr>
<tr>
<td>Placement Testing</td>
<td>24, 135</td>
</tr>
<tr>
<td>Plagiarism</td>
<td>23</td>
</tr>
<tr>
<td>Political Science</td>
<td>157</td>
</tr>
<tr>
<td>Political Science-History</td>
<td>157</td>
</tr>
<tr>
<td>Practical Ethics Center, The</td>
<td>361</td>
</tr>
<tr>
<td>Practical Nursing</td>
<td>236</td>
</tr>
<tr>
<td>Pre-Engineering</td>
<td>161</td>
</tr>
<tr>
<td>Pre-Law</td>
<td>161</td>
</tr>
<tr>
<td>Pre-Medical Sciences</td>
<td>67</td>
</tr>
<tr>
<td>Pre-Nursing</td>
<td>162</td>
</tr>
<tr>
<td>Pre-Pharmacy</td>
<td>197</td>
</tr>
<tr>
<td>Pre-Physical Therapy</td>
<td>204</td>
</tr>
<tr>
<td>Prerequisites</td>
<td>24</td>
</tr>
<tr>
<td>Prescription pharmacy</td>
<td>362</td>
</tr>
<tr>
<td>Privacy</td>
<td>364</td>
</tr>
<tr>
<td>Probation</td>
<td>23</td>
</tr>
<tr>
<td>Provisional Admission</td>
<td>12</td>
</tr>
<tr>
<td>Psychology</td>
<td>163, 219</td>
</tr>
<tr>
<td>Public Administration</td>
<td>158</td>
</tr>
<tr>
<td>Public Health</td>
<td>211</td>
</tr>
<tr>
<td>Public Law</td>
<td>158</td>
</tr>
<tr>
<td>Public Safety Report</td>
<td>364</td>
</tr>
<tr>
<td>Pure Mathematics</td>
<td>128</td>
</tr>
<tr>
<td>Radio-Television</td>
<td>336</td>
</tr>
<tr>
<td>Radiologic Technology</td>
<td>237</td>
</tr>
<tr>
<td>Readmission</td>
<td>16</td>
</tr>
<tr>
<td>Recreation Management</td>
<td>186</td>
</tr>
<tr>
<td>Recreation programs</td>
<td>362</td>
</tr>
<tr>
<td>Recreation Resources Management</td>
<td>186</td>
</tr>
<tr>
<td>Recreational Power Equipment</td>
<td>244</td>
</tr>
<tr>
<td>Refund of fees</td>
<td>353</td>
</tr>
<tr>
<td>Regents</td>
<td>4</td>
</tr>
<tr>
<td>Registration</td>
<td>21</td>
</tr>
<tr>
<td>Reinstatement</td>
<td>23</td>
</tr>
<tr>
<td>Religious Studies</td>
<td>167</td>
</tr>
<tr>
<td>Remedial Services</td>
<td>23</td>
</tr>
<tr>
<td>Repeating a course</td>
<td>24</td>
</tr>
<tr>
<td>Requirements, general degree</td>
<td>25</td>
</tr>
<tr>
<td>Reserve Officers Training Corps</td>
<td>133, 358</td>
</tr>
<tr>
<td>Reserved rights</td>
<td>2</td>
</tr>
<tr>
<td>Residence halls</td>
<td>355, 358</td>
</tr>
<tr>
<td>Residence credit requirement</td>
<td>26</td>
</tr>
<tr>
<td>Residence status for fee purposes</td>
<td>355</td>
</tr>
<tr>
<td>Resource Conservation</td>
<td>188</td>
</tr>
<tr>
<td>Respiratory Care</td>
<td>238</td>
</tr>
<tr>
<td>Retention</td>
<td>23</td>
</tr>
<tr>
<td>Rhetoric and Public Discourse</td>
<td>76</td>
</tr>
<tr>
<td>Rights, student</td>
<td>364</td>
</tr>
<tr>
<td>Rights, University</td>
<td>2</td>
</tr>
<tr>
<td>RÖTC</td>
<td>133, 358</td>
</tr>
<tr>
<td>Russian</td>
<td>137</td>
</tr>
<tr>
<td>Russian Studies</td>
<td>168</td>
</tr>
<tr>
<td>Sales and Marketing</td>
<td>227, 263</td>
</tr>
<tr>
<td>SAT</td>
<td>12, 17</td>
</tr>
<tr>
<td>Satisfactory Progress</td>
<td>23, 356</td>
</tr>
<tr>
<td>Scholarship requirements</td>
<td>23</td>
</tr>
<tr>
<td>Scholarship information</td>
<td>356</td>
</tr>
<tr>
<td>Scholastic Aptitude Test</td>
<td>13</td>
</tr>
<tr>
<td>Science</td>
<td>169, 219</td>
</tr>
<tr>
<td>Second bachelor degree</td>
<td>26, 31</td>
</tr>
<tr>
<td>Secondary teaching certificate</td>
<td>276</td>
</tr>
<tr>
<td>Security Report</td>
<td>364</td>
</tr>
<tr>
<td>Self-Over-Substance</td>
<td>361</td>
</tr>
<tr>
<td>Senior Citizen Fee Waiver</td>
<td>357</td>
</tr>
<tr>
<td>Servicemembers Opportunity</td>
<td>19</td>
</tr>
<tr>
<td>College</td>
<td>258</td>
</tr>
<tr>
<td>Services</td>
<td>258</td>
</tr>
<tr>
<td>Shafizadeh Rocky Mountain Center for Wood and Carbohydrate Chemistry</td>
<td>364</td>
</tr>
<tr>
<td>Skaggs School of Pharmacy</td>
<td>196</td>
</tr>
<tr>
<td>Social Sciences</td>
<td>30</td>
</tr>
<tr>
<td>Social Work</td>
<td>207</td>
</tr>
<tr>
<td>Sociology</td>
<td>169</td>
</tr>
<tr>
<td>Software Systems</td>
<td>78</td>
</tr>
<tr>
<td>Sororities</td>
<td>366</td>
</tr>
<tr>
<td>Spanish</td>
<td>137</td>
</tr>
<tr>
<td>Special admission</td>
<td>18</td>
</tr>
<tr>
<td>Special interest groups</td>
<td>366</td>
</tr>
<tr>
<td>Speech</td>
<td>74</td>
</tr>
<tr>
<td>Sports and recreation</td>
<td>362</td>
</tr>
<tr>
<td>Statistics</td>
<td>128</td>
</tr>
<tr>
<td>Stella Duncan Memorial Institute</td>
<td>362</td>
</tr>
<tr>
<td>Student Assault Resource Center</td>
<td>362</td>
</tr>
<tr>
<td>Student conduct code</td>
<td>19</td>
</tr>
<tr>
<td>Student government</td>
<td>365</td>
</tr>
<tr>
<td>Student Health Services</td>
<td>361</td>
</tr>
<tr>
<td>Student organizations</td>
<td>365</td>
</tr>
<tr>
<td>Student rights</td>
<td>364</td>
</tr>
<tr>
<td>Student services</td>
<td>358</td>
</tr>
<tr>
<td>Student teaching</td>
<td>268</td>
</tr>
<tr>
<td>Student union building</td>
<td>362</td>
</tr>
<tr>
<td>Studies Abroad</td>
<td>136, 360</td>
</tr>
<tr>
<td>Subject areas</td>
<td>8</td>
</tr>
<tr>
<td>Summer Programs</td>
<td>348</td>
</tr>
<tr>
<td>Surgical Technology</td>
<td>239</td>
</tr>
<tr>
<td>Suspension</td>
<td>23</td>
</tr>
<tr>
<td>Symbolic Systems</td>
<td>28</td>
</tr>
<tr>
<td>T course number suffix</td>
<td>19, 25</td>
</tr>
<tr>
<td>Teacher certification</td>
<td>276</td>
</tr>
<tr>
<td>Teaching majors and minors</td>
<td>277</td>
</tr>
<tr>
<td>Technical courses</td>
<td>18, 25</td>
</tr>
<tr>
<td>Technology, College of</td>
<td>215</td>
</tr>
<tr>
<td>Telephone directory</td>
<td>2</td>
</tr>
<tr>
<td>Terrestrial</td>
<td>191</td>
</tr>
<tr>
<td>Tourism and Recreation</td>
<td>364</td>
</tr>
<tr>
<td>Research Institute</td>
<td>364</td>
</tr>
<tr>
<td>Traditional letter grades</td>
<td>22</td>
</tr>
<tr>
<td>Training program credit</td>
<td>17</td>
</tr>
<tr>
<td>Transcripts</td>
<td>25</td>
</tr>
<tr>
<td>Transfer</td>
<td>13, 18</td>
</tr>
<tr>
<td>TrIO</td>
<td>23</td>
</tr>
<tr>
<td>Truck Driving</td>
<td>244</td>
</tr>
<tr>
<td>Tuition</td>
<td>351</td>
</tr>
<tr>
<td>Undergraduate Advising Center</td>
<td>349</td>
</tr>
<tr>
<td>Undergraduate nondegree</td>
<td>15</td>
</tr>
<tr>
<td>University Center</td>
<td>362</td>
</tr>
<tr>
<td>University of Montana, The</td>
<td>350</td>
</tr>
<tr>
<td>affiliates</td>
<td>4</td>
</tr>
<tr>
<td>University officers</td>
<td>4</td>
</tr>
<tr>
<td>University Village</td>
<td>355</td>
</tr>
<tr>
<td>Upper-division requirement</td>
<td>26</td>
</tr>
<tr>
<td>Upper-division Writing</td>
<td>27</td>
</tr>
<tr>
<td>Proficiency Assessment</td>
<td>27</td>
</tr>
<tr>
<td>Upper-division Writing</td>
<td>27</td>
</tr>
<tr>
<td>Expectations</td>
<td>27</td>
</tr>
<tr>
<td>Validation required credit</td>
<td>18</td>
</tr>
<tr>
<td>Vehicle registration fee</td>
<td>356</td>
</tr>
<tr>
<td>Veterans benefits</td>
<td>356</td>
</tr>
<tr>
<td>Vocational-Technical credits</td>
<td>18, 25</td>
</tr>
<tr>
<td>Welding Technology</td>
<td>245</td>
</tr>
<tr>
<td>Western Interstate Commission</td>
<td>19</td>
</tr>
<tr>
<td>for Higher Education</td>
<td>350</td>
</tr>
<tr>
<td>Western Undergraduate Exchange</td>
<td>19</td>
</tr>
<tr>
<td>Exchange</td>
<td>19</td>
</tr>
<tr>
<td>Wilderness Institute</td>
<td>190, 364</td>
</tr>
<tr>
<td>Wilderness Studies</td>
<td>190</td>
</tr>
<tr>
<td>Wild Land Restoration</td>
<td>181</td>
</tr>
<tr>
<td>Wildlife Biology</td>
<td>191</td>
</tr>
<tr>
<td>Withdrawal from the University</td>
<td>22, 353</td>
</tr>
<tr>
<td>Women's and Gender Studies</td>
<td>174</td>
</tr>
<tr>
<td>Women's Studies</td>
<td>122</td>
</tr>
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<td>Wood and Carbohydrate Chemistry, Shafizadeh Center for</td>
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