

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 94% overall placement rate with an overall salary of \$52,172. Many of the College's alumni have attained senior leadership positions in the minerals, energy, and natural resource industry and business. Over 19% of Montana Tech alumni give back to the campus each and every year.

Located in the heart of the mountains of Southwest Montana, the 58-acre main campus can be seen for miles. With over \$20 million in recently completed building and renovation projects, the campus blends its historical buildings with new, state-of-the-art laboratory and instructional facilities. The College's two-year campus is located seven miles south of the main campus and provides occupational and technical program opportunities at the associate degree level.

Montana's geologic and hydrogeologic research arm, the Bureau of Mines and Geology, is a department of the College. Montana Tech's commitment to research has been rewarded with a 500 percent increase in funding over the past ten years. Inquiries to Montana Tech should be directed to 1-800-445-Tech or admissions@mtech.edu or see Tech's webpage at www.mtech.edu.

The University of Montana Western

The unique mission of The University of Montana Western emphasizes experiential learning that combines theory and practice through projects and field experiences. In order to better facilitate this type of learning, UMW has adopted a course scheduling system, termed Experience Once, where students take a single course at a time for about one month. Montana Western embraces as its mission the privilege and obligations to capitalize on its beautiful 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.

Montana Western offers the Bachelor of Science degree in: Elementary Education, Secondary Education with options in traditional subject areas, Business, Early Childhood Education, and Natural Horsemanship. In addition, Montana Western offers Bachelor of Arts (BA) and Bachelor of Applied Science (BAS) degrees. BA options include Biology, Environmental Interpretation, Environmental Science, Literature and Writing, Mathematics, Social Science, and Visual Arts. 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 at Montana Western. UMW also offers Associate of Arts and Associate of Sciences degrees for those who want to obtain their general education before transferring to another campus, Associate of Applied Science degrees for those needing entry-level job skills in Business, Early Childhood Education, Education Studies, Equine Studies, Natural Horsemanship, and Tourism & Recreation; and certificate programs in Early Childhood Technology, and Information Technology & Network Administration.

Individualized education has been a campus hallmark for over 100 years. An average of 1200 students enroll at Montana 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 Montana Western.

In addition to fulfilling academic life, Montana Western offers National Association of Intercollegiate Athletics Frontier Conference sports in football, volleyball, men's and women's basketball and golf, men's and women's National Intercollegiate Rodeo Association teams, and Equestrian team competition. A varied sports program is also available for students seeking intramural activities. Montana Western's geographic location makes an ideal setting for individuals who enjoy the rugged outdoors, including proximity to Yellowstone, Grand Teton, and Glacier national parks 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. Montana Western's picturesque 34-acre campus and friendly atmosphere enhance the community and area. For more information about The University of Montana Western, call 877-683-7331.

African-American Studies

- [Requirements for a Minor](#)
- [Courses](#)
- [Faculty](#)

African-American Studies at The University of Montana connects African and African-America (including Latin America and the Caribbean) history, experiences, and perspectives with 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. Through this study students will recognize that the African-American narrative connects to the core issues of nation formation, identity politics, social movements, and the liberal state. Those who take this minor will likewise be equipped to talk alongside, through, and in the midst of the racial fracture lines that mark this nation as a country where the color of one's skin is socially significant. In all these efforts, we promote scholarship that is driven first and foremost by an interest in creating knowledge and furthering our understanding of the African-American experience. The interdisciplinary curriculum of African-American Studies includes course offerings from the following academic disciplines: anthropology, economics, English, geography, history, music, political science, 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.

1. African-American Core Courses

12 credits required from the following:

- AAS 141H/HSTA 141H Introduction to African American Studies
- AAS/HSTA 342H African American History to 1865
- AAS/HSTA 343H African American History Since 1865
- AAS 345/HSTA 345 The Black Radical Tradition
- 6 credits required from the following electives:
 - AAS 195 Special Topics
 - AAS/HSTR 208H Discovering Africa
 - AAS/HSTA 262 Abolitionism: The First Civil Rights Movement
 - AAS 295 Special Topics
 - AAS 372 African American Identity
 - AAS/HSTA 374 African American Religious Experience
 - AAS 395 Special Topics
 - AAS/HSTA 417 Prayer and Civil Rights
 - AAS 493 Omnibus
 - AAS 495 Special Topics

2. Electives

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

- **Geography**
 - GPHY 243S Africa
- **History**
 - HSTR 262 (HIST 283H) Islamic Civilization: The Classical Age
 - HSTA 330 (HIST 359) Topics in 20th Century U.S. History
 - HSTA 344 (HIST 362) African American Struggle for Equality
 - HSTA 361 (HIST 361H) The American South: From Slavery to Civil Rights
 - HSTA 382 (HIST 363H) History of American Law
 - HSTR 388 (HIST 388H) Africa to 1880
 - HSTR 409 (HIST 409) History of Southern Africa
 - HSTA 418 (HIST 470) Women and Slavery
 - HSTA 419 (HIST 471) Southern Women in Black and White
 - HSTR 439 (HIST 389H) Colonial and Independent Africa since 1884
- **Music**
 - MUS 132L History of Jazz
- **Sociology**
 - SOCI 220S(SOC 220S) Race, Gender and Class
 - SOCI 325 (SOC 325) Social Stratification
 - SOCI 443 (SOC 322) Sociology of Poverty
- **Political Science**
 - PSCI 326H (PSC 326H) Politics of Africa
- **Economics**
 - ECNS 317 (ECON 350) Economic Development
- **English**
 - LIT 343 (ENLT 337) African-American Literature
 - LIT 420 (ENLT 421) Critical Theory
- **Anthropology**
 - ANTH 102S Race and Minorities
 - ANTH 329S Social Change in Non-Western Societies
 - ANTH 330 Peoples of Africa

3. Exit Interview

All minors must meet with the AAS coordinator to discuss their experience and primary learning from the program prior to graduation

4. Honors Designation

Students may elect to achieve an honors designation by writing a twenty-five-page research paper in which they develop an argument based on their class learning about a fundamental problem in the study of the African-American experience as part of a three-credit independent study.

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 141H Introduction to African American Studies 3 cr. Offer autumn. Same as HSTA 141 (HIST 161). This course introduces students to the primary questions, themes, and approaches to African American Studies. In addition to examining key historical periods such as Reconstruction, the Harlem Renaissance, and the Civil Rights era, students will encounter Hip-Hop, African-American film, African-American religion, and contemporary identity politics. This course concludes by discussing the reasons for and new directions in African American studies, including Diasporias studies, Pan-Africanism, and post colonial studies. Overall students will gain new insight into the social, cultural, political, and intellectual, experiences of a diverse people and into the history and contemporary experience of the United States.

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 208 Discovering Africa 3 cr. Offered intermittently. Same as HSTR 208 (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 262 Abolitionism: The First Civil Rights Movement 3 cr. Offered spring. Same as HSTA 262 (HIST 262) 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 342H African American History to 1865 3 cr. Offered intermittently. Same as HSTA 342H (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 343H African American History Since 1865 3 cr. Offered intermittently. Same as HSTA 343H (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 345 The Black Radical Tradition 3 cr. Offered autumn, odd years. Same as HSTA 345. From slave revolts through to the Move rebellion in Philadelphia, this course examines how the African-American community has engaged in radical efforts to change the status quo in the name of seeking justice.

U 347 African American Religious Experience 3 cr. Same as HSTA 347. An examination of the history of religious expression within the African-American community from the colonial era through the twentieth century. Central to the course is the question, "How did religion shape the experience of the African-American community?" Students will also examine the ways in which religious practice influenced social, political, and cultural changes in American history.

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 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 409 History of Southern Africa 3 cr. Offered intermittently. Same as HSTR 409 (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.

U 450 Prayer and Civil Rights 3 cr. An exploration of the meaning of public prayer in the Civil Rights Movement. Combines historical and religious studies inquiry to trace changes in civil rights activists' efforts to make use of religion. Challenges students to consider how meaning is formed through historical action and study the social significance of religious practice.

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.

G 562 Problems in African American Religious History 3 cr. Spring, even years. Same as HSTA 562. This course explores the question, "How does one study African American history?" through the lens of African-American religious practice.

Faculty

Instructors

- **George Price, Ph.D., The University of Montana, 2006**
- **Tobin Miller Shearer, Ph.D., Northwestern University, 2008**

Emeritus Professor

- **Ulysses S. Doss, Ph.D., The Union Institute, 1974**

Department of Anthropology

- [Special Degree Requirements](#)
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John E. Douglas, Chair

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. A minor, Bachelor of Arts, Master of Arts, and Doctor of Philosophy degrees are offered in anthropology, with options or specializations available at every level. For undergraduates, the B.A. can include an option in Archaeology, Cultural and Ethnic Diversity, Forensic Anthropology, Linguistics - or a general degree crafted to the interests of the student. Parallel missions to promote the student of human diversity and experience are advanced by the Linguistics Program and the Central and Southwest Asia Program, which are also housed in the Department. These programs also contribute to the Anthropology undergraduate major, minor and graduate programs, but, because they offer separate degree programs, these are listed individually elsewhere (see index).

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-" (1.70) 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 270S Introduction to Linguistics, 3cr.

Subarea I: Theory and Methods, 6 Credits

- **Anthropological Theory:**
- ANTH 359 Seminars in Archaeology
- ANTH 400 History of Anthropology
- ANTH 404 Anthropological Museology
- ANTH 410 Human Evolution
- ANTH 415 The Emergence of Modern Humans
- ANTH 430 Social Anthropology
- ANTH 450 Archaeological Theory
- **Anthropological Methods:**
- ANTH 314 Principles of Forensic Anthropology

- ANTH 401 Anthropological Data Analysis
- ANTH 402 Advanced Anthropological Statistics
- ANTH 412 Osteology
- ANTH 413 Forensic and Mortuary Archaeology
- ANTH 414 Human Identification
- ANTH 416 Dental Anthropology
- ANTH 431 Ethnographic Field Methods
- ANTH 451 Cultural Resource Management
- ANTH 452 Architecture of the Frontier West
- ANTH 453 Cultural Resource Research Methods
- ANTH 454 Lithic Technology
- ANTH 455 Artifact Analysis
- ANTH 456 Historic Sites Archaeology
- ANTH 466 Archaeological Survey
- ANTH 487 Anthropological Field Experience
- LING 475 Linguistic Field Methods

Subarea II, III, IV, 6 Credits from two areas

- **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 310 Human Variation
- ANTH 343 Culture and Population
- ANTH 388X Native American Health and Healing
- ANTH 417 Adaptation and Nutritional Anthropology
- ANTH 418 Ecology and Genetic Variation in Human Populations
- ANTH 420 Human Behavioral Ecology
- ANTH 444 Culture, Health, and Healing
- **Subarea III: World Societies and Cultures**
- ANTH 251H Foundations of Civilization
- ANTH 252H Archaeological Wonders of the World
- ANTH 323X Native Peoples of Montana
- ANTH 330X Peoples and Cultures of the World
- ANTH 351H Archaeology of North America
- ANTH 352X Archaeology of Montana
- ANTH 354H Mesoamerican Prehistory
- ANTH 357X 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 328 Culture and Identity
- ANTH 329 Social Change in Non-Western Societies
- ANTH 340 Contemporary Issues of Southeast Asia
- ANTH 341X Contemporary Issues of Native Peoples
- ANTH 385E Indigenous Peoples and Global Development
- ANTH 411 Primatology
- ANTH 422 Psychological Anthropology
- LING 470 Introduction to Linguistic Analysis
- LING 473 Language and Culture
- LING 474 Historical Linguistics
- LING 476 Child Language Acquisition
- LING 477 Bilingualism
- LING 479 Pragmatics
- LING 484 North American Indigenous Languages and Linguistics
- LING 489 Morphology

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, 450, 451, and 455; LING 473 & 484.

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 351H, ANTH 352X, ANTH 354H, ANTH 353, ANTH 357, 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, ANTH 467.
- complete 6 credits in one of the following allied disciplines: biology, geography, or geology
- Complete 6 credits in one of the following allied disciplines: Computer Science, Environmental Studies, Forestry, History, 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 310 Human Variation
- ANTH 328 Culture and Identity
- ANTH 330X Peoples and Cultures of the World
- 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 310 Human Variation
- ANTH 314 Principles of Forensic Anthropology
- ANTH 412 Osteology or ANTH 413 Forensic and Mortuary Archaeology
- SOCI 211S (SOC 230S) Introduction to Criminology or SOCI 221 (SOC 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 Phonetics and Phonology
- LING 472 Generative Syntax
- LING 474 Historical Linguistics
- LING 475 Linguistics Field Methods
- LING 473 Language and Culture
- ANTH 484 North American Indigenous Languages and 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	A	S
ANTH 250S Introduction to Archaeology	-	3
ANTH elective	3	-

WRIT 101 (ENEX 101) College Writing I	3	-
M 115 (MATH 117) Probability and Linear Mathematics	3	-
General Education	6	9
Elective	-	3
Total	15	15

Second Year

ANTH 210N Introduction to Physical Anthropology	3	-
ANTH 220S Comparative Social Organization	3	-
LING 270S Introduction to Linguistics	-	3
ANTH electives	3	3
General Education	6	9
Total	15	15

Third Year

ANTH elective	3	-
Upper-division ANTH courses	6	-
Statistics course	-	3
Upper-division electives	-	12
Electives	6	-
Total	15	15

Fourth Year

ANTH elective	3	-
Upper-division electives	12	-
Electives	-	15
Total	15	15

Suggested course of study for students completing the archaeology option:

First Year	A	B
ANTH 250S Introduction to Archaeology	-	3
WRIT 101 (ENEX 101) College Writing I	3	-
M 115 (MATH 117) Probability and Linear Mathematics	3	-
ANTH elective	3	-
General Education	6	9
Elective	-	3
Total	15	15

Second Year

ANTH 210N Introduction to Physical Anthropology	3	-
ANTH 220S Comparative Social Organization	3	-
LING 270S Introduction to Linguistics	-	3
ANTH electives	3	6
General Education	6	6
Total	15	15

Third Year

ANTH 450 Archaeological Theory	3	-
ANTH 455 Artifact Analysis (or ANTH 466 in the fall)	-	3
Upper-Division ANTH courses	3	3
ANTH elective	3	-
Statistics course	-	3
Allied discipline courses (biology, computer science, environmental studies, forestry, geography, geology, history, mathematics)	6	6
Total	15	15

Fourth Year

ANTH 351H, or 352X, 354, 353, 357, 451, 457, 459	3 -
Electives	12 15
Total	15 15

Suggested course of study for students completing the forensic anthropology option:

	First Year	A	B
ANTH 210N Introduction to Physical Anthropology		3	-
ANTH 220S Comparative Social Organization		3	-
ANTH 250S Introduction to Archaeology		-	3
LING 270 Introduction to Linguistics		-	3
WRIT 101 (ENEX 101) College Writing I		3	-
M 115 (MATH 117) Probability and Linear Mathematics		-	3
SOCI 101S (SOC 110S) Principles of Sociology		-	3
General Education		6	3
Total		15	15
	Second Year		
ANTH 286N Survey of the Forensic Sciences		3	-
SOCI 221 (SOC 245) Criminal Justice System		-	3
ANTH 221 Human Genetics (recommended, otherwise an elective)		-	3
Forensic Science related course(s). At least one semester the chosen course should be a General Education Group XI (Natural Science) with laboratory. Recommended: CHMY 121N Introduction to General Chemistry (CHEM 151N) and CHMY 123N Introduction to Organic and Biochemistry (CHEM 152N), or BIOL 106N Principles of Living Systems		3-5	3-5
General Education		3	3
General Education writing class one semester and an elective the other		3	3
Elective		1-3	
Total		15-	15-
		17	17
	Third Year		
ANTH 401 Anthropological Data Analysis (or another statistics course)		3	-
ANTH 314 Principles of Forensic Anthropology		3	-
ANTH 310 Human Variation		-	3
Upper-division ANTH courses (Subareas III, IV)		3	3
Writing Proficiency Assessment		-	-
Forensic Science related course		3	3
Upper division elective		-	3
Elective		-	3
Total		15	15
	Fourth Year		
ANTH 412 Osteology in the Autumn or ANTH 413 Forensic and Mortuary Archaeology in the Spring and an upper division ANTH elective the other semester		3	3
ANTH theory course (Subarea I Anthropological Theory) either semester and an upper division ANTH elective the other semester		3	3
ANTH 488 Forensic Science & Technology (recommended otherwise an upper division elective) either semester and an elective the other semester		3	3
Upper division elective		3	3
Electives		3	3
Total		15	15

Suggested course of study for students completing the linguistics option:

First Year	A	B
ANTH 250S Introduction to Archaeology	-	3
WRIT 101 (ENEX 101) College Writing I	3	-
M 115 (MATH 117) Probability and Linear Mathematics	3	-
ANTH elective	3	-

General Education	6	9
Elective	-	3
Total	15	15

Second Year

ANTH 210N Introduction to Physical Anthropology	3	-
ANTH 220S Comparative Social Organization	3	-
LING 270S Introduction to Linguistics	-	3
ANTH electives	3	3
General Education	6	9
Total	15	15

Third Year

LING 470 Introduction to Linguistic Analysis	3	-
Statistics course	-	3
Upper-division ANTH courses	6	-
ANTH electives	3	12
Elective	3	-
Total	15	15

Fourth Year

LING 471 Phonetics and Phonology	3	-
LING 472 Generative Syntax	-	3
Two of: LING 473, 474, 475 or 484	3	3
Electives	6	6
Total	15	15

Certificate in Forensic Studies

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

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

6 credits in core forensic science courses:

- ANTH 286N Survey of the Forensic Sciences
- ANTH 488 Forensic Science and Technology

6 credits in science:

Appropriate courses include any that have been designated as University of Montana-Missoula General Education Perspective 6 (Natural Science) courses or selected courses from Anthropology (forensics, physical anthropology, archaeology method and theory); Biology, Chemistry; Computer Science; Geology; Mathematical Sciences (statistics); Physics; Psychology; Sociology 110S, criminology.

3 credits in written, oral, or pictorial communication:

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

3 credits in ethics:

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

Requirements for a Minor

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

Lower-Division Core Courses, 12 Credits

- ANTH 210N Introduction to Physical Anthropology
- ANTH 220S Comparative Social Organization

- ANTH 250S Introduction to Archaeology
- LING 270S Introduction to Linguistics

Subarea I, 3 Upper-Division Credits

Subareas II, III, or IV, 3 Upper-Division Credits

Please see the Linguistics section for all LING 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.

Anthropology (ANTH)

U 100H Introduction to Latin American Studies 3 cr. Offered autumn or spring. Same as MCLG 100H. Multidisciplinary 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 103H 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 106H The Silk Road 3 cr. Offered autumn and spring. Same as AS and HSTR 146 (HIST 106H). 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 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, and 498) may count toward graduation.

U 201 Human Sexuality 3 cr. Offered autumn. Same as BIOL 265, WGS 201. 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 214 Central Asia: People and Environments 3cr. Offered autumn. Same as AS, HSTR 241 (HIST214), LS 214. 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 231X Indigenous World View Perspectives 3 cr. Offered spring. Same as NAS 231X. 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 251H 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 283 Islamic Civilization: The Classical Age 3cr. Offered autumn. Same as HSTR 262 (HIST 283). 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 284 Islamic Civilization: The Modern Era 3cr. Offered spring. Same as HSTR 264 (HIST 284). 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 and online spring. A survey of the forensic sciences and related disciplines and their use in criminal investigations, the role of forensic scientists in the investigative process and as expert witnesses.

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

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

U 310 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 autumn. Prereq., ANTH 310 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 humans' rights abuses.

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

UG 324X Indians of Montana Since the Reservation Era 3 cr. Offered intermittently. Same as NAS 324X and HSTA 354x (HIST 354H). Examination of the history of Montana Indians since the establishment of the reservations and contemporary conditions and issues among both reservation and non-reservation Indian communities in the state. Special attention given to social and economic conditions, treaty rights, tribal sovereignty, and legal issues.

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 328 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 ethno-national lines. Emphasis on issues of ethnogenesis, cultural resistance, transformation, domination, colonialism as well as sharing to understand both the cultural commonalities and differences in identity formation.

UG 329 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 330X 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 340 Contemporary Issues of Southeast Asia 3 cr. Offered spring. Prereq., ANTH 220S or AS 101 or AS 102. Same as AS 340. An examination of the major issues that affect the contemporary experience of the Southeast Asians.

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

UG 343 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 3cr. Offered spring. Same as AS 345 and HSTR 358(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 352X Archaeology of Montana 3 cr. Offered spring. The origins, distributions and development of aboriginal cultures in Montana and surrounding regions.

U 353 Paleoindian Archaeology 3 cr. Examines archaeological, linguistic, biological and skeletal data to determine from where and when Native Americans arrived in North America. Examines archaeological sites from such diverse places as Montana, Siberia, Virginia, and Chile to answer the most intriguing question in contemporary American archaeology today: how, when and from where did people first arrive in the Americas?

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 357X 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 385E 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 386 Nationalism in Modern Middle East 3cr. Offered autumn. Same as HSTR 386 (HIST 386). 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 HSTR 368. 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 388X Native American Health and Healing 3 cr. Offered spring. Same as NAS 388X. 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, and 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 402 Advanced Anthropological Statistics 3 cr. Offered spring. Prereq., introductory course in statistics or consent of inst. Focus on techniques used for microcomputer-based data management and multivariate analysis.

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

UG 404 Anthropological Museology 3 cr. Offered spring even-numbered years. Prereq., ANTH 101H. Introduction to anthropological museums, museum work and museum theory.

UG 410 Human Evolution 3 cr. Offered spring even-numbered years. Prereq., ANTH 210N. An exploration of the fossil and archaeological records of the evolution of human beings, and of current methods and theories used in interpreting these data.

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

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

UG 413 Forensic and Mortuary Archaeology 3 cr. Offered spring. Prereq., ANTH 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 consent of instr. An exploration of techniques for conservation and replication of skeletal elements, facial reconstruction, and other techniques for identification of individuals from their skeletal remains.

UG 415 The Emergence of Modern Humans 3 cr. Offered spring odd-numbered years. Prereq., ANTH 210N. An exploration of the emergence of "modern" humans and their relationships with Neanderthals. Exploration of what it means to be "a modern human" through an examination of human evolutionary history.

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

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

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

UG 420 Human Behavioral Ecology 3 cr. Offered intermittently. The study of the evolution of human behavior in cross-cultural perspective.

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 445 Drugs, Society and Culture 3 cr. Drug use in a cross-cultural perspective. The role of drugs in cultural expression and social interaction. Examination of the prehistory of drug use, drug use in traditional non-Western and Western societies, and drug use in the context of global sociocultural change.

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

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

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

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

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

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

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

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

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

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

UG 460 Central Asia Seminar 3 cr. Offered spring. Same as AS 460 and HSTR 441 (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 3cr. Offered autumn and spring. Same as AS and GEOG 457 and HSTR 459 (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 3cr. Offered autumn. Same as AS and GEOG 405 and HSTR 442 (HIST402). 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 467 Archaeological Field School Variable cr. (R-12) Offered summer. prereq., ANTH 250S and consent of instructor. Provides students with a well-rounded experience in archaeological field methods. Field schools will typically occur at archaeological site locations away from campus. During the archaeological field experience, students may learn methods of excavation, survey, research, and analysis to facilitate their transition to careers as professional archaeologists.

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 and online in autumn. Prereq., ANTH 286N or consent of instr. Examination of the forensic sciences with emphases on the non-crime lab forensic sciences, new technologies, and new directions in the forensic sciences.

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

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

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

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

G 501 Historical Anthropology 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 genetic evidence of human biological evolution, morphological and genetic diversity of modern humans, and problems of "race".

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

G 512 Advanced Forensic Anthropology 3 cr. (R-6) Offered spring. Prereq., ANTH 314 and 412 or the equiv. and consent of instr.

Review of traditional methods and exploration of new methods of skeletal analysis, as applied to cases from the forensic collection.

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

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

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

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

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

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

G 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 601 Research Design and Proposal Preparation 3 cr. Offered spring. Prereq., graduate standing. Seminar in the development of anthropological research designs and proposals.

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

G 694 Seminar in Cultural Heritage Variable cr. (R-6) Offered intermittently. Topic varies.

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

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

Faculty

Professors

- Gregory R. Campbell, Ph.D., University of Oklahoma, 1987
- John E. Douglas, Ph.D., University of Arizona, 1990 (Chair)
- S. Neyooxet Greymorning, Ph.D., University of Oklahoma, 1992
- Mehrdad Kia, Ph.D., University of Wisconsin-Madison, 1986 (Director, Central & SW Asia Program)
- Anna M. Prentiss, Ph.D., Simon Fraser University, 1993 (Vice Chair)
- 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
- Kelly J. Dixon, Ph.D., University of Nevada-Reno, 2002

- Kimber Haddix McKay, Ph.D., University of California, Davis, 1998
- Noriko Seguchi, Ph.D., University of Michigan, 2000
- Tully J. Thibeau, Ph.D., University of Arizona, 1999 (Director, Linguistics Program)
- Gilbert Quintero, Ph.D., University of Arizona, 1997

Assistant Professors

- Leora Bar-el, Ph.D., University of British Columbia, 2005
- Ardeshir Kia, Ph.D., University of Wisconsin-Madison, 1988 (Associate Director, Central & SW Asia Program)
- Ashley H. McKeown, Ph.D., University of Tennessee, Knoxville, 2000
- Mizuki Miyashita, Ph.D., University of Arizona, 2002
- Douglas MacDonald, Ph.D., Washington State University, Pullman, 1998

Adjunct Assistant Professor

- Richard Sattler, Ph.D., University of Oklahoma, 1987

Lecturer

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

Emeritus Professors

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

Applied Science

- [Special Degree Requirements](#)
- [Courses](#)

Lynn Stocking, Advisor

The Bachelor of Applied Science program is available to students completing an Associate of Applied Science degree program at a regionally accredited institution. The College of Technology section of The University of Montana-Missoula catalog identifies Associate of Applied Science degree programs offered at The University of Montana.

Students considering a B.A.S. degree program must have completed an accredited A.A.S. degree program with a 2.50 grade point average. Because approval of a B.A.S. degree plan is required, students considering such a degree must meet with a designated B.A.S. advisor to identify a degree plan, to create a Degree Program Committee, and to identify the procedure required for degree plan approval.

Bachelor of Applied degree students must meet all the general university requirements for graduation. Fifty credits from an accredited A.A.S. program will count toward the total credits required for graduation. Student earning this degree will receive a diploma identifying the degree of Bachelor of Applied Science without designation of an area of concentration.

Special Degree Requirements

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

General Requirements:

1. Successful completion of an approved Associate of Applied Science program.
2. Successful completion of 70 credits as identified under specific requirements of which 39 credits must be in courses numbered 300 and above.

Specific Requirements

1. Competency -General Education
 1. English Writing Skills
 1. Complete successfully WRIT 101 (ENEX 101) or be exempt by receiving an acceptable score on the writing placement exam.
 2. Complete successfully two writing courses, at least one numbered 300 or above.
 3. Complete successfully the Upper-Division Writing Proficiency Assessment.
 2. Mathematical Literacy

1. 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
 1. Complete successfully the second semester of a foreign language at The University of Montana-Missoula or demonstrate equivalent skill in a foreign language;

OR

2. Complete successfully one of the approved sequences in a symbolic system.
2. 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
3. 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

- [Special Degree Requirements](#)
- [Courses](#)
- [Faculty](#)

Bradley Clough, Chair

The Asian Studies Program offers opportunities for those students who wish to focus on a variety of the diverse societies within the major cultural areas of Asia (Southwest and Central Asia, South and Southeast Asia, and East Asia) through the study of geography, history, peoples, religious and other cultural traditions, and languages.

The Asian Studies Program is administered through the Liberal Studies Program. Interested students must major in Liberal Studies with an option in Asian Studies. In addition to select Liberal Studies courses, students will also choose from specified courses offered from many departments and programs in the College of Arts and Sciences, such as Southwest and Central Asia Studies, Anthropology, Sociology, Geography, and the Mike Mansfield Center.

Students interested in the Asian Studies option within Liberal Studies should consult and register with the chair of the Asian Studies program. The current chair is Dr. Bradley Clough (LA 158, ext. 2837, bradley.clough@mso.umt.edu). Depending on their particular interests, students will also consult with other Asian studies faculty, in order to determine the most appropriate course of study. 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

- LS 161L Introduction to Asian Humanities
- AS 106H The Silk Road
- AS 195 Special Topics
- AS 201 East Asian Civilizations
- AS 210H Japanese Culture and Civilization
- AS 211H Chinese Culture and Civilization
- AS 212S Southeast Asian Culture and Civilization
- AS 214S Central Asia: Peoples and Environment

- AS 231S The Middle East
- AS 295 Special Topics
- AS 345 Central Asia and Its Neighbors
- AS 395 Special Topics
- AS 402 Cities and Landscapes of Central Asia
- AS 457 Artistic Traditions of Central and Southwest Asia
- AS 495 Problems in Asian Studies
- CHIN 101 Elementary Chinese I
- CHIN 102 Elementary Chinese II
- CHIN 193 Omnibus Variable
- CHIN 191 (CHIN 195) Special Topics
- CHIN 201 Intermediate Chinese I
- CHIN 202 Intermediate Chinese II
- CHIN 294 (CHIN 293) Omnibus Variable
- CHIN 292 (CHIN 296) Independent Study Variable
- CHIN 301 Advanced Chinese I
- CHIN 302 Advanced Chinese II
- CHIN 313 Classical Chinese Poetry in English Translation
- CHIN 314 Traditional Chinese Literature in English Translation
- CHIN 394 (CHIN 393) Omnibus Variable
- CHIN 391 (CHIN 395) Special Topics
- CHIN 392 (CHIN 396) Independent Study Variable
- CHIN 432 Twentieth Century Fiction in English Translation
- CHIN 493 Omnibus Variable
- CHIN 492 (CHIN 496) Independent Study Variable
- HSTR 345 (HIST 380H) Modern China
- HSTR 343 (HIST 381H) Modern Japan
- JPNS 101 Elementary Japanese I
- JPNS 102 Elementary Japanese II
- JPNS 193 Omnibus Variable
- JPNS 191 (JPNS 195) Special Topics Variable
- JPNS 201 Intermediate Japanese I
- JPNS 202 Intermediate Japanese II
- JPNS 293 Omnibus Variable
- JPNS 291 (JPNS 295) Special Topics
- JPNS 292 (JPNS 296) Independent Study Variable
- JPNS 301 Advanced Japanese I
- JPNS 302 Advanced Japanese II
- JPNS 306 Japanese for Business and Tourism
- JPNS 311 Classical Japanese Literature in English
- JPNS 312 Japanese Literature from Medieval to Modern in English Translation
- JPNS 386 History of Japanese Language
- JPNS 390 Supervised Internship
- JPNS 391 Japanese Film
- JPNS 393 Omnibus Variable
- JPNS 391 (JPNS 395) Special Topics
- JPNS 392 (JPNS 396) Independent Study Variable
- JPNS 398 Internship Variable
- JPNS 411 Modern Japanese Writers and Thinkers
- JPNS 412 Introduction to Classical Japanese
- JPNS 415 Advanced Japanese for Professionals
- JPNS 431 Post-War Japanese Literature
- JPNS 491 (JPNS 495) Special Topics
- JPNS 492 (JPNS 496) Independent Study Variable
- JPNS 500 Directed Reading in Japanese Texts
- PSCI 329 (PSC 329H) Politics of Japan
- RELS 232 Introduction to Buddhism
- RELS 233 Traditions of Buddhist Meditation
- RELS 234 Hinduism
- RELS 236 Chinese Religions
- RELS 238 Japanese Religions
- RELS 353 Topics in South Asian Religions
- RELS 354 Topics in East Asian Religions
- RELS 366 Tibetan Civilization
- RELS 367 Approaches to the Study of Zen Buddhism
- RELS 368 Contemporary Buddhism in South and Southeast Asia
- RELS 369 Contemplative Traditions of Asia

Special Degree Requirements

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).
3. Twelve credits in foundational Asian Studies courses (200-level courses), including Asian Studies 201.
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.

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 106H The Silk Road 3 cr. Offered autumn and spring. Same as ANTH 106H and HSTR 146H. 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 201 East Asian Civilizations 3 cr. Offered autumn. Same as HSTR 240 (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 210H Japanese Culture and Civilization 3 cr. Offered autumn. Same as JPNS 130H (JPNS 210H), LS and MCLG 210H. The historical religious, artistic, literary and social developments in Japan from earliest times to the present.

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

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

U 213X The Middle East 3 cr. Offered autumn odd-numbered years. Same as GPHY 245X (GEOG 213S) and LS 213X. 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 214 Central Asia: Peoples and Environments 3 cr. Offered autumn. Same as HSTR 241 (HIST 214S), LS 214. 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 345 Central Asia and Its Neighbors 3 cr. Offered spring. Same as HSTR 347 (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 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 HSTR 442 (HIST 402). Analysis of the main centers of civilization and culture, rich sites and monuments of Central Asia and Southwest Asia since ancient times.

UG 457 Artistic Traditions of Central and Southwest Asia 3 cr. Offered autumn and spring. Same as HSTR 459 (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 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)
- Bradley Clough, Ph.D., Columbiz University, 1998 (Liberal Studies)
- Teresa R. Sobieszcyk, Ph.D., Cornell University, 2000 (Sociology)
- 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)

Biochemistry

Bruce E. Bowler, Program Director

The Biochemistry Program is a joint program between the Department of Chemistry and Biochemistry and the Division of Biological Sciences. Biochemistry is an interdisciplinary science that integrates chemistry and biology to understand the basis of life at the molecular level. The program offers a B.S. in Biochemistry and M.S. and Ph.D. degrees in Biochemistry & Biophysics.

Undergraduate majors receive a solid foundation in both chemistry and biology. Biochemistry courses are usually taken in the junior year allowing majors to become involved in research with faculty and to take electives in their senior year. The major also introduces students to computer science and bioinformatics, essential tools in modern biochemistry. The B.S. in Biochemistry prepares students for both advanced degrees in biochemistry and for careers in the pharmaceutical and biotechnology industries. A Health Professions option is also offered within the B.S. in Biochemistry for students whose career goals are in fields related to biochemistry.

The graduate degrees in Biochemistry & Biophysics prepare students to be independent researchers in academic laboratories or in the biotechnology and pharmaceutical industries. Through coursework and independent research, graduate students in this program will become adept at the physical and structural methods necessary to probe important problems in the life sciences at the molecular level. In collaboration with the Center for Biomolecular Structure & Dynamics, the Biochemistry Program provides state-of-the-art facilities for research in biochemistry, biophysics and structural biology.

Prospective students desiring further information on these degrees should contact the Program Director by visiting the Biochemistry Program web site: <http://www.cas.umt.edu/biomolecular/overview.htm>.

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.

Bachelor of Science in Biochemistry

- CHMY 141N-143N; College Chemistry I & II + Lab - 10 cr.
- CHMY 221-224; Organic Chemistry I & II + Lab -10 cr.
- CHMY 225; Organic Majors Lab may be substituted for CHMY 224
- CHMY 311-421; Quantitative Analysis and Instrumental Methods - 8 cr.
- CHMY 360; Applied Physical Chemistry - 3 cr.
- CHMY 373; Phys Chem-Kntcs & Thrmdynmcs may be substituted for CHMY 360
- CHMY 401; Advanced Inorganic Chemistry - 3 cr.
- BIOC 110-111; Biochemistry of Life + Lab - 4 cr.
- BIOC 210; Introductory Biochemistry Seminar - 1 cr.
- BIOC 481-482W; Biochemistry I & II - 6 cr.
- BIOC 486W; Biochemistry Laboratory - 3 cr.
- BIOL 221; Cellular and Molecular Biology - 4 cr.
- BIOL 223; Genetics and Evolution - 4 cr.
- BIOL 464; Advanced Cellular Biology - 3 cr.
- M 171-172; Calculus I & II - 8 cr.
- PHYS 211N/213N and 212N/214N; Fundamentals of Physics with calculus I & II + Lab - 10 cr.
- CS 177; Computer Modeling for Science Majors - 3 cr.
- CS 458; Bioinformatics - 3 cr.

13 credits of electives from BIOL 301, 312, 313, 345, 347, 400, 401, 440, 460, 497¹; BIOC 497¹; BMED 347, 421, 422; CHMY 371, 397, 402, 403, 442, 465, 466, 485, 490,¹ 498¹; MICB 300, 301, 302, 309, 404, 405, 410, 411, 420.

¹No more than 3 credits combined of BIOL 497, CHMY 490, 498 or BIOC 497 may be counted toward the 13 credit elective requirement.

For Group I of the General Education requirements (English Writing Skills), all students must complete WRIT 101 (ENEX 101), a lower division writing course, an upper division writing course, and need to obtain a score of 3 or better on the WPA exam. The upper division requirement will be satisfied by BIOC 482W (1/3 of requirement) and BIOC 486W (2/3 of requirement).

Group II of the General Education requirement (Mathematics) is fulfilled by M 171-172.

The Foreign Language/Symbolic Systems requirement (Group III of the General Education Requirement) is fulfilled by M 171.

All students must complete 27 credit hours from groups IV to XI of the General Education requirement to graduate (CHMY 141N-143N counts as the 6 credit group XI requirement). One of these courses should be an approved lower division writing course.

Credits to Graduate:

Required courses: 83

Elective courses: 13

General education:¹ 21

WRIT 101 (ENEX 101): 3

Total: 120

¹Groups IV to X account for 21 credit hours.

Bachelor of Science in Biochemistry: Health Professions Option

- CHMY 141N-143N; College Chemistry I & II + Lab - 10 cr.
- CHMY 221-224; Organic Chemistry I & II + Lab - 10 cr.
- CHMY 225; Organic Majors Lab may be substituted for CHMY 224
- CHMY 302E; Chem. Lit and Science Writing - 3 cr.
- CHMY 311-421; Quantitative Analysis and Instrumental Methods - 8 cr.
- CHMY 360; Applied Physical Chemistry - 3 cr.
- CHMY 373; Phys Chem-Kntcs & Thrmodynms may be substituted for CHMY 360
- CHMY 401; Advanced Inorganic Chemistry - 3 cr.
- BIOC 110-111; Biochemistry of Life + Lab - 4 cr.
- BIOC 210; Introductory Biochemistry Seminar - 1 cr.
- BIOC 481-482W; Biochemistry I & II - 6 cr.
- BIOL 221; Cellular and Molecular Biology - 4 cr.
- BIOL 223; Genetics and Evolution - 4 cr.
- MICB 300; General Microbiology - 3 cr.
- MICB 302; Medical Microbiology may be substituted for MICB 300
- M 162; Applied Calculus - 4 cr.
- M 274; Intro to Differential Equation - 3 cr.
- PHYS 111N/113N-112N/114N; Fundamentals of Physics I&II + Lab - 10 cr.

20 credits of electives from BIOL 301, 312, 313, 345, 347, 400, 401, 440, 460, 497¹; BIOC 486, 497¹; BMED 347, 421, 422; CHMY 371, 397, 402, 403, 442, 465, 466, 485, 490,¹ 498¹; MICB 300, 301, 309, 404, 405, 410, 411, 420.

¹No more than 3 credits combined of BIOL 497, CHMY 490, 498 or BIOC 497 may be counted toward the 20 credit elective requirement.

For Group I of the General Education requirements (English Writing Skills), all students must all students must complete WRIT 101 (ENEX 101), a lower division writing course, an upper division writing course, and need to obtain a score of 3 or better on the WPA exam. CHEM 334 is the formal requirement to satisfy the upper division requirement in this option. It can also be satisfied by taking the following combinations of required and elective courses: BIOC 482W and BIOC 486W; BIOC 482W, MICB 410 and MICB 411; MICB 404 or MICB 420.

Group II of the General Education requirement (Mathematics) is fulfilled by M 162.

The Foreign Language/Symbolic Systems requirement (Group III of the General Education Requirement) is fulfilled by M 162-274.

All students must complete 27 credit hours from groups IV to XI of the General Education requirement to graduate (CHMY 141N-143N) counts as the 6 credit group XI requirement). One of these courses should be an approved lower division writing course.

Credits to Graduate:

Required courses: 76

Elective courses: 20

General education:¹ 21

WRIT 101 (ENEX 101): 3

Total: 120

¹Groups IV to X account for 21 credit hours.

Suggested Course of Study for B.S. Degree in Biochemistry

First Year	A	S
CHMY 141N (CHEM 161N) College Chemistry I	5	-
CHMY 143N (CHEM 162N) College Chemistry II	-	5
M 171 (MATH 152) Calculus I	4	-
M 172 (MATH 153) Calculus II	-	4
WRIT 101 (ENEX 101) College Writing I	3	-
BIOC 110 Biochemistry of Life Lecture	-	3
BIOC 111 Biochemistry of Life Laboratory	-	1
CS 177 Computer Modeling for Science Majors	-	3
General Education	3	-
Total	15	16
Second Year		
CHMY 221-222 (CHEM 221-222) Organic Chemistry I and Lab	5	-
CHMY 223-224 (CHEM 223-224) Organic Chemistry II and Lab	-	5
PHYS 211N/213N Fundamentals of Physics I with Calculus and Lab	5	-
PHYS 212N/214N Fundamentals of Physics II with Calculus and Lab	-	5
BIOL 221 Cellular and Molecular Biology	4	-
BIOL 223 Genetics and Evolution	-	4
BIOC 210 Introductory Biochemistry Seminar	-	1
Total	14	15
Third Year		
CHMY 311 (CHEM 341) Analytical Chem-Quant Analysis	4	-
CHMY 360 (CHEM 370) Applied Physical Chemistry (or CHMY 373 (CHEM 371))	-	3
CHMY 421 (CHEM 342) Advanced Instrument Analysis	-	4
BIOC 481 Biochemistry I	3	-
BIOC 482 Biochemistry II	-	3
BIOC 486 Biochemistry Laboratory	-	3
General Education	9	-
Total	16	13
Fourth Year		
CHMY 401 (CHEM 452) Advanced Inorganic Chemistry	3	-
CS 458 Bioinformatics	3	-
BIOL 464 Advanced Cellular Biology	-	3
Advanced Electives *	6	7

General Education	3	6
Total	15	16

*Advanced Biochemistry Electives: BIOL 312, BIOL 345, BIOL/BMED 347, BIOL 400, BIOL 401, BIOL 301, BIOL 313, BIOL 440, BIOL 460, BMED/BIOL 347, BMED 421, BMED 422, CHMY 397, CHMY 442, CHMY 465, CHMY 466, CHMY 485, CHMY 372, CHMY 402, CHMY 406, MICB 300, MICB 301, MICB 302, MICB 309, MICB 410, MICB 411, MICB 404, MICB 405, MICB 420, BIOC/BIOL 497, CHMY 490, CHMY 498

Suggested Course of Study for B.S. Degree in Biochemistry: Health Professions Option

First Year	A	S
CHMY 141N (CHEM 161N) College Chemistry I	5	-
CHMY 143N (CHEM 162N) College Chemistry II	-	5
M 162 (MATH 150) Applied Calculus	4	-
M 274 (MATH 158) Intro to Differential Equation	-	3
WRIT 101 (ENEX 101) College Writing I	3	-
BIOC 110 Biochemistry of Life Lecture	-	3
BIOC 111 Biochemistry of Life Laboratory	-	1
General Education	3	3
Total	15	15

Second Year	A	S
CHMY 221-222 (CHEM 221-222) Organic Chemistry I and Lab	5	-
CHMY 223-224 (CHEM 223-224) Organic Chemistry II and Lab	-	5
PHYS 111N/113N Fundamentals of Physics I and Lab	5	-
PHYS 112N/114N Fundamentals of Physics II and Lab	-	5
BIOL 221 Cellular and Molecular Biology	4	-
BIOL 223 Genetics and Evolution	-	4
BIOC 210 Introductory Biochemistry Seminar	-	1
Total	14	15

Third Year	A	S
CHMY 311 (CHEM 341) Analytical Chem-Quant Analysis	4	-
CHMY 302E (CHEM 334) Chemistry Lit and Science Writing	3	-
CHMY 360 (CHEM 370) Applied Physical Chemistry (or CHMY 373 (CHEM 371))	-	3
CHMY 421 (CHEM 342) Advanced Instrument Analysis	-	4
MICB 300 General Microbiology (or MICB 302 offered autumn)	-	3
Advanced Electives*	3	5
General Education	6	-
Total	16	15

Fourth Year	A	S
CHMY 401 (CHEM 452) Advanced		

Inorganic Chemistry	3 -
BIOC 481 Biochemistry I	3 -
BIOL 482 Biochemistry II	- 3
Advanced Electives *	3 9
General Education	6 3
Total	15 15

*Advanced Biochemistry Electives: BIOL 312, BIOL 345, BIOL/BMED 347, BIOL 400, BIOL 401, BIOL 301, BIOL 313, BIOL 440, BIOL 460, BMED/BIOL 347, BMED 421, BMED 422, CHMY 397, CHMY 442, CHMY 465, CHMY 466, CHMY 485, CHMY 372, CHMY 402, CHMY 406, MICB 300, MICB 301, MICB 302, MICB 309, MICB 410, MICB 411, MICB 404, MICB 405, MICB 420, BIOC/BIOL 497, CHMY 490, CHMY 498

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

Biochemistry (BIOC)

U 110 The Biochemistry of Life 3 cr. Offered spring. Prereq. CHMY 141N (CHEM 161N) or equivalent. Coreq., CHMY 143N (CHEM 162N) and BIOC 111. An introductory course that explores bio-molecules and their roles in life processes. Provides a foundation for Cell and Molecular Biology (BIOL 221), Genetics and Evolution (BIOL 223), Biochemistry Seminar (BIOC 210), and many other advanced science courses.

U 111 The Biochemistry of Life Laboratory 1 cr. Offered spring. Prereq., CHMY 141N (CHEM 161N) or equivalent. Coreq., CHMY 143N (CHEM 162N) and BIOC 110. Introduction to the experimental techniques used to study bio-molecules and their roles in life processes. Provides a foundation for other advanced level laboratory courses in chemistry and biochemistry.

U 210 Introductory Biochemistry Seminar 1 cr. Offered spring. prereq., BIOC 110/111 or equivalent. An introduction to important advances in biochemistry through readings from the primary literature and discussion of this literature. Faculty members will also make presentations on their research.

UG 380 Fundamentals of Biochemistry 4 cr. Offered autumn. Prereq., CHMY 223 (CHEM 223). 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., CMHY 223 (CHEM 223), CHMY 360 (CHEM 370) or CHMY 371 (CHEM 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 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 562 The Structural Basis of Amyloid Disease 1 cr. (R-8) CR/NCR only, offered every semester. Prereq., BIOC 481 or equivalent and

consent of instructor. Weekly exploration of current literature and new research that focuses on the biophysical aspects of amyloid diseases, including protein structure and therapeutic treatments.

G 570 Introduction to Research 2 cr. Offered autumn. Prereq., graduate standing. Required course for biochemistry and biophysics graduate students. Students are acquainted with faculty research projects. Instruction in basic research techniques, research equipment. Introduction to relevant scientific research literature. Six hours in each research laboratory of faculty in biochemistry and biophysics 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 spring odd-numbered years. Prereq., CHMY 360 or CHMY 371 (CHEM 370) or (CHEM 372); BIOC 482. Techniques of physical chemistry used in studying biological structure and function of macromolecules. Emphasis is on spectroscopic methods, hydrodynamic methods and x-ray and other scattering and diffraction techniques.

G 582 Proteins and Enzymes 3 cr. offered alternate autumn semesters. Prereq., BIOC 482 or equivalent. An investigation into the structure/function relationship in proteins and a detailed exploration of enzyme kinetics, using examples from current literature.

G 584 Nucleic Acids Biochemistry 3 cr. Offered alternate autumn semesters. Prereq., BIOC 482 or equivalent. Emphasis on critical reading of current literature that investigates structure, chemistry, and function of nucleic acids.

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., master's student in biochemistry and biophysics. Laboratory research for and preparation of a master's 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.

Faculty

Professors:

- Bruce E. Bowler (Director), Chemistry & Biochemistry, Ph.D., Massachusetts Institute of Technology, 1986
- J.B.A. (Sandy) Ross, Chemistry & Biochemistry, Ph.D., University of Washington, 1976
- D. Scott Samuels, Division of Biological Sciences, Ph.D., University of Arizona, 1991
- Stephen R. Sprang, Division of Biological Sciences, Ph.D., University of Wisconsin, Madison, 1977
- Kent D. Sugden, Chemistry & Biochemistry, Ph.D., Montana State University, 1992

Associate Professors:

- J. Stephen Lodmell, Division of Biological Sciences, Ph.D., Brown University, 1996
- Michele A. McGuirl, Division of Biological Sciences, Ph.D., Montana State University, 1999

Assistant Professors:

- Klara Briknarova, Chemistry & Biochemistry, Ph.D., Carnegie Mellon University, 1999
- Valeriy Smirnov, Chemistry & Biochemistry, Ph.D., University of Nebraska, 2004

CLIMATE CHANGE STUDIES