

Electives	3	3
Total	15	15

Suggested course of study for students completing the linguistics option:

First Year		A	S
ANTY 250S (ANTH 250S) Introduction to Archaeology	-	3	
WRIT 101 (ENEX 101) College Writing I	3	-	
M 115 (MATH 117) Probability and Linear Mathematics	3	-	
ANTY elective	3	-	
General Education	6	9	
Elective	-	3	
Total	15	15	
Second Year			
ANTY 210N (ANTH 210N) Introduction to Physical Anthropology	3	-	
ANTY 220S (ANTH 220S) Culture and Society	3	-	
LING 270S Introduction to Linguistics	-	3	
ANTY electives	3	3	
General Education	6	9	
Total	15	15	
Third Year			
LING 470 Linguistic Analysis	3	-	
Statistics course	-	3	
Upper-division ANTY courses in subarea II or III	3	-	
ANTY Subarea II, methods course, LING 475 recommended	-	3	
ANTY electives	6	9	
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	

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

First Year		A	S
ANTY 250S (ANTH 250S) Introduction to Archaeology	-	3	
ANTY 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			
ANTY 210N (ANTH 210N) Introduction to Physical Anthropology	3	-	
ANTY 220S (ANTH 220S) Culture and Society	3	-	
LING 270S Introduction to Linguistics	-	3	
ANTY electives	3	3	
General Education	6	9	
Total	15	15	
Third Year			
ANTY Subarea I, theory, course, ANTY 400 or 430 recommended	3	-	
Statistics course	-	3	
Upper-division electives	3	9	
Electives	6	-	
One of ANTY 333, 418, 422 (ANTH 343, 418 or 422)	3	-	
One of NASX 388X (ANTH 388X) or ANTY 435 (ANTH 445)	-	3	
Total	15	15	
Fourth Year			
ANTY 426 (ANTH 444)	3	-	
Upper-division electives	3	-	
ANTY Subarea II, methods, course, ANTY 402, 408 or 431 (ANTH 448, 402, 431) recommended	3	-	
Electives	3	3	
One of ANTY 333, 418, 422 (ANTH 343, 418 or 422) (autumn) OR one of NASX 388X (ANTH 388X) or ANTY 435 (ANTH 445) (spring)	3	3	
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, including 6 credits in core forensic science courses.

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; CAPP 171 (CS 171) CS 181; WRIT 101 (ENEX 101); WRIT 222 (FOR 220); Journalism; 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.

Certificate in Historic Preservation

Historic Preservation is the interdisciplinary field that seeks to identify, document, preserve and protect significant structures, sites and landscapes. To earn a certificate in historic preservation the student must complete a minimum of 21 credits to include:

15 credits in Core Courses

3 Credits in History Electives

3 Credits in Internship or Independent Study (must be with an approved, appropriate preservation based agency or focused on an approved preservation based topic)

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

Subarea I, 3 Upper-Division Credits

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

Please see the Historic Preservation section for all HPRV courses.

Please see the Linguistics section for all LING courses.

Courses

R- before the course description 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 (ANTY) - Course Descriptions

101H, 102H, 103H, 122S, 124, 133H, 141H, 191, 192, 193, 198, 210N, 211N, 213N, 220S, 224, 227, 231X, 241H, 250S,

251H, 254H, 291, 310, 311, 312, 314, 318, 323X, 326E, 330X, 333, 336, 345, 346, 347, 349, 351H, 352X, 353, 354H, 391, 398, 400, 401, 402, 403E, 404, 408, 409, 412, 413, 415, 416, 417, 418, 422, 423, 426, 427, 430, 431, 432, 435, 440, 442, 444, 450, 451, 452, 454, 455, 456, 457, 458, 459, 465X, 466, 467, 476, 491, 492, 494, 495, 500, 501, 502, 503, 510, 512, 513, 514, 515, 520, 521, 522, 550, 551, 552, 553, 593, 595, 596, 597, 598, 599, 600, 601, 602, 694, 697, 699

Fundamentals of Forensic Science (CJUS) - Course Descriptions

125N, 488

Historic Preservation (HPRV) - Course Descriptions

400

Faculty

Professors

Gregory R. Campbell, Ph.D., University of Oklahoma, 1987

John E. Douglas, Ph.D., University of Arizona, 1990

S. Neyooxet Greymorning, Ph.D., University of Oklahoma, 1992

Kimber Haddix McKay, Ph.D., University of California, Davis, 1998 (Vice Chair)

Anna M. Prentiss, Ph.D., Simon Fraser University, 1993

Randall R. Skelton, Ph.D., University of California, Davis, 1983

Gilbert Quintero, Ph.D., University of Arizona, 1997 (Chair)

G.G. Weix, Ph.D., Cornell University, 1990

Associate Professors

Irene Appelbaum, Ph.D., University of Chicago, 1995 (Director, Linguistics Program)

Leora Bar-el, Ph.D., University of British Columbia, 2005

Kelly J. Dixon, Ph.D., University of Nevada-Reno, 2002

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

Tully J. Thibeau, Ph.D., University of Arizona, 1999

Adjunct Faculty

Linda J. Brown, M.A., University of Arizona, 1990

Jeanie Castillo, M.A., California State University, Fresno, 1998

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

Lecturers

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

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

Emeritus Professors

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

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 Missoula College 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.

Students are urged to begin the application process one semester prior to the completion of an AAS degree if the degree is in process.

Bachelor of Applied degree students must meet all the University of Montana 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.

Asian Studies

The University of Montana-Missoula offers students multiple opportunities to study Asian lands, peoples, cultures and languages. Students may choose to pursue one or more of the following:

- A major or minor in Central and Southwest Asia Studies (see Central and Southwest Asian Studies Center)
- A major or minor in Japanese (see Modern and Classical Languages and Literatures)
- A major in Liberal Studies with an Option in Asian Studies (see Liberal Studies Program)
- A minor in Chinese (see Modern and Classical Languages and Literatures)
- A minor in South and Southeast Asia (See Liberal Studies Program)

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 molecular basis of life. 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 advanced degrees in biochemistry or biophysics, for medical, dental or veterinary schools 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. This option allows more flexibility in

upper division electives, permitting students to tailor the degree to their needs.

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/chemistry/biochemistryProgram/>.

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 (CHEM 161N-162N); College Chemistry I & II + Lab - 10 cr.
- CHMY 221-224 (CHEM 221-224); Organic Chemistry I & II + Lab - 10 cr.
- CHMY 225 (CHEM 264); Organic Majors Lab may be substituted for CHMY 224 (CHEM 224)
- CHMY 311-421 (CHEM 341-342); Quantitative Analysis and Instrumental Methods - 8 cr.
- CHMY 360 (CHEM 370); Applied Physical Chemistry - 3 cr.
- CHMY 373 (CHEM 371); Phys Chem-Kntcs & Thrmdynmcs may be substituted for CHMY 360 (CHEM 370). Students planning to attend graduate school in biochemistry or biophysics are strongly advised to take the CHMY 373-371 sequence.
- CHMY 401 (CHEM 452); Advanced Inorganic Chemistry - 3 cr.
- BCH 110-111 (BIOC 110-111); Biochemistry of Life + Lab - 4 cr.
- BCH 294 (BIOC 210); Introductory Biochemistry Seminar - 1 cr.
- BCH 480-482 (BIOC 481-482); Advanced Biochemistry I & II - 6 cr.
- BCH 486 (BIOC 486); Biochemistry Research Laboratory - 3 cr.
- BIOB 260 (BIOL 221); Cellular and Molecular Biology - 4 cr.
- BIOB 272 (BIOL 223); Genetics and Evolution - 4 cr.
- BIOB 425 (BIOL 464); Advanced Cellular and Molecular Biology - 3 cr.
- M 171-172 (MATH 152-153); Calculus I & II - 8 cr.
- PHSX 215N/216N and 217N/218N (PHYS 211N/213N and 212N/214N); Fundamentals of Physics with Calculus I & II + Lab - 10 cr.
- CSCI 250 (CS 177); Computer Modeling for Science Majors - 3 cr.
- CSCI 451 (CS 458); Computational Biology - 3 cr.

13 credits of electives from BCH 490¹ (BIOC 497); BIOB 301, 375, 410, 411, 440, 486, 490¹ (BIOL 301, MICB 410, 411, BIOL 440, 490); BIOH 345, 360, 365, 370, 405, 462 (BIOL 313, 345, 312, 347, 460, MICB 309); BIOM 360, 361, 400, 410, 411, 427, 428, 435 (MICB 300, 301, 302, 404, 405, 420; BIOL 400, 401); PHAR 347, 421, 422 (BMED 347, 421, 422); CHMY 371, 397¹, 402, 403, 442, 465, 466, 485, 490,¹ 494,¹ 498¹ (CHEM 372, 380, 453, 455, 442, 465, 466, 485, 489, 498).

¹No more than 3 credits combined of BCH 490 (BIOC 497), CHMY 490, 498 (CHEM 489, 498) or BCH 490 (BIOC 497) and no more than 3 credits of CHMY 397/494 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 BCH 482 (BIOC 482) (1/3 of requirement) and BCH 486 (BIOC 486) (2/3 of requirement).

Group II of the General Education requirement (Mathematics) is fulfilled by M 171 (MATH 152).

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

(MATH 152).

All students must complete 27 credit hours from groups IV to XI of the General Education requirement to graduate (CHMY 141N-143N (CHEM 161N- 162N) 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; (CHEM 161N-162N) College Chemistry I & II + Lab - 10 cr.
- CHMY 221-224 (CHEM 221-224); Organic Chemistry I & II + Lab - 10 cr.
- CHMY 225 (CHEM 264); Organic Majors Lab may be substituted for CHMY 224 (CHEM 224)
- CHMY 302E (CHEM 334); Chem. Lit and Science Writing - 3 cr.
- CHMY 311-421; (CHEM 341-342) Quantitative Analysis and Instrumental Methods - 8 cr.
- CHMY 360 (CHEM 370); Applied Physical Chemistry - 3 cr.
- CHMY 373 (CHEM 371); Phys Chem-Kntcs & Thrmdynmcs may be substituted for CHMY 360 (CHEM 370)
- CHMY 401 (CHEM 452); Advanced Inorganic Chemistry - 3 cr.
- BCH 110-111 (BIOC 110-111); Biochemistry of Life + Lab - 4 cr.
- BCH 294 (BIOC 210); Introductory Biochemistry Seminar - 1 cr.
- BCH 480-482 (BIOC 481-482); Advanced Biochemistry I & II - 6 cr.
- BIOB 260 (BIOL 221); Cellular and Molecular Biology - 4 cr.
- BIOB 272 (BIOL 223); Genetics and Evolution - 4 cr.
- BIOM 360/361 (MICB 300/301); General Microbiology + Lab - 5 cr.
- M 162 (MATH 150); Applied Calculus - 4 cr.
- M 274 (MATH 158); Intro to Differential Equations - 3 cr.
- PHSX 205N/206N-207N/208N (PHYS 111N/113N-112N/114N); College Physics I&II + Lab - 10 cr.
- 23 credits of electives from BCH 486, 490¹ (BIOC 486, 497); BIOB 301, 375, 410, 411, 425, 440, 486, 490¹ (BIOL 301, MICB 410, 411, BIOL 464, 440, 490); BIOH 345, 360, 365, 370, 405, 462 (BIOL 312, 313, 345, 347, 460, MICB 309); BIOM 400, 410, 411, 427, 428, 435 (MICB 302, 404, 405, BIOL 400, 401, MICB 420); PHAR 347, 421, 422 (BMED 347, 421, 422); CHMY 371, 397, 402, 403, 442, 465, 466, 485, 490,¹ 494,¹ 498¹ (CHEM 372, 380, 453, 455, 442, 465, 466, 485, 489, 498).

- ¹No more that 3 credits combined of BIOB 490 (BIOL 497), CHMY 490, 498 (CHEM 489, 498) or BCH 490 (BIOC 497) and no more than 3 credits of CHMY 397/494 may be counted toward the 23 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. CHMY 302E (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: BCH 482 (BIOC 482) (1/3 of requirement), and BCH 486 (BIOC 486) (2/3 of requirement); BCH 482 (BIOC 482) or BIOB 410 (MICB 410) (1/3 of requirement) and BIOM 410 or BIOB 411 (MICB 404 or MICB 411) (2/3 of requirement).

Group II of the General Education requirement (Mathematics) is fulfilled by M 162 (MATH 150).

The Foreign Language/Symbolic Systems requirement (Group III of the General Education Requirement) is fulfilled by M 162 (MATH 150).

All students must complete 27 credit hours from groups IV to XI of the General Education requirement to graduate (CHMY 141N-143N (CHEM 161N-162N) counts as the 6 credit group XI requirement; If CHMY 302E (CHEM 334) is taken to satisfy the upper division writing requirement it also satisfies the group VIII requirement). One of these courses should be an approved lower division writing course.

Credits to Graduate:

Required courses: 78

Elective courses: 21

General education:¹ 18

WRIT 101 (ENEX 101): 3

Total: 120

¹Groups IV to VII, IX and X account for 18 credit hours, assuming CHMY 302E is used for group VIII.

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	-
BCH 110 (BIOC 110) Biochemistry of Life Lecture	-	3
BCH 111 (BIOC 111) Biochemistry of Life Laboratory	-	1
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
PHSX 215N/216N (PHYS 211N/213N) Fundamentals of Physics I with Calculus and Lab	5	-
PHSX 217N/218N (PHYS 212N/214N) Fundamentals of Physics II with Calculus and Lab	-	5
BIOB 260 (BIOL 221) Cellular and Molecular Biology	4	-
BIOB 272 (BIOL 223) Genetics and Evolution	-	4
BCH 294 (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) offered autumn). Students planning to attend graduate school in biochemistry or biophysics are strongly advised to take the CHMY 373-371 sequence.)	-	3
CHMY 421 (CHEM 342) Advanced Instrument Analysis	-	4

BCH 480 (BIOC 481) Advanced Biochemistry I	3 -
BCH 482 (BIOC 482) Advanced Biochemistry II	- 3
BCH 486 (BIOC 486) Biochemistry Research Laboratory	- 3
CSCI 250 (CS 177) Computer Modeling for Science Majors	3 -
General Education	6 -
Total	16 13

Fourth Year

CHMY 401 (CHEM 452) Advanced Inorganic Chemistry	3 -
CSCI 451 (CS 458) Computational Biology	3 -
BIOB 425 (BIOL 464) Advanced Cellular & Molecular Biology	- 3
Advanced Electives *	6 7
General Education	3 6
Total	15 16

*Advanced Biochemistry Electives:

BCH 490 (BIOC 497), BIOB 301
(BIOL 301), BIOB 375, BIOB 410
(MICB 410), BIOB 411 (MICB 411),
BIOB 440 (BIOL 440), BIOB 486,
BIOB 490 (BIOL 490), BIOH 345
(BIOL 345), BIOH 360 (BIOL 347),
BIOH 365 (BIOL 312), BIOH 370
(BIOL 313), BIOH 405 (MICB 309),
BIOH 462 (BIOL 460), BIOM 360
(MICB 300), BIOM 361 (MICB 301),
BIOM 400 (MICB 302), BIOM 410
(MICB 404), BIOM 411 (MICB
405), BIOM 427 (BIOL 400), BIOM
428 (BIOL 401), BIOM 435 (MICB
420), PHAR 347 (BMED 347), PHAR
421 (BMED 421), PHAR 422 (BMED
422), CHMY 371 (CHEM 372), CHMY
397 (CHEM 380), CHMY 402 (CHEM
455), CHMY 403 (CHEM 453), CHMY
442 (CHEM 442), CHMY 465 (CHEM
465), CHMY 466 (CHEM 466), CHMY
485 (CHEM 485), CHMY 490 (CHEM
489), CHMY 494, CHMY 498 (CHEM
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 Equations	- 3
WRIT 101 (ENEX 101) College Writing I	3 -
BCH 110 (BIOC 110) Biochemistry of Life Lecture	- 3
BCH 111 (BIOC 111) Biochemistry of Life Laboratory	- 1
General Education	3 3
Total	15 15

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
PHSX 205N/206N (PHYS 111N/113N) College Physics I and Lab	5 -
PHSX 207M/208N (PHYS 112N/114N) College Physics II and Lab	- 5
BIOB 260 (BIOL 221) Cellular and Molecular Biology	4 -

BIOB 272 (BIOL 223) Genetics and Evolution	-	4
BCH 294 (BIOC 210) Introductory Biochemistry Seminar	-	1
Total		14 15

Third Year

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) offered autumn)	-	3
CHMY 421 (CHEM 342) Advanced Instrument Analysis	-	4
BIOM 360/361 (MICB 300/301) General Microbiology + Lab	-	5
Advanced Electives*	3	3
General Education	6	-
Total		16 15

Fourth Year

CHMY 401 (CHEM 452) Advanced Inorganic Chemistry	3	-
BCH 480 (BIOC 481) Advanced Biochemistry I	3	-
BCH 482 (BIOC 482) Advanced Biochemistry II	-	3
Advanced Electives *	3	9
General Education	6	3
Total		15 15

*Advanced Biochemistry Electives:

BCH 486 (BIOC 486), BCH 490 (BIOC 497), BIOB 301 (BIOL 301), BIOB 375, BIOB 410 (MICB 410), BIOB 411 (MICB 411), BIOB 425 (BIOL 464), BIOB 440 (BIOL 440), BIOB 486, BIOB 490 (BIOL 490), BIOH 345 (BIOL 345), BIOH 360 (BIOL 347), BIOH 365 (BIOL 312), BIOH 370 (BIOL 313), BIOH 405 (MICB 309), BIOH 462 (BIOL 460), BIOM 400 (MICB 302), BIOM 410 (MICB 404), BIOM 411 (MICB 405), BIOM 427 (BIOL 400), BIOM 428 (BIOL 401), BIOM 435 (MICB 420), PHAR 347 (BMED 347), PHAR 421 (BMED 421), PHAR 422 (BMED 422), CHMY 371 (CHEM 372), CHMY 397 (CHEM 380), CHMY 402 (CHEM 455), CHMY 403 (CHEM 453), CHMY 442 (CHEM 442), CHMY 465 (CHEM 465), CHMY 466 (CHEM 466), CHMY 485 (CHEM 485), CHMY 490 (CHEM 489), CHMY 494, CHMY 498 (CHEM 498).

Courses

R- before the course description 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 (BCH) - Course Descriptions

110, 111, 294, 380, 480, 482, 486, 490, 491, 499, 547, 561, 562, 570, 581, 582, 584, 594, 595, 597, 599, 600, 685, 694, 699

Faculty**Professors:**

Bruce E. Bowler (Director), Chemistry & Biochemistry, Ph.D., Massachusetts Institute of Technology, 1986

J. Stephen Lodmell, Division of Biological Sciences, Ph.D., Brown University, 1996

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 Professor:

Michele A. McGuirl, Division of Biological Sciences, Ph.D., Montana State University, 1999

Klara Briknarova, Chemistry & Biochemistry, Ph.D., Carnegie Mellon University, 1999

Assistant Professors:

Doug Raiford, Computer Science, Ph.D., Wright State University, Dayton, Ohio, 2008

Brent Ryckman, Division of Biological Sciences, Ph.D., University of Iowa, 2003

Valeriy Smirnov, Chemistry & Biochemistry, Ph.D., University of Nebraska, 2004

Central and Southwest Asian Studies

Dr. Ardi Kia, Advisor

The University of Montana has emerged as a national and international leader in recognizing the significance of Central and Southwest Asia, and translating that awareness into a major academic program. The program builds on significant faculty experience and expertise in the region, and includes scholars from a variety of academic disciplines. The program has also organized intensive summer language training programs at UM, as well as summer study tours for K-12 teachers to Central Asia, and also hosts an annual conference that brings leading scholars, diplomats, analysts, and journalists to the UM campus.

The University of Montana offers an undergraduate major as well as a Minor in Central and Southwest Asian Studies. Arabic, Chinese, Persian, Russian and Turkish language instruction are also offered. Faculty exchanges have been organized with universities in China, Egypt, Georgia, Kazakhstan, Kyrgyzstan, Morocco, Russia and Tajikistan.

Major in Central and Southwest Asia:

Suggested Course of Study in Central and Southwest Asian Studies (CSWA)

	First Year	A S
CSWA 146 H Silk Road (Anthropology106H/History 146H)		3 -
WRIT 101 (ENEX 101) Composition		3 -
Languages (First Year)(Arabic OR Chinese OR Persian OR Russian)		5 5
Math General Education requirement		3
General Education Electives (Groups IV, V, VII, VIII, IX, XI)*		4 7
Total		15 15
	Second Year	A S
Three 200-level Central and Southwest Asian Studies (CSWA) courses.		3 6
Languages (Second Year)(Arabic OR Chinese OR Persian OR Russian)WPE (Writing Proficiency Examination)		5± 5±
General Education Electives (Groups IV, V, VII, VIII, IX, XI)*		7 4
Total		15 15
	Third Year	A S
Three upper level courses in Central and Southwest Asian Studies courses (CSWA) (300 level or above)		3 6
Upper Division Electives(Third and Fourth Year language study strongly encouraged)		12 9
Total		15 15
	Fourth Year	A S
Capstone Requirement: CSWA/ANTH/HSTR 441(HIST 110): Seminar Central Asia OR CSWA 496: Independent Study (Twenty-five page research paper) Either course fulfills the Upper Division Writing Requirement in the Major		3
Upper Division Electives		15 12
Total		15 15

± Some languages may require 4 credits at the sophomore level.

* See General Education section in the catalogue.

Central & Southwest Asian Studies Program (CSWA)

1. CSWA/HSTR 146 (HIST 106)/ANTY 141H (ANTH 106H): The Silk Road
2. CSWA/HSTR 241 (HIST 214S)/ANTY 241 (ANTH 214): Central Asia: Peoples and Environments
3. CSWA/HSTR 262 (HIST 283H)/ANTY 243 (ANTH 283): Islamic Civilization: The Classical Age
4. CSWA/HSTR 264 (HIST 284H)/ANTY 244 (ANTH 284): Islamic Civilization: The Modern Era
5. CSWA/HSTR 347 (HIST 346)/ANTY 347 (ANTH 346): Central Asia and Its Neighbors
6. CSWA/HSTR (HIST 386H)/ANTY 345 (ANTH 386): Nationalism in the Middle East & Central Asia
7. CSWA/HSTR 368 (HIST 387)/ANTY 346 (ANTH 387): Iran Between Two Revolutions
8. CSWA/HSTR 442 (HIST 402)/ANTY 442 (ANTH 462): Cities and Landscapes of Central and Southwest Asia
9. CSWA 457: Artistic Traditions of Central Asia (same as ANTY 444 (ANTH 461)/HSTR 459 (HIST 457))
10. CSWA/HSTR 441 (HIST 462)/ANTY 494 (ANTH 460): Central Asia Seminar

Department of Anthropology

- ARAB 101: Elementary Modern Standard Arabic I
- ARAB 102: Elementary Modern Standard Arabic I
- ARAB 195: Special Topics Variable
- ARAB 201: Intermediate Modern Standard Arabic I
- ARAB 202: Intermediate Modern Standard Arabic II
- ARAB 295: Special Topics Variable
- ARAB 301: Advanced Modern Standard Arabic I
- ARAB 302: Advanced Modern Standard Arabic II
- ARAB 307: Model Arab League Delegates
- ARAB 317: Model Arab League Staff
- ARAB 391: The Arab World
- ARAB 392: Independent Study Variable
- ARAB 395: Special Topics Variable
- CHIN 101: Elementary Chinese I
- CHIN 102: Elementary Chinese II
- CHIN 201: Intermediate Chinese I
- CHIN 202: Intermediate Chinese II
- CHIN 301: Advanced Chinese I
- CHIN 302: Advanced Chinese II
- CHIN 313L: Classical Chinese Poetry in English Translation
- CHIN 314L: Traditional Chinese Literature in English Translation
- CHIN 432L: Twentieth Century Chinese Fiction in English Translation
- CHIN 211H: Chinese Culture and Civilization
- MCLG 380L: Chinese Folktales
- MCLG 195: Elementary Persian I
- MCLG 195: Elementary Persian II
- MCLG 295: Intermediate Persian I
- MCLG 295: Intermediate Persian II
- RUSS 101: Elementary Russian I
- RUSS 102: Elementary Russian II
- RUSS 105: Introduction to Russian Culture (same as MCLG/LS 105)
- RUSS 201: Intermediate Russian I
- RUSS 202: Intermediate Russian II

- ⌘ RUSS 301: Oral and Written Expression I
- ⌘ RUSS 302: Oral and Written Expression II
- ⌘ RUSS 312L: Introduction to Russian Literature I (same as MCLG/LS 306)
- ⌘ RUSS 313L: Introduction to Russian Literature II (same as MCLG/LS 307)
- ⌘ RUSS 308: Russian Cinema and Culture (same as MCLG/LS/ENFM 308)
- ⌘ RUSS 411: 19th Century Major Russian Authors
- ⌘ RUSS 424: Russian Short Story
- ⌘ RUSS 440: Russian Poetry
- ⌘ RUSS 494: Seminar in Russian Studies [Variable] (same as MCLG/HRS 494)

Department of Anthropology

- ⌘ ANTY 141 H (ANTH 106H): The Silk Road (same as CSWA 146/HSTR 146 (HIST 106H))
- ⌘ ANTY 241 (ANTH 214): Central Asia: Peoples and Environments (HSTR 241 (HIST 214S))
- ⌘ ANTY 243 (ANTH 283): Islamic Civilization: The Classical Age (same as CSWA 262/HSTR 262 (HIST 283H))
- ⌘ ANTY 244 (ANTH 284): Islamic Civilization: The Modern Era (same as CSWA 264/HSTR 264 (HIST 284H))
- ⌘ ANTY 347 (ANTH 346): Central Asia and Its Neighbors (same as CSWA 346/HSTR 347 (HIST 346))
- ⌘ ANTH 367: Iran Between Two Revolutions (same as CSWA 368/HSTR 368 (HIST 387))
- ⌘ ANTY 442 (ANTH 462): Cities and Landscapes of Central and Southwest Asia (same as CSWA 442/HSTR 442 (HIST 402))
- ⌘ ANTY 444 (ANTH 461): Artistic Traditions of Central Asia (same as CSWA 457/HSTR 459 (HIST 457))
- ⌘ ANTY 494 (ANTH 460): Central Asia Seminar (same as CSWA 441/HSTR 441 (HIST 462))

Department of History

- ⌘ HSTR 146 (HIST 106): The Silk Road (same as ANTH106H/AS 146)
- ⌘ HSTR 241 (HIST 214S): Peoples and Environments (same as ANTH 214/CSWA 241)
- ⌘ HSTR 262 (HIST 283H): Islamic Civilization: The Classical Age (same as ANTH 283)
- ⌘ HSTR 264 (HIST 284H): Islamic Civilization: The Modern Era (same as ANTH 284)
- ⌘ HSTR 357 (HIST 344): Russia to 1881
- ⌘ HSTR 358 (HIST 245): Russia Since 1881
- ⌘ HSTR 347 (HIST 346): Central Asia & Its Neighbors
- ⌘ HSTR 380H (HIST 331H): Modern China
- ⌘ HSTR 386H (HIST 386H): Nationalism in the Middle East and Central Asia
- ⌘ HSTR 368 (HIST 387): Iran Between Two Revolutions
- ⌘ HSTR 442 (HIST 402): Cities and Landscapes of Central and Southwest Asia (same as ANTH 462/CSWA 442)
- ⌘ HSTR 457 (HIST 445): World of Anna Karnina
- ⌘ HSTR 458 (HIST 446): Russian Revolution 1900-1930
- ⌘ HSTR 459 (HIST 457): Artistic Traditions of Central Asia (same as ANTH 461/CSWA 457)
- ⌘ HSTR 441 (HIST 462): Central Asia Seminar (same as ANTH 460/CSWA 441)
- ⌘ HSTR 544 (HIST 544): Modern Russia
- ⌘ HSTR 586 (HIST 586): Modern Islamic Politics

Requirements for a Minor in Central and Southwest Asia

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 HSTR 146 (HIST106)/ANTH 106H/AS 106H 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.

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

1. Three credits: The Silk Road - Central and Southwest Asian Studies 106 (ANTY 141H (ANTH 106H) or HSTR 146H (HIST 106H)).
2. Six credits in approved 200-level foundational Central and Southwest Asian Studies courses
3. Nine credits in approved 300 or 400-level Central and Southwest Asian Studies courses.

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

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

Courses

R- before the course description 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.

Central & Southwest Asian Studies Program (CSWA) - Course Descriptions

146H, 241, 262, 264, 346, 368, 386, 441, 442, 457

FACULTY

Donald Bedunah, Ph.D., Texas Tech University, 1981

Samir Bitar, M.I.S., The University of Montana, 2009

Timothy Bradstock, Ph.D., Harvard University, 1984

Zhen Cao, Ed.D., The University of Montana, 1997

Robert H. Greene, Ph.D., University of Michigan, 2004

Louis D. Hays, Ph.D., University of Arizona, 1966

Marc Hendrix, Ph.D., Stanford University, 1992

Khaled Huthaily, Ed.D., The University of Montana, 2008

Ardi Kia, Ph.D., University of Wisconsin, 1988

Mehrdad Kia, Ph.D., University of Wisconsin, 1986

Ona Renner-Fahey, Ph.D., Ohio State University, 2003

Bharath Sriraman, Ph.D., Northern Illinois University, 2002

Clint Walker, Ph.D., University of Wisconsin, 2006

Department of Chemistry and Biochemistry

- ◌ Special Degree Requirements
- ◌ Suggested Course of Study
- ◌ Courses
- ◌ Faculty

Mark S. Cracolice, Chair

Chemistry is the central science that involves the study of 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.

Prospective students desiring further information on any program of the Department of Chemistry and Biochemistry should visit the Department of Chemistry and Biochemistry website.

High School Preparation: In addition to the general University admission requirements, it is strongly recommended that a student take four of mathematics, four (or more) years of science (earth and space science, biology, chemistry, and physics), four years of a foreign language, and four years of English.

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

Special Degree Requirements

All chemistry and biochemistry 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 described at <http://www.umt.edu/mathplacement/>. 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
CHMY 141N-143N (CHEM 161N-162N) College Chemistry I, II	10
CHMY 221-223 (CHEM 221-222) Organic Chemistry I, II	6
CHMY 222 (CHEM 223) Organic Chemistry I Laboratory	2
CHMY 225 (CHEM 264) Organic Chemistry Laboratory for Chemistry Majors (preferred) or 224 Organic Chemistry II Laboratory	2-3
CHMY 302E (CHEM 334) Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)	3
CHMY 311 (CHEM 341) Analytical Chem-Quant Analysis	4
CHMY 421 (CHEM 342) Advanced Instrumental Analysis	4
CHMY 373-371 (CHEM 371-372) Phys Chem-Kntcs & Thrmndynmcs & Phys Chem-Qntm Chm & Spctrscopy	8
CHMY 401-403 (CHEM 452-453) Advanced Inorganic Chemistry & Descriptive Inorganic Chem	6
CHMY 402 (CHEM 455) Advanced Inorganic Chemistry Laboratory	2
BCH 480 (BIOC 481) Advanced Biochemistry or equivalent	3
BCH 486 (BIOC 486) Biochemistry Research Laboratory	3
Advanced Electives (from CHMY 391, 442, 445, 465, 491 and 3 credits maximum of 492, or 3 credit maximum of 499, or with consent of chemistry advisor, from advanced courses in chemistry, physics, geology, biochemistry, or mathematics (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:	
CSCI 172 (CS 172) Introduction to Computer Modeling (or similar computing experience with consent of chemistry advisor)	3
M 171-172 and 273 (MATH 152-153 and 251) Calculus I, II, III	12
M 311 (MATH 311) Ordinary Differential Equations and Systems or M 221 (MATH 221) Linear Algebra	3
PHSX 215N-216N and 217N-218N (PHYS 211N-213N or 212N-214N) Fundamentals of Physics I and II with Calculus	10
Modern foreign language	10
WRIT 101 (ENEX 101)	3

At the time of graduation a recipient of this degree has the option of taking two semesters of one modern foreign language which, as a departmental requirement, may be taken credit/no credit. Students not taking this option will be required to take 2 additional advisor-approved Chemistry & Biochemistry or related discipline electives for 3 credits each. This will bring the elective credits for this option to 9.

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

Course	Credits
CHMY 141N-143N (CHEM 161N-162N) College Chemistry I, II	10
CHMY 221-223 (CHEM 221-222) Organic Chemistry and Laboratory I, II	6

CHMY 222 (CHEM 223) Organic Chemistry Laboratory I	2
CHMY 225 (CHEM 264) Organic Chemistry Laboratory for Chemistry Majors or 224 Organic Chemistry II Laboratory	2-3
CHMY 302E (CHEM 334) Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)	3
CHMY 311 (CHEM 341) Analytical Chem-Quant Analysis	4
CHMY 421 (CHEM 342) Advanced Instrumental Analysis	4
CHMY 360 (CHEM 370) Applied Physical Chemistry or CHMY 373 (CHEM 371) Phys Chem-Kntcs & Thrmdynmcs	3-4
CHMY 401 (CHEM 452) Advanced Inorganic Chemistry	3
BCH 480 (BIOC 481) Advanced Biochemistry I	3
BIOB 160N (BIOL 110N) Principles of Living Systems or equivalent	4
BIOB 260/261 (BIOL 221) Cellular and Molecular Biology	4
BIOB 275 (BIOL 223) General Genetics	4
GEO 101N-102N (GEOS 100N-101N) General Geology and Laboratory	3
GEO 327 (GEOS 327) Geochemistry	3
Electives from CHMY 373, 371, 442, 445, 403, 402, 465, 466; (CHEM 371, 372, 442, 445, 453, 455, 465, 466); 3 credits maximum of 792 (CHEM 497); BIOE 370 (BIOL 340), BIOL 453, 454, 455, BIOB 490 (BIOL 497), 3 credits maximum of 497; GEO 320, 382, 431, 420 (GEOS 320, 382, 431, 480), 3 credits maximum of 497; BIOM 360 (MICB 300), 3 credits maximum of 497; STAT 452 (MATH 445); Modern Foreign Language (5 credits maximum)	8
M 171 (MATH 152) Calculus I	4
M 172 (MATH 153), Calculus II	3-4
STAT 451, 457 (MATH 444, 447) Statistics	4
PHSX 215N-216N and 217N-218N (PHYS 211N-213N or 212N-214N) Fundamentals of Physics I and II with Calculus	10

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.

At the time of graduation a recipient of this degree has the option of taking two semesters of one modern foreign language which, as a departmental requirement, may be taken credit/no credit. Students not taking this option will be required to take 2 additional advisor-approved Chemistry & Biochemistry or related discipline electives for 3 credits each. This will bring the elective credits for this option to 9.

Course	Credits
CHMY 141N-143N (CHEM 161N-162N) College Chemistry I, II	10
CHMY 221-223 (CHEM 221-222) Organic Chemistry I, II	6
CHMY 222 (CHEM 223) Organic Chemistry I Laboratory	2
CHMY 225 (CHEM 264) Organic Chemistry Laboratory for Chemistry Majors of CHMY 223 (CHEM 223) Organic Chemistry II Laboratory	2-3
CHMY 302E (CHEM 334) Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)	3
CHMY 311 (CHEM 341) Analytical Chem-Quant Analysis	4
CHMY 421 (CHEM 342) Advanced Instrument Analysis	4
CHMY 360 (CHEM 370) Applied Physical Chemistry or CHMY 373 (CHEM 371) Phys Chem-Kntcs & Thrmdynmcs	3-4
BCH 480-482 (BIOC 481-482) Advanced Biochemistry I, II or equivalent	6
CHMY 401 (CHEM 452) Advanced Inorganic Chemistry	3
CHMY 488 (CHEM 488) Forensic Research or CHEM 498 Internship	3
CHMY 489 (CHEM 489) Forensic Science Seminar	1
ANTH 286N Survey of Forensic Science	3
BIOB 106N (BIOL 110N) Principles of Living Systems	4
BIOB 260/261 (BIOL 221) Cellular and Molecular Biology	4
COMX 111A (COMM 111A) Public Speaking	3
M 171-172 (MATH 152-153) Calculus I, II	8
STAT 451 (MATH 444) Statistical Methods	3
STAT 457 (MATH 447) Computer Data Analysis	1
PHSX 215N-216N and 217N-218N (PHYS 211N-213N or 212N-214N) Fundamentals of Physics I and II with Calculus	10
SOCI 211S (SOC 230S) Criminology	3

SOCI 221 (SOC 235) Criminal Justice	3
Electives from CHMY 465, 466, 542 (CHEM 465, 466, 542); ANTH 488; BIOB 275 (BIOL 223), 440; PHAR 110. (at least 8 of these credits must be in courses numbered 300 and above)	11

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

Course	Credits
CHMY 141N-143N (CHEM 161N-162N) College Chemistry I, II	10
CHMY 221-223 (CHEM 221-222) Organic Chemistry and Laboratory I, II	6
CHMY 222 (CHEM 223) Organic Chemistry I Laboratory	2
CHMY 225 (CHEM 264) Organic Chemistry Laboratory for Chemistry Majors or 224 (CHEM 224) Organic Chemistry II Laboratory	2-3
CHMY 302E (CHEM 334) Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)	3
CHMY 311 (CHEM 341) Quantitative Analysis & Instrumental Methods	4
CHMY 421 (CHEM 342) Advanced Instrument Analysis	4
CHMY 360 (CHEM 370) Applied Physical Chemistry or CHMY 373 (CHEM 371) Phys Chem-Kntcs & Thrmdynmcs	3-4
CHMY 401 (CHEM 452) Advanced Inorganic Chemistry	3
BCH 481-482 (BIOC 481-482) Advanced Biochemistry I, II	6
BIOB 160N (BIOL 110N) Principles of Living Systems or equivalent	4
BIOB 260/261 (BIOL 221) Cellular and Molecular Biology	4
BIOM 400 (MICB 302) Medical Microbiology	3
PHAR 341-342 Applied Anatomy and Physiology	8
PHAR 443-444 Pharmacology and Toxicology	8
Electives from CHMY 373, 371, 442, 445, 403, 402, 465, 466 (CHEM 371, 372, 442, 445, 453, 455, 465, 466), 3 credits maximum of 492 (CHEM 497); BIOB 490 (BIOL 497) 3 credits maximum; PHAR 421, 422, 3 credits maximum of 497	3
Cognate courses:	
M 162 (MATH 150) Applied Calculus or 171 (MATH 152) Calculus I	4
M 274 (MATH 158) Applied Differential Equations or 172 (MATH 153) Calculus II	3-4
PHSX 205N-206N and 207N-208N (PHYS 111N-113N and 112N-114N) Fundamentals of Physics I, II or PHSX 215N-216N and 217N-218N (PHYS 211N-213N or 212N-214N) Fundamentals of Physics I and II with Calculus	10

Bachelor of Arts Degree

The courses required for the B.A. degree provide a less extensive training in chemistry than do the courses required for the American Chemical Society certified B.S. degree. This is to allow the student to supplement his or her program with courses that meet his or her specific needs. Thus this degree provides the core of traditional preparation in chemistry together with latitude for combination with an interdisciplinary field or the Teacher Preparation program. It is strongly advised that students using this degree obtain faculty advice in planning their program.

Course	Credits
CHMY 141N-143N (CHEM 161N-162N) College Chemistry I, II	10
CHMY 221-223 (CHEM 221-222) Organic Chemistry I, II	6
CHMY 222 (CHEM 223) Organic Chemistry I Laboratory	2
CHMY 225 (CHEM 264) Organic Chemistry Laboratory for Chemistry Majors or 224 (CHEM 224) Organic Chemistry II Laboratory	2-3
CHMY 302E (CHEM 334) Chemistry Literature and Scientific Writing (satisfies the Upper-division Writing Expectation)	3
CHMY 311 (CHEM 341) Analytical Chem-Quant Analysis	4
CHMY 421 (CHEM 342) Advanced Instrument Analysis	4
CHMY 373-371 (CHEM 371-372) Phys Chem-Kntcs & Thrmdynmcs & Phys Chem-Qntm Chm & Spctrscopy	8
* Advanced electives	15
Cognate courses:	
CSCI 172 (CS 172) Introduction to Computer Modeling (or similar computing experience with approval of Chemistry advisor)	3
M 171, 172, 273 (MATH 152, 153, 251) Calculus I, II and III	12
PHSX 215N-216N and 217N-218N (PHYS 211N-213N or 212N-214N) Fundamentals of Physics I and II with Calculus (preferred) or PHSX 205N-206N and 207N-208N (PHYS 111N-113N and 112N-114N) Fundamentals of Physics I, II or	10
Modern Foreign Language	10
WRIT 101 (ENEX 101) Composition.	3

*As preparation for teaching at the secondary level, students should elect CHMY 401, 403, 485 (CHEM 452, 453, and 485), BCH 380 (BIOC 380), STAT 216 (MATH 241), SCI 350 and teaching licensure requirements including EDU 497 (C&I 426). 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 licensure, including the student teaching requirement. These students still must meet the foreign language/symbolic systems competency requirement (likely via M 171 and 172

(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 CHMY 401, 403, and 485 (CHEM 452, 453, and 485). Students also must complete BCH 380 (BIOC 380), STAT 216 (MATH 241), SCI 350, and EDU 497 (C&I 426), gain admission to Teacher Education Program and meet the requirements for teaching licensure (see the College 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 CHMY 101N, 141N-143N, 221-222-223, 311, 360 or 373 and 485 (CHEM 101N, 161N-162N, 221-222-223, 341, 370 or 371, and 485); BCH 380 (BIOC 380), CSCI 100 or 172 (CS 101 or 172), M 162 (MATH 150) and STAT 216 (MATH 241), PHSX 205N-206N, 207N-208N (PHYS 111N-113N, 112N-114N) and SCI 350. Students also must complete EDUC 497 (C&I 426), gain admission to Teacher Education Program and meet other requirements for teaching licensure (see the College of Education section of this catalog).

Suggested Course of Study

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

	First Year	A S
CHMY 141N-143N (CHEM 161N-162N) College Chemistry I, II		5 5
CSCI 172 (CS 172) Computer Modeling		- 3
M 171-172 (MATH 152-153) Calculus I, II		4 4
WRIT 101 (ENEX 101) Composition		3 -
Electives and General Education		3 3
		15 15
	Second Year	A S
CHMY 221-223 (CHEM 221-222) Organic Chemistry I, II		3 3
CHMY 222 (CHEM 223) Organic Chemistry I Laboratory		2 -
CHMY 225 (CHEM 264) (or 224) Organic Chemistry Laboratory		- 3
M 273 (MATH 251) Calculus III		4 -
M 311 (MATH 311) Ordinary Differential Equations and Systems or M 221 (MATH 221) Linear Algebra		- 3
PHSX 215N-216N and 217N-218N (PHYS 211N-213N or 212N-214N) Fundamentals of Physics I and II with Calculus		5 5
Electives and General Education		- 3
		14 17
	Third Year	A S
CHMY 302E (CHEM 334) Chem Literature & Scientific Writing		3 -
CHMY 311 (CHEM 341) Analytical Chem-Quant Analysis		4 -
CHMY 421 (CHEM 342) Advanced Instrument Analysis		- 4
CHMY 373-371 (CHEM 371-372) Phys Chem-Kntcs & Thrmdynmcs & Phys Chem-Qntm Chm & Spctrscopy		4 4
General Education (one upper-division)		6 9
		17 17
	Fourth Year	A S
CHMY 401-403 (CHEM 452-453) Advanced Inorganic Chemistry		3 3
CHMY 402 (CHEM 455) Advanced Inorganic Chemistry Laboratory		- 2
BCH 480 (BIOC 481) Advanced Biochemistry I		3 -
BCH 486 (BIOC 486) Biochemistry Research Laboratory		3 -
Advanced CHEM elective		3 3
General Education		- 3
Upper-division elective		6 6
		15 17

For B.S. Degree, Option in Environmental Chemistry

	First Year	A S
CHMY 141N-143N (CHEM 161N-162N) College Chemistry I, II		5 5
M 171 (MATH 152) Calculus I		4 -
M 172 (MATH 153) Calculus II		- 4
BIOB 160N (BIOL 110N) Principles of Living Systems or equivalent		- 4
WRIT 101 (ENEX 101) Composition		3 -
Electives and General Education		4 2
		16 14-15
	Second Year	A S

CHMY 221-223 (CHEM 221-222) Organic Chemistry	3 3
CHMY 222 (CHEM 223) Organic Chemistry I Laboratory	2 -
CHMY 225 or 224 (CHEM 264 or 224) Organic Chemistry Laboratory	- 3
PHSX 215N-216N and 217N-218N (PHYS 211N-213N or 212N-214N) Fundamentals of Physics I and II with Calculus	5 5
BIOB 260/261 (BIOL 221) Cellular and Molecular Biology	4 -
BIOB 275 (BIOL 223) General Genetics	- 4
GEO 101N-102N (GEOS 100N-101N) General Geology and Laboratory	3 -
	17 15

Third Year**A S**

CHMY 302E (CHEM 334) Chem Literature & Scientific Writing	3 -
CHMY 311 (CHEM 341) Analytical Chem-Quant Analysis	4 -
CHMY 421 (CHEM 342) Advanced Instrument Analysis	- 4
CHMY 360 (CHEM 370) Applied Physical Chemistry or CHMY 373 (CHEM 371) Phys Chem-Kntcs & ThrmDymcs	- 3-4
GEO 327 (GEOS 327) Geochemistry	3 -
Electives and General Education	6 9
	16 16-17

Fourth Year**A S**

BCH 480-482 (BIOC 481-482) Advanced Biochemistry I, II	3 -
CHMY 401 (CHEM 452) Advanced Inorganic Chemistry	3 -
CHMY 494 (CHEM 494) Seminar/Workshop	- 1
STAT 451/457 (MATH 444/447) Statistical Methods	4 -
Electives and General Education	4 15
	17 16

For B.S. Degree, Option in Forensic Chemistry**First Year****A S**

CHMY 141N-143N (CHEM 161N-162N) College Chemistry I, II	5 5
M 171-172 (MATH 152-153) Calculus I, II	4 4
BIOB 160N (BIOL 110N) Principles of Living Systems or equivalent	- 4
COMX 111A (COMM 111A) Public Speaking	3 -
WRIT 101 (ENEX 101) Composition	- 3
Electives and General Education	3 -
	15 16

Second Year**A S**

CHMY 221-223 (CHEM 221-222) Organic Chemistry	3 3
CHMY 223 (CHEM 223) and CHMY 225 or 224 (CHEM 264 or 224) Organic Chemistry I Laboratory	2 2
PHSX 215N-216N and 217N-218N (PHYS 211N-213N or 212N-214N) Fundamentals of Physics I and II with Calculus	5 5
BIOB 260/261 (BIOL 221) Cellular and Molecular Biology	4 -
SOCI 211S (SOC 230S) Criminology	3 -
CJUS 125N (ANTH 286N) Fundamentals of Forensic Science	- 3
General Education	- 3
	17 16

Third Year**A S**

CHMY 302E (CHEM 334) Chem Literature & Scientific Writing	3 -
CHMY 311 (CHEM 341) Analytical Chem-Quant Analysis	4 -
CHMY 421 (CHEM 342) Advanced Instrument Analysis	- 4
CHMY 360 (CHEM 370) Applied Physical Chemistry	- 3
STAT 451/457 (MATH 444/447) Statistical Methods	4 -
SOCI 221 (SOC 235) Criminal Justice	- 3
Electives and General Education	6 6
	15 16

Fourth Year**A S**

BIOC 480-482 (BIOC 481-482) Advanced Biochemistry I	3 3
CHMY 401 (CHEM 452) Advanced Inorganic Chemistry	3 -
CHMY 488 (CHEM 488) Forensic Research	- 3
CHMY 489 (CHEM 489) Forensics Research Seminar	1 -
Electives and General Education	9 9
	16 15

For B.S. Degree, Option in Pharmacology**First Year****A S**

CHMY 141N-143N (CHEM 161N-162N) College Chemistry I, II	5 5
M 162 (MATH 150) Applied Calculus or 171 (MATH 152) Calculus I	4 -
M 274 (MATH 158) Applied Differential Equations or M 172 (MATH 153) Calculus II	- 3-4
BIOB 160N (BIOL 110N) Principles of Living Systems or equivalent	- 4
WRIT 101 (ENEX 101) Composition	3 -
Electives and General Education	4 2

		14- 16 15
	Second Year	A S
CHMY 221-223 (CHEM 221-222) Organic Chemistry		3 3
CHMY 222 (CHEM 223) Organic Chemistry I Laboratory		2 -
CHMY 225 or 224 (CHEM 264 or 224) Organic Chemistry Laboratory		- 3
PHSX 205N-206N and 207N-208N (PHYS 111N-113N and 112N-114N) Fundamentals of Physics I, II or PHSX 215N-216N and 217N-218N (PHYS 211N-213N or 212N-214N) Fundamentals of Physics I and II with Calculus		5 5
BIOB 260-261 (BIOL 221) Cellular and Molecular Biology		4 -
Electives and General Education		- 6
		17 15
	Third Year	A S
CHMY 302E (CHEM 334) Chem Literature & Scientific Writing		3 -
CHMY 311 (CHEM 341) Analytical Chem-Quant Analysis		4 -
CHMY 421 (CHEM 342) Advanced Instrument Analysis		- 4
CHMY 360 (CHEM 370) Applied Physical Chemistry or CHMY 373 (CHEM 371) Phys Chem-Kntcs & ThrmDymcs		- 3-4
BIOM 400 (MICB 302E) Medical Microbiology		3 -
PHAR 341-342 Applied Anatomy and Physiology		4 4
Electives and General Education		3 6
		17 17- 18
	Fourth Year	A S
BCH 480-482 (BIOC 481-482) Advanced Biochemistry I, II		3 3
CHMY 401 (CHEM 452) Advanced Inorganic Chemistry		3 -
PHAR 443-444 Pharmacology and Toxicology		4 4
Electives and General Education		6 7
		16 14
 For B.A. Degree		
	First Year	A S
CHMY 141N-143N (CHEM 161N-162N) College Chemistry I, II		5 5
CSCI 172 (CS 172) Introduction to Computer Modeling		- 3
WRIT 101 (ENEX 101) Composition		3 -
M 171-172 (MATH 152-153) Calculus I and II		4 4
General Education or electives		3 3
		15 15
	Second Year	A S
CHMY 221-223 (CHEM 221-222) Organic Chemistry		3 3
CHMY 222 (CHEM 223) Organic Chemistry I Laboratory		2 -
CHMY 225 (CHEM 264) (or 224) Organic Chemistry Laboratory		- 3
M 273 (MATH 251) Calculus III		4 -
PHSX 215N-216N and 217N-218N (PHYS 211N-213N or 212N-214N) Fundamentals of Physics I and II with Calculus (preferred) or PHSX 205N-206N and 207N-208N (PHYS 111N-113N and 112N-114N) Fundamentals of Physics I, II		5 5
General Education or electives		- 6
		14 17
	Third Year	A S
CHMY 302E (CHEM 334) Chem Literature & Scientific Writing		3 -
CHMY 311 (CHEM 341) Analytical Chem-Quant Analysis		4 -
CHMY 421 (CHEM 342) Advanced Instrument Analysis		- 4
CHMY 373-371 (CHEM 371-372) Phys Chem-Kntcs & ThrmDymcs & Phys Chem-Qntm Chm & Spctrscopy		4 4
Advanced electives		3 3
General Education		3 6
		17 17
	Fourth Year	A S
Advanced CHEM elective		3 3
General Education or elective		3 -
Modern Foreign Language		5 5
Upper-division elective		6 6
		17 14

Requirements for a Minor To earn a minor in chemistry the student must complete CHMY 141N, 143N, 221, 222, 223, 311, 360 or 373 (CHEM 161N, 162N, 221, 222, 223, 341, 370 or 371) and at least two courses from one of the following groups:

(a) CHMY 422, 371, 442, 445, 401, 403, 465 (CHEM 342, 372, 442, 445, 452, 453, 465)

(b) If the student's major does not require biochemistry, BCH 380 or 480 and 482 (BIOC 380 or 481 and 482)

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

Courses

R- before the course description 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 (CHMY) - Course Descriptions

101N, 104, 121N, 122, 123N, 124N, 141N, 143N, 191, 221, 222, 223, 224, 225, 291, 292, 302E, 311, 360, 371, 373, 391, 397, 398, 401, 402, 403, 421, 442, 445, 465, 466, 480, 485, 488, 489, 490, 491, 492, 494, 498, 499, 501, 541, 542, 544, 553, 561, 562, 563, 564, 566, 568, 569, 573, 580, 581, 593, 595, 596, 597, 598, 599, 630, 640, 650, 697, 699

Faculty

Professors

Bruce E. Bowler, Ph.D., Massachusetts Institute of Technology, 1986

Mark S. Cracolice, Ph.D., University of Oklahoma, 1994 (Chair)

Michael D. DeGrandpre, Ph.D., University of Washington, 1990

Daniel J. Dwyer, Ph.D., Lehigh University, 1976

Christopher P. Palmer, Ph.D., University of Arizona, 1991

Nigel D. Priestley, Ph.D., Southampton University, 1991

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

Kent Sugden, Ph.D., Montana State University, 1992

Associate Professors

Klára Briknarová, Ph.D., Carnegie Mellon University, 1999

Xi Chu, Ph.D., University of Kansas, 2001

Aaron Thomas, Ph.D., University of Florida, 2001

Assistant Professors

Orian Berryman, Ph.D., University of Oregon, 2008

Valeriy Smirnov, Ph.D., University of Nebraska, 2004

Lecturer

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

Research Professor

Robert Yokelson, Ph.D., Yale University, 1991

Research Associate Professors

William R. Laws, Ph.D., The Johns Hopkins University, 1977

Brooke D. Martin, Ph.D., Dartmouth College, 1998

Research Assistant Professor

Earle R. Adams, Ph.D., Montana State University, 1994

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

Donald E. Kiely, Ph.D., University of Connecticut, 1965

R. Keith Osterheld, Ph.D., University of Illinois, 1950

Edward E. Waali, Ph.D., University of Wyoming, 1970

George W. Woodbury, Jr., Ph.D., University of Minnesota, 1964

Department of Communication Studies

- ◌ Special Degree Requirements
- ◌ Suggested Course of Study
- ◌ Courses
- ◌ Faculty

[This portion of the catalog was edited after the catalog was published. Updated September 20, 2013.](#)

Steve Schwarze, Chair

Communication Studies engages 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, audiences, and persuasive campaigns. Uniting the field is the belief that the role of communication in human experience is basic to comprehending complex situations and problems in the modern world. The discipline has roles in both the broad traditions of liberal arts education and in the development and refinement of practical skills.

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

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

Special Degree Requirements

Admission Requirements

To be admitted to the Communication Studies major, a student must complete COMX 111A (COMM 111A) and two other lower-division COMX (COMM) courses.

Students who intend to major in communication studies but who have not yet met the above requirements are admitted to the program as Pre-Communication (PCOM) majors. (PCOM) majors may enroll in 100- and 200-level COMX (COMM) courses only. Students must be fully admitted as Communication Studies (COMM) majors to enroll in 300- and 400-level courses.

Core Requirements

To graduate with a degree in Communication Studies, the student must complete 36 COMX (COMM) credits with 18 of those credits in courses numbered 300 or above. A maximum of 6 credits in COMX 312 (COMM 360) and a maximum of 6 credits in COMX 398 (COMM 398) may count toward a major in communication studies. The following courses are required:

- A course in statistics (does not count toward 36 credits in Communication)
- COMX 115S (COMM 110S) Introduction to Interpersonal Communication
- COMX 111A (COMM 111A) Introduction to Public Speaking
- COMX 220S (COMM 230S) Introduction to Organizational Communication
- COMX 240H (COMM 250H) Introduction to Rhetorical Theory
- COMX 460 (COMM 460) Research Methods

To meet the Upper-division Writing Expectation for the major in Communication Studies, students must successfully complete one of the following courses: COMX 347, 414, 413, 421, 422, 424, 445, 447, 449 (COMM 377, 410, 413, 421, 422, 424, 455, 480, 481) or another course approved for this purpose by the University curriculum committee.

Options and Allied Fields

COMM majors are advised to take courses in other allied disciplines throughout the University that will provide an increased understanding of communication, such as anthropology, business, English, environmental studies, linguistics, management, marketing, political science, psychology, social work, and sociology and women's and gender studies.

Students also are encouraged to consider a second major and/or minor in fields that complement their communication degree.

For instance, students interested in helping professions and associated content areas (e.g., children, families, aging) may choose the human and family development minor or the minor in gerontology. Student interested in new communication technology and its use within organizations should consider the media arts minor, while students interested in non-profit organizations should consider the minor in non-profit administration. Students in the rhetoric and public discourse should consider the minor in women's and gender studies or climate change.

Students can integrate courses in other fields into the COMM major by pursuing one or more of the options listed below.

Communication and Human Relationships Option

Students who elect to concentrate in communication and human relationships must complete:

All the core requirements listed previously.

At least five courses from the following: COMX 202S (COMM 202S) (Nonverbal Communication), 311 (COMM 311) (Family Communication), 380 (COMM 380) (Gender and Communication), 414 (COMM 410) (Communication in Personal Relationships), 412 (COMM 412) (Communication and Conflict), 413 (COMM 413) (Communication and Conflict-Writing) and 415 (COMM 451) (Intercultural Communication), [COMX 485 \(COMM 485\) Communication and Health](#).

At least four courses from the following list: ANTY 227, 427 (ANTH 227, 427); COUN 485; EDEC 310 (C&I 355); HFD 412; NAS 342; PSYX 230S, 233, 345, 339, 360S, 385S, 348 (PSYC 240, 245, 336, 340, 350S, 351S, 385); SOCI 220S, 275S, 330, 332, 350 or 382 (SOC 220, 275S, 300, 330S, 340, or 350); SW 300, 420, 460.

Students may petition to count appropriate special topics or transfer courses upon recommendation of the student's advisor. All courses should be selected in consultation with a faculty advisor. Students electing this option are encouraged to minor in Human and Family Development.

Organizational Communication Option

Students who elect to concentrate in organizational communication must complete:

All the core requirements listed previously.

At least five courses from the following: COMX 210 (COMM 240) (Communication in Small Groups), COMX 351 (COMM 321) (Principles of Public Relations), COMX 352 (COMM 322) (Public Relations Writing), COMX 412 (COMM 412) (Communication and Conflict), COMX 421 (COMM 421) (Communication in Nonprofit Organizations), COMX 422 (COMM 422) (Communication and Technology in Organizations), COMX 423 (COMM 423) (Practical Issues in Organizational Communication), COMX 424 (COMM 424) (Risk, Crisis and Communication), COMM 425 (Communication in Health Organizations), and COMX 415 (COMM 451) (Intercultural Communication).

At least three courses from the following list: ANTY 220S (ANTH 220S), BGEN 320E (MGMT 320E), BGEN 360 (MGMT 368), BMGT 340S (MGMT 340S), BMGT 357 (MGMT 457), BMGT 480 (MGMT 480); BMKT 325 (MKTG 360), BMKT 343 (MKTG 363), BMKT 412 (MKTG 412); PSCI 361, 462, 466, 467 (PSC 361, 460, 466 and 467); SOCI 306, 345, 371 (SOC 306S, 320, 370S).

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

Rhetoric and Public Discourse Option

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

All the core requirements listed previously.

At least four courses from the following: COMX 241 (COMM 241) (Persuasive Communication), COMX 242 (COMM 242) (Argumentation), COMX 343 (COMM 350) (Persuasive Speaking and Criticism), COMX 347 (COMM 377) (Rhetoric, Nature and Environmentalism), COMX 349 (COMM 379) (Consumption, Media, and the Environment), COMX 380 (COMM 380) (Gender and Communication), COMX 445 (COMM 455) (Rhetorical Criticism and Theory), COMX 447 (COMM 480) (The Rhetorical Construction of "Woman"), and COMX 449 (COMM 481) (The Rhetoric of U.S. Women's Activism).

At least four courses from the following: ANTY 122S (ANTH 102); CCS 203; ECNS 433, 445 (ECON 440, 445); ENST 320, 367, 421 (EVST 167H, 367, 420); HSTA 102H, 262, 321, 322, 344, 387, 388, or 478; HSTR 272E, 302, 364, 384E (HIST 152H, 262, 357, 358, 362, 370H, 371H 226E, 301H, 364, 335E); MAR 101L; PHL 235 (PHIL 211), PHL 422 (EVST 427); PSCI 250E, 342, 343, 352, 355, 444, 471 or 474 (PSC 150E, 342, 343, 352, 355, 444, 471 or 472); SOCI 220S, 225, 325, 350, 470, 485 (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	A	S
COMX 115S (COMM 110S) Introduction to Interpersonal Communication	-	3	
COMX 111A (COMM 111A) Introduction to Public Speaking	3	-	
COMX (COMM) elective	-	3	
WRIT 101 (ENEX 101) Composition	3	-	
M 116 (MATH 117) Probability and Linear Mathematics	3	-	
General Education	6	9	
	15	15	
	Second Year	A	S
COMX (COMM) electives	-	6	
COMX 220S (COMM 230S) Introduction to Organizational Communication	3	-	
COMX 240H (COMM 250H) Introduction to Rhetorical Theory	3	-	
STAT 216 (MATH 241) or PSYC 222 (PSYC 220) or SOCI 202 (SOC 202) or HHP 486	3-4	-	
General Education	3	3	
Electives	3	6	
	15-16	15	
	Third Year	A	S
COMX (COMM) Writing course	3	-	

COMX 460 (COMM 460) Communication Research Methods	-	3
Upper-division COMM electives	3	3
Upper-division electives	-	9
Electives	9	-
	15	15
	Fourth Year	
	A	S
Upper-division COMM electives	3	3
Upper-division electives	9	-
Electives	3	12
	15	15

Requirements for a Minor

To be admitted to the communication studies minor, a student must complete COMX 111A (COMM 111A) and two other lower-division COMX (COMM) courses.

Students who intend to minor in communication studies but who have not yet met the above requirements are admitted as Pre-communication (PCOM) 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 COMX (COMM) courses, with at least 9 credits in courses numbered 300 and above. A maximum of 6 credits in COMX 312 (COMM 360) may count toward a minor in communication studies.

Courses

R- before the course description 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 (COMX) - Course Descriptions

102, 111A, 115S, 140L, 191, 191S, 192, 202S, 204X, 210, 212X, 217A, 219S, 220S, 222, 240H, 241, 242, 250, 291, 292, 311, 312, 343, 347, 349, 351, 352, 380, 391, 398, 412, 413, 414, 415, 421, 422, 423, 424, 425, 445, 447, 449, 460, 461, 485, 491, 492, 493, 495, 510, 511, 512, 514, 515, 520, 540, 541, 555, 561, 572, 575, 585, 593, 594, 595, 596, 599

Faculty

Professors

Sara E. Hayden, Ph.D., University of Minnesota, 1994

Alan L. Sillars, Ph.D., University of Wisconsin, 1980

Betsy Wackernagel Bach, Ph.D., University of Washington, 1985

Associate Professors

Joel Iverson, PH.D., Arizona State University, 2003

Greg Larson, Ph.D., University of Colorado, 2000

Steve Schwarze, Ph.D., The University of Iowa, 1999 (Chair)

Stephen M. Yoshimura, Ph.D., Arizona State University, 2002

Christina Yoshimura, Ph.D., Arizona State University, 2004

Lecturer

David Airne, M.A. North Dakota State University, 1998

Adjunct Instructor

Phyllis Bo-yuen Ngai, Ed.D., The University of Montana, 2004

Emeritus Professor

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

Emeritus Associate Professor

James H. Polsin, Ph.D., University of Kansas, 1971

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

- Special Degree Requirements
- Suggested Course of Study
- Courses
- Faculty

Yolanda Reimer, Chair

The growing utility of computers in research and education, as well as the increased impact of computers on our modern society, strongly implies that 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 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 of ABET, <http://www.abet.org>. For more information access our homepage <http://www.cs.umt.edu> or email the chair at yolanda.reimer@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, chemistry and biology.

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.