Minimum Required Grade: C-

Upper Division Departmental Required Courses

Rule: All courses are required.

Note: Students take KIN 498 for 3 to 6 credits.

HTH 475E	Legal and Ethical Issues Health and Exercise Professions	3
KIN 320	Exercise Physiology	3
KIN 321	Exercise Physiology Lab	1
KIN 330	Motor Learning and Control	3
KIN 425	Biomechanics	3
KIN 447	Analytical & Communicative Techniques	3
KIN 498	Internship	3-6
NUTR 411	Nutrition For Sports & Exercise	3
Total Hours		22-25

Minimum Required Grade: C-

Outside Major Upper Division Required Courses

Rule: All courses are required.

Note: It is strongly recommended that students take either BIOH 112 OR BIOH 113 OR BIOB 160N prior to taking Anatomy and Physiology.

BIOH 365	Human AP I for Health Profsns	4
BIOH 370	Human AP II for Health Profsns	4
Total Hours		8

Minimum Required Grade: C-

Elective Courses

Rule: Electives require adviser pre-approval.

Note: Electives require adviser pre-approval.

Students may use any pre-approved Math and Science Elective courses in this category. At least 3 must be Upper Division Credits. Special care should be taken if BIOH 201N/BIOH 202N and BIOH 211N/BIOH 212N were used for Anatomy and Physiology requirements, as more Upper Division Credits may need to be used in this category.

Minimum Required Grade: C-

18 Total Credits Required

Community Health and Prevention Sciences B.S.

Bachelor of Science - Health & Human Performance; Community Health & Prevent Science Concentration

College of ED & Human Sciences

Degree Specific Credits: 106

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

Lower Division Required Courses	16
Outside Major Lower Division Required Courses	39-40
Upper Division Departmental Required Courses	28-34
Outside Major Upper Division Required Courses	6
Elective Courses	18-24
Total Hours	107-120

Lower Division Required Courses

Rule: All courses are required.

Note: Students should take ECP 120 and ECP 121 within two years of graduation in order to ensure current certification. Students may substitute outside Emergency Medical Responder Certification for these courses.

ECP 120	Emergency Medical Responder Lecture	3
ECP 121	Emergency Medical Responder Lab	1
HTH 110	Personal Health and Wellness	3
KIN 201	Basic Exercise Prescription	3
KIN 205	Foundations of HHP	3
NUTR 221N	Basic Human Nutrition	3
Total Hours		16

Minimum Required Grade: C-

Outside Major Lower Division Required Courses

Rule: All courses are required.

Note: It is strongly recommended that students take either BIOH 112 OR BIOH 113 OR BIOB 160N as an elective course prior to taking Anatomy and Physiology.

Note: BIOH 201N and BIOH 202N are co-requisites completed for a total of 4 credits and BIOH 211N and BIOH 212N are co-requisites completed for a total of 4 credits.

BIOH 201N	Human Anat Phys I (equiv 301)	4
BIOM 250N	Microbiology for Hlth Sciences	3
BIOH 211N	Human Anat Phys II (equiv 311)	4

CHMY 121N	Introduction to General Chemistry	3
COMX 111A	Intro to Public Speaking	3
ENST 225	Community & Environment	3
M 115	Probability and Linear Mathematics	3
Select one of the following:		3-4
PSYX 100S	Intro to Psychology	
STAT 216	Introduction to Statistics	
PSYX 222	Psychological Statistics (must be pre-approved by advisor)	
SOCI 202	Social Statistics (must be pre-approved by advisor)	
WILD 240	Intro to Biostatistics (must be pre-approved by advisor)	
EDU 421	Statistical Procedures in Educ (must be pre-approved by advisor)	
WGSS 263S	Social and Political Perspectives on Women, Men, and Sexuality	3
WRIT 121	Intro to Technical Writing	3
or WRIT 201	College Writing II	
Total Hours		32-33

Minimum Required Grade: C-

Upper Division Departmental Required Courses

Rule: All courses are required.

CHTH 355	Theory Practicum Community Health Education	3
CHTH 445	Program Plannig in Community Health	4
CHTH 485	Theories of Health Behaviors and Counseling	3
CHTH 498	Internship	4-6
HTH 370	Peer Health Education	3
HTH 395	Peer Health Practicum	1-3
HTH 430	Health and Mind/Body/Spirit	3
HTH 465	Leading Health and, Human Perform Orgs	3
HTH 475E	Legal and Ethical Issues Health and Exercise Professions	3
KIN 447	Analytical & Communicative Techniques	3
Total Hours		30-34

Minimum Required Grade: C-

Outside Major Upper Division Required Courses

Rule: All courses are required.

ANTY 426	Culture, Health and Healing	3
S W 423	Addiction Studies	3
Total Hours		6

Minimum Required Grade: C-

Elective Courses

Rule: Elective courses require adviser pre-approval.

Note: Electives require adviser consent. Students should take an appropriate number of Upper Division Electives to achieve 39 Upper Division Credits, per UM graduation requirements.

Minimum Required Grade: C-

18-24 Total Credits Required

Health Behavior Coaching (C)

Admission requirements for the Certificate Program in Health Behavior Coaching include:

1. Sophomore level or higher standing;
2. 3.0 GPA;
3. BIOH 201N and BIOH 202N pre-requisite or co-requisite; and
4. letter of intent.

The Student Wellness Program and HHP are collaborating on the Health Behavior Coach Certificate. Staff in the Wellness Program will offer the 2 day training and will be able to monitor whether students have met that requirement prior to receiving their certificate.

Professional Certificate - Health Behavior Coaching

College of ED & Human Sciences

Degree Specific Credits: 25

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Note: Admission requirements for the Certificate Program in Health Behavior Coaching include:

1. Sophomore level or higher standing;
2. 3.0 GPA;
3. BIOH 201N and BIOH 202N pre-requisite or co-requisite; and
4. letter of intent.

Summary

Core Courses	25
Total Hours	25

Core Courses

Rule: Students must complete the following courses

Note: HTH 395 must be completed for 2 credits and CHTH 498 must be completed for 4 credits

CHTH 485	Theories of Health Behaviors and Counseling	3
CHTH 498	Internship	4
HTH 370	Peer Health Education	3
HTH 395	Peer Health Practicum	2

HTH 430	Health and Mind/Body/Spirit	3
KIN 201	Basic Exercise Prescription	3
KIN 483	Exercise Disease & Aging	3
KIN 484	Exercise Disease & Aging Lab	1
NUTR 221N	Basic Human Nutrition	3
Total Hours		25

Minimum Required Grade: C-

In addition to the courses listed above, students must complete the requirements for a bachelor's degree from an accredited university.

Health Enhancement B.S.

Individuals interested in teaching in K-12 schools must complete a degree in the content area they want to teach plus the teacher preparation program through the Department of Curriculum and Instruction. Individuals must complete the teaching major/teaching track within that degree program, which may contain different course requirements than the academic major since the sequence of courses is designed to meet state standards. Upon completion of the degree program with the teaching track and the secondary licensure program, one will be eligible for a standard Montana teaching license in this content area.

- Secondary Education Licensure Program (http://www.coehs.umt.edu/departments/currinst/undergradprograms/seced/default.php)
- Licensure Degree Requirements (p. 101)

Bachelor of Science - Health & Human Performance; Health Enhancement Concentration

College of ED & Human Sciences

Degree Specific Credits: 93

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Note: The Bachelor of Science degree in HHP with the Health Enhancement option requires 130 total credits to graduate. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction (p. 95) in the College of Education and Human Sciences for information. A major GPA of 2.75 is required to be eligible for student teaching.

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

Lower Division Departmental Required Courses	25
Outside Major Lower Division Required Courses	36-37
Upper Division Departmental Required Courses	26
Outside Major Upper Division Required Courses	3
Total Hours	90-91

Lower Division Departmental Required Courses

Rule: All courses are required.

Note: Students should take ECP 120 and ECP 121 within two years of graduation in order to ensure current certification. Students may substitute outside Emergency Medical Responder Certification for these courses.

AHAT 210	Prevention and Care Athletic Injuries	2
AHAT 213	Prevention and Care Athletic Injuries Lab	1
ECP 121	Emergency Medical Responder Lab	1
ECP 120	Emergency Medical Responder Lecture	3
HEE 203	Professional Activities I	2
HEE 204	Professional Activities II	2
HTH 110	Personal Health and Wellness	3
KIN 201	Basic Exercise Prescription	3
KIN 205	Foundations of HHP	3
NUTR 221N	Basic Human Nutrition	3
Total Hours		23

Minimum Required Grade: C-

Outside Major Lower Division Required Courses

Rule: All courses are required.

Note: BIOH 201N and BIOH 202N are co-requisites completed for a total of 4 credits and BIOH 211N and BIOH 212N are co-requisites completed for a total of 4 credits.

BIOH 201N	Human Anat Phys I (equiv 301)	4
BIOH 211N	Human Anat Phys II (equiv 311)	4
BIOM 250N	Microbiology for Hlth Sciences	3
CHMY 121N	Introduction to General Chemistry	3
COMX 111A	Intro to Public Speaking	3
M 115	Probability and Linear Mathematics	3
NASX 105H	Intro Native Amer Studies	3
PSYX 100S	Intro to Psychology	3
Select one of the following:		3-4
STAT 216	Introduction to Statistics	
PSYX 222	Psychological Statistics (must be pre-approved by advisor)	
SOCI 202	Social Statistics (must be pre-approved by advisor)	
WILD 240	Intro to Biostatistics (must be pre-approved by advisor)	
EDU 421	Statistical Procedures in Educ (must be pre-approved by advisor)	
WRIT 101	College Writing I	3
WRIT 121	Intro to Technical Writing	3
or WRIT 201	College Writing II	
Total Hours		35-36

Minimum Required Grade: C-

Upper Division Departmental Required Courses

Rule: All courses are required.

HEE 301	Meth of Secondary HE	3
HEE 302	Methods of Instructional Strategies in Elementary PE	3
HEE 340	Methods of Health Education	3
HTH 465	Leading Health and, Human Perform Orgs	3
HTH 475E	Legal and Ethical Issues Health and Exercise Professions	3
KIN 320	Exercise Physiology	3
KIN 321	Exercise Physiology Lab	1
KIN 322	Kinesiology	3
KIN 323	Anatomical Kinesiology Lab	1
KIN 330	Motor Learning and Control	3
Total Hours		26

Minimum Required Grade: C-

Outside Major Upper Division Required Courses

Rule: Complete the following course.

ENST 472	Gen Sci: Conservation Education	3
or BIOE 172N	Introductory Ecology	
Total Hours		3

Minimum Required Grade: C-

Pre-Professional Exercise Science B.S.

Bachelor of Science - Health & Human Performance; Exercise Science - PreProfessional Concentration

College of ED & Human Sciences

Degree Specific Credits: 90-93

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

Major Lower Division Departmental Required Courses	13
Outside Major Lower Division Required Courses	56-62
Major Upper Division Departmental Required Courses	22-25
Outside Major Upper Division Required Courses	8-16
Elective Courses	18
Total Hours	117-134

Major Lower Division Departmental Required Courses

Rule: All courses are required.

Note: Students should take ECP 120, ECP 121 within two years of graduation in order to ensure current certification. Students may also substitute outside Emergency Medical Responder Certification for these courses.

ECP 120	Emergency Medical Responder Lecture	3
ECP 121	Emergency Medical Responder Lab	1
KIN 201	Basic Exercise Prescription	3
KIN 205	Foundations of HHP	3
NUTR 221N	Basic Human Nutrition	3
Total Hours		13

Minimum Required Grade: C-

Outside Major Lower Division Required Courses

Rule: All courses are required.

Notes: Students interested in Medical or Dental School should replace CHMY 121N, CHMY 123 and CHMY 124 with CHMY 141N, 142N,221/222 and 223/224. Students interested in Physical Therapy or other graduate medical professions generally take CHMY 121N, 123 and 124, but you should talk to the HHP advisors prior to starting your chemistry series

Chose one of the following courses:		3-5
BIOB 160N	Principles of Living Systems	
BIOB 170N & BIOB 171N	Princpls Biological Diversity and Princpls Biological Dvrsty Lab	
BIOH 212N	Human Anat Phys II Lab	
BIOH 213N	The Biology of Behavior	
Select one of the Chemistry sequences:		
General Chemistry:		8-9
CHMY 121N	Introduction to General Chemistry	
CHMY 123 & CHMY 124	Introduction to Organic and Biochemistry and Introduction to Organic and Biochemistry Lab	
College Chemistry:		18
CHMY 141N	College Chemistry I	
CHMY 143N	College Chemistry II	
CHMY 221 & CHMY 222	Organic Chemistry I and Organic Chemistry I Lab	
CHMY 223 & CHMY 224	Organic Chemistry II and Organic Chemistry II Lab	
COMX 111A	Intro to Public Speaking	3
Select one of the following:		4-6
M 121 & M 122	College Algebra and College Trigonometry	
M 151	Precalculus	
M 162	Applied Calculus	4

M 171	Calculus I	4
Select one of the following physics sequences:		
Algebra- and Trigonometry-based:		
PHSX 205N & PHSX 206N	College Physics I and College Physics I Laboratory	
PHSX 207N & PHSX 208N	College Physics II and College Physics II Laboratory	
Calculus-based:		
PHSX 215N & PHSX 216N	Fund of Physics w/Calc I and Physics Laboratory I w/Calc	
PHSX 217N & PHSX 218N	Fund of Physics w/Calc II and Physics Laboratory II w/Calc	
PSYX 100S	Intro to Psychology	3
Select one of the following:		3-4
STAT 216	Introduction to Statistics (must be pre-approved by advisor)	
PSYX 222	Psychological Statistics (must be pre-approved by advisor)	
SOCI 202	Social Statistics (must be pre-approved by advisor)	
WILD 240	Intro to Biostatistics (must be pre-approved by advisor)	
EDU 421	Statistical Procedures in Educ (must be pre-approved by advisor)	
WRIT 101	College Writing I	3
WRIT 121	Intro to Technical Writing	3
or WRIT 201	College Writing II	
Total Hours		56-62

Minimum Required Grade: C-

Major Upper Division Departmental Required Courses

Rule: All courses are required.

HTH 475E	Legal and Ethical Issues Health and Exercise Professions	3
KIN 320	Exercise Physiology	3
KIN 321	Exercise Physiology Lab	1
KIN 330	Motor Learning and Control	3
KIN 447	Analytical & Communicative Techniques	3
or AHAT 342	Therapeutic Interventions	
KIN 460	ECG Assessment	2
KIN 483	Exercise Disease & Aging	3
KIN 484	Exercise Disease & Aging Lab	1
KIN 498	Internship	3-6
or KIN 499	Capstone	
Total Hours		22-25

Minimum Required Grade: C-

Outside Major Upper Division Required Courses

Rule: All courses are required.

Notes: It is required that students take either BIOH 112 OR BIOH 113 OR BIOB 160N prior to taking Anatomy and Physiology.

Students who take the BIOH 201/202 and BIOH 211/212 Anatomy and Physiology series may need to take additional upper division credits, beyond the courses required in this concentration, to meet the university of Montana requirement of 39 upper division credits for graduation.

Choose one of the following Anatomy and Physiology sequences		8-16
UM courses		
BIOH 365	Human AP I for Health Profsns	
BIOH 370	Human AP II for Health Profsns	
Missoula College courses		
BIOH 201N & BIOH 202N	Human Anat Phys I (equiv 301) and Human Anat and Phys I Lab	
BIOH 211N & BIOH 212N	Human Anat Phys II (equiv 311) and Human Anat Phys II Lab	
Total Hours		8-16

Minimum Required Grade: C-

Elective Courses

Rule: Electives require adviser pre-approval.

Students must complete 18 elective credit hours in addition to the list of lower and upper division courses above. Students who complete the BIOH 365/370 Anatomy and Physiology series will need an additional 7-10 upper division credit hours and students who complete the BIOH 201/202 and BIOH 211/212 for their Anatomy and Physiology will require an additional 15-18 upper division credits. You should use your elective courses to meet the additional prerequisite course requirements of graduate programs you are interested in attending.

Minimum Required Grade: C-

Teaching and Learning Department

Adrea Lawrence, Chair

The Department of Teaching and Learning offers the Bachelor of Arts degree in elementary education and teaching licensure in elementary education. The department also offers teaching licensure at both the secondary and K-12 levels for students who are earning or have already completed the baccalaureate degree (teaching major or teaching minor) in one of the following state-approved content areas: Art, Biology, Business Education, Chemistry, Earth Science, Economics, English, English as a Second Language, French, General Science Broadfield, Geography, German, Government, Health and Human Performance, History, Latin, Library Media, Mathematics, Music, Physics, Psychology, Reading, Russian, Social Studies Broadfield, Sociology, Spanish, Special Education, and Theatre. (See specific requirements for each in the following pages.) At the graduate level, the department offers master and doctoral degrees in Curriculum and Instruction. Programs across all degree levels are organized to foster the development of learning communities and incorporate three essential themes: integration of ideas; cooperative endeavors; and respect for diversity and individual worth. For more information go to the Department of Teaching and Learning web site (http://coehs.umt.edu/departments/currinst/default.php).

Graduate Programs

The department offers the Master of Education (M.Ed.) in curriculum and instruction. Students select from one of the following options:

- curriculum studies,
- early childhood education,
- library media services,
- literacy education, and
- special education.

Students may earn the master's degree in combination with requirements for initial teacher licensure at the elementary and secondary and K-12 levels. This option is further explained below. The department also offers the Doctor of Education (Ed.D.) in curriculum and instruction. Information about these graduate programs is available from the department office and website (http://coehs.umt.edu/departments/currinst/masterofed/default.php), UM Graduate Programs and Admissions Catalog.

Teacher Preparation

Elementary Education

Individuals preparing to teach in elementary schools (license for grades K-8) complete a major in elementary education. Students apply for admission to the Teacher Education Programs, usually at the end of the sophomore year, in order to continue with the education (EDU) sequence of courses. All elementary education majors are advised by full-time advisors within the Department of Curriculum and Instruction.

Secondary and K-12 licensure

Students preparing to teach at the middle or high school levels (license for grades 5-12) or in K-12 licensure areas will declare a major in the subject area(s) they wish to teach, e.g., English, mathematics, music, or any other of the state-approved major content endorsement areas listed previously. They are advised within their major department(s) and, upon admission to the Teacher Education Program, they also are advised within the Department of Curriculum and Instruction regarding the requirements necessary to earn secondary or K-12 licensure. All secondary and K-12 licensure students seek admission to the Teacher Education Program, usually at the end of the sophomore year, and complete course work required for licensure in Curriculum and Instruction and in their major content area(s).

Applicants for Montana teaching licensure must:

1. satisfy all degree and licensure requirements as outlined below; and
2. be at least 18 years of age.

Information about the Teacher Education Program is available in the department office and website (http://www.coehs.umt.edu).

Master's Degree and Initial Licensure

Individuals who have completed a bachelor's degree may elect to apply to the department's Graduate Program and combine the master's degree in curriculum and instruction (curriculum studies option) with licensure to teach. At the secondary and K-12 licensure level, the combined program may be completed in a summer-autumn-spring-summer sequence provided the student previously has completed most of the required content courses. At the elementary licensure level, the program typically takes two academic years.

Assessment at Admission to the Undergraduate Teacher Education Program

Individuals seeking licensure to teach must apply for admission to the professional Teacher Education Program. Admission is limited to approximately 125 elementary and 125 secondary candidates per year. Deadlines for application are September 15 and February 15. Individuals are eligible for consideration for admission if they have:

- been admitted to the University of Montana;
- completed at least 30 semester credits;
- earned a minimum cumulative GPA (including all transfer credits) of 2.75;
- completed an English writing course (WRIT 101) with a grade of C- or better;
- demonstrated evidence of writing ability in an application essay;
- documented appropriate experience working with children or youth;
- secured supportive recommendations from two faculty members;
- presented results of a national fingerprint-based background check; and
- demonstrated appropriate professional behaviors and dispositions associated with success in the profession.

The Teacher Education Program Admission Application packet includes a policy and procedures handbook and can be downloaded from the website (http://coehs.umt.edu/departments/currinst/forms.php).

Once admitted, licensure candidates must maintain a minimum GPA of 2.75 each semester to continue in the program. Candidates who interrupt their studies for more than two years are placed on inactive status and must apply for readmission to both the University and the Teacher Education Program.

Candidates seeking a K-12 endorsement in library, reading, or special education must have full admission to the Teacher Education Program or be a licensed teacher before applying to one of these specialized programs.

Degree-holding individuals are invited to submit transcripts for review to determine how previous course work applies. They may earn a second baccalaureate degree and/or a teaching license or they may combine elementary, secondary, or K-12 licensure with a master's degree. They should enroll with the Admissions Office as "post-baccalaureate" unless pursuing a graduate degree.

Admission Policy for Minority Students and Students with Disabilities

The Teacher Education Program is committed to providing opportunities for teacher preparation for members of groups that have been historically disadvantaged and subject to discrimination. The criteria for admission are the same for students with disabilities and for members of racial, ethnic and other minorities, as for other students; however, students who do not meet one or more of the criteria for admission are encouraged to describe in their applications any special circumstances, experiences, skills and/or special talents that may compensate for unmet criteria. The physical, social, economic, and cultural circumstances that may have influenced a student's ability to achieve minimum eligibility for admission will be considered. A special effort will be made to determine the student's abilities and potential to overcome disadvantage or

discrimination and become a successful beginning teacher. Upon entry to the program, the candidate will be assigned to a faculty mentor. The candidate and mentor will design a course of study appropriate for the candidate's progression toward the degree and/or licensure.

Assessment at Application for Student Teaching

Candidates begin planning for student teaching two semesters prior to placement. Candidates are eligible to student teach if they have:

- full admission into the Teacher Education Program;
- a grade of C- or better in all required licensure courses;
- a minimum cumulative GPA of 2.75 (and 2.75 in each field of licensure);
- results of a current national fingerprint-based background check (candidates with misdemeanors or felonies may be subject to further review by the Field Experience Committee);
- a completed application to student teach and the consent of the Director of Field Experiences;
- for elementary education majors, student should be enrolled in Level of the Program, and have completed all coursework in all previous levels.
- for secondary licensure candidates, all methods courses, two thirds of content course work, and approval by departments in the major/minor content area.

Consult the Teacher Education Policy Handbook for application deadlines and procedures. The Student Teaching Application is available on the Field Experiences website (http://www.coehs.umt.edu/departments/currinst/undergradprograms/seced/default.php).

Internships and practica in library, reading, and special education do not substitute for the student teaching semester required for licensure in a subject field.

Assessment at Program Completion

As active participants in this learning community, candidates are expected to assume roles as both learners and teachers in course work and clinical performance. Through personal disposition, classroom performance, and professional action, candidates who complete the Teacher Education Program at the University of Montana will be able to:

- demonstrate knowledge of the disciplines and subject matter related to curriculum;
- design interdisciplinary and discrete subject area instruction to achieve curriculum goals;
- use appropriate technologies and resources to enhance instruction and student performance;
- select and design appropriate, authentic means of assessing student learning and progress;
- implement instructional and behavioral management strategies to promote a safe and positive learning environment;
- engage students in learning activities that promote critical and creative thinking;
- design and organize learning environments to accommodate learners;
- communicate clearly, accurately and professionally with students and their families, colleagues, and community members;
- reflect on professional practices and demonstrate commitment to fairness and the ability of all to learn.

Indian Education for All

It is Montana's constitutional intent that the state's education system will recognize the distinct and unique cultural heritage of American Indians and will be committed in its education goals to the preservation of their cultural heritage. The intent of the legislature as expressed in MCA20-1-501, Indian Education for All, is that every Montanan, whether Indian or non-Indian, be encouraged to learn about the distinct and unique heritage of American Indians in a culturally responsive manner. It is also intended that educational personnel provide means by which school personnel will gain an understanding for the American Indian people.

Candidates preparing for teaching licensure in all endorsement areas are required to complete a minimum of one course in Native American Studies. Candidates also may choose ANTY 323X , Indians of Montana, to meet this requirement. Throughout their programs of study candidates must demonstrate

1. ability to integrate into their content areas knowledge of the history, cultural heritage, and contemporary status of American Indians and tribes in Montana;
2. knowledge of how students within different populations, including Montana American Indians, differ in their approaches to learning; and
3. ability to create instructional opportunities that are adapted to diverse learners, including situations where concentrated generational poverty has affected student academic achievement.

Undergraduate

- Elementary Education B.A. (p. 100)
- Early Childhood Education P-3 B.A. (p. 98)

Undergraduate Minors

- Administrative Systems Management (p. 97)
- Early Childhood Education (p. 95)

Undergraduate Teaching Licensures

- Teacher Librarian Endorsement (p. 103)
- Teaching ESL (p. 103)
- Teaching Reading (p. 104)
- Teaching Special Education (p. 104)
- Technology in Education (p. 105)
- Secondary Certification (p. 101)

Administrative Systems Management Minor

Minor - Administrative System Management (Minor)

College of ED & Human Sciences

Degree Specific Credits: 27

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Note: This is a non-teaching minor offered with the Department of Curriculum & Instruction in the College of Education and Human Sciences. Admission to the Teacher Education Program is NOT required.

Summary

Administrative Systems Management Minor Required Courses	27
Total Hours	27

Administrative Systems Management Minor Required Courses

Rule: Complete all of the following courses.

ACTG 201	Principles of Financial Accounting	3
BGEN 235	Business Law	3
BMGT 340	Mgmt & Organization Behavior	3
C&I 287	Business Communications	3
C&I 341	Information Managemnt & Design	3
CSCI 172	Intro to Computer Modeling	3
ECNS 201S	Principles of Microeconomics	3
EDU 472	Dev Digital Rich Workplace	3
M 115	Probability and Linear Mathematics	3
Total Hours		27

Minimum Required Grade: C-

Early Childhood Education Minor

Minor - Early Childhood Education (Minor)

College of ED & Human Sciences

Degree Specific Credits: 22

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Note: This minor can only be completed by individuals seeking K-8 elementary licensure or currently licensed elementary education teachers.

Summary

Required courses	22
Total Hours	22

Required Courses

Rule: Must complete all of the following courses:

Note: Students must take two semesters of EDU 397:

1. Methods: PK-4 Early Numeracy and
2. Methods: PK-3 Early Literacy.

EDEC 408	Early Childhood Principles and Practices	3
EDEC 410	Families, Communities, Culture	3
EDEC 420	Meeting Standards Through Play-Based Environments	3
EDEC 430	SocEmot Dvlpmnt in Yng Child	3
EDEC 495	EC Fieldwork/Practicum: Integrated Curriculum	1
EDU 222	Educational Psych Child Dev	3
EDU 397	Methods: Teaching & Assessing (two semesters)	6
Total Hours		22

Minimum Required Grade: C-

Early Childhood Education P-3 B.A.

Bachelor of Arts - Early Childhood Education P-3

College of ED & Human Sciences

Degree Specific Credits: 110-111

Required Cumulative GPA: 2.75

Catalog Year: 2017-2018

Note: Admission to the Teacher Education Program is required to enroll in any EDU and EDEC courses.

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Literature Content Courses	3-4
Math Content Courses	6
Science Content Courses	13
Social Studies Content Courses	12
Geography	
Social Studies	
Health and Physical edcuation	3
The Arts	9
Teacher Education Program Professional Licensure Courses	64
Total Hours	110-111

Minimum Required Grade: C-

Literature Content Courses

Select one of the following:		3-4
EDU 331	Lit & Literacy for Children	
GH 151L	Introduction to Western Humanities Antiquity	
GH 152L	Introduction to the Humanities Medieval to Modern	
LIT 110L	Intro to Lit	
LIT 120L	Poetry	

NASX 235X	Oral/Written Trads Native Amer	
Total Hours		3-4

Minimum Required Grade: C-

Math Content Courses

Rule: Complete one of the following.

M 132	Numbers and Operations for Elementary School Teachers	3
M 133	Geometry and Measurement for Elementary School Teachers	3
Total Hours		6

Minimum Required Grade: C-

Science Content Courses

Rule: Complete all of the following.

BIOB 226N	Gen Science: Earth & Life Sci	5
ENST 472	Gen Sci: Conservation Education	3
PHSX 225N	Gen Science: Phys & Chem Sci	5
Total Hours		13

Minimum Required Grade: C-

Social Studies Content Courses

Rule: Complete all of the following.

Minimum Required Grade: C-

12 Total Credits Required

Geography

GPHY 121S	Human Geography	3
or GPHY 141S	Geography of World Regions	
Total Hours		3

Minimum Required Grade: C-

Social Studies Courses

Rule: Complete all of the following courses.

ANTY 122S	Race and Minorities	3
HSTA 255	Montana History	3
NASX 105H	Intro Native Amer Studies	3
Total Hours		9

Minimum Required Grade: C-

Health and Physical Education

Rule: Complete all of the following.

HEE 302	Methods of Instructional Strategies in Elementary PE	3
Total Hours		3

Minimum Required Grade: C-

The Arts

Rule: Complete all of the following.

ARTZ 302A	Elementary School Art	2
MUSE 397	Methods: K-8 Music	2
THTR 239A	Creative Drama/Dance: K-8	2
Total Hours		6

Minimum Required Grade: C-

Teacher Education Program Professional Licensure Courses

Rule: All courses are required.

Minimum Required Grade: C-

64 Total Credits Required

Level 1 Learning and Instruction

Rule: All courses must be completed concurrently.

Note: Students are required to complete EDU 397 Methods: PK-4: Early Numeracy (3 credits) and EDU 397 Methods: PK-3 Early Literacy (3 credits).

EDEC 408	Early Childhood Principles and Practices	3
EDU 222	Educational Psych Child Dev	3
EDU 338	Academic Interventions	3
EDU 395	Clinical Experience	1
EDU 397	Methods: Teaching & Assessing	6
HEE 330	Promoting Well-Being in the Classroom P-12	1
Total Hours		17

Minimum Required Grade: C-

Level 2 Pedagogy and Content Knowledge

Rule: All courses must be completed concurrently.

EDEC 430	SocEmot Dvlpmnt in Yng Child	3
EDEC 453	Early Childhood STEM	3
EDEC 454	PK-3 Language Arts and Reading Methods	3
EDEC 491	Special Topics	1-6
EDU 346	Exceptionalities	3
EDU 370	IntegTech into Educ	3
EDU 451	Clinical Exp:L3 Pedagogy Cntnt	1
Total Hours		17-22

Minimum Required Grade: C-

Level 3 Pedagogy and Content Knowledge

Rule: All courses must be completed concurrently.

EDU 407E	Ethics & Policy Issues	3
EDEC 230	Positive Child Guidance and Management with lab	3
EDEC 405	Early Childhood Assessment and Outcomes	3
EDEC 410	Families, Communities, Culture	3
EDEC 420	Meeting Standards Through Play-Based Environments	3

EDEC 495	EC Fieldwork/Practicum: Integrated Curriculum	1
Total Hours		16

Minimum Required Grade: C-

Level 4 Student Teaching

Rule: All courses must be completed concurrently.

EDU 494	Seminar:Refl Pract & App Rsrch	1
EDU 495	Student Teaching	14
Total Hours		15

Minimum Required Grade: C-

Elementary Education B.A.

Bachelor of Arts - Elementary Education

College of ED & Human Sciences

Degree Specific Credits: 116

Required Cumulative GPA: 2.75

Catalog Year: 2017-2018

Note: Admission to the Teacher Education Program is required to enroll in any EDU courses.

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

Language Arts Content Courses	9-10
Literature	
College Writing	
Children's Literature	
Science Content Courses	10
Social Studies Content Courses	16
Geography	
American History	
Other Social Studies Courses	
Health and Physical Education	6
The Arts	6
Teacher Education Program Professional Licensure Courses	60
Total Hours	107-108

Language Arts Content Courses

Rule: All courses are required.

Minimum Required Grade: C-

9 Total Credits Required

Literature

Rule: Complete one of the following.

Note: Other literature courses may meet this requirement. Please consult with the Education Advisor for approval.

Select one of the following:		3-4
GH 151L	Introduction to Western Humanities Antiquity	
GH 152L	Introduction to the Humanities Medieval to Modern	
LIT 110L	Intro to Lit	
Total Hours		3-4

Minimum Required Grade: C-

College Writing

Rule: Complete the following course.

WRIT 101	College Writing I	3
Total Hours		3

Minimum Required Grade: C-

Children's Literature

Rule: Complete the following course.

EDU 331	Lit & Literacy for Children	3
Total Hours		3

Minimum Required Grade: C-

Science Content Courses

Rule: Complete all of the following.

Note: Other science courses may meet the requirements. Please consult with the Education Advisor.

BIOB 226N	Gen Science: Earth & Life Sci	5
PHSX 225N	Gen Science: Phys & Chem Sci	5
Total Hours		10

Minimum Required Grade: C-

Social Studies Content Courses

Rule: Complete all of the following.

Minimum Required Grade: C-

16 Total Credits Required

Geography

Rule: Complete one of the following.

GPHY 121S	Human Geography	3
or GPHY 141S	Geography of World Regions	
Total Hours		3

Minimum Required Grade: C-

American History

Rule: Complete one of the following.

Note: Other history courses may fulfill this requirement. Please consult with the Education Advisor.

HSTA 101H	American History I	4
or HSTA 102H	American History II	
Total Hours		4

Minimum Required Grade: C-

Other Social Studies Courses

Rule: Complete all of the following courses.

Note: Other Native American Studies courses may fulfill the NASX 105H requirement. Please consult with the Education Advisor.

HSTA 255	Montana History	3
NASX 105H	Intro Native Amer Studies	3
PSCI 210S	Intro to American Government	3
Total Hours		9

Minimum Required Grade: C-

Health and Physical Education

Rule: Complete all of the following.

HEE 302	Methods of Instructional Strategies in Elementary PE	3
Total Hours		3

Minimum Required Grade: C-

The Arts

Rule: Complete all of the following.

ARTZ 302A	Elementary School Art	2
MUSE 397	Methods: K-8 Music	2
THTR 239A	Creative Drama/Dance: K-8	2
Total Hours		6

Minimum Required Grade: C-

Teacher Education Program Professional Licensure Courses

Rule: All courses are required.

Minimum Required Grade: C-

60 Total Credits Required

Level 1

Rule: All courses must be completed concurrently.

Note: Students are required to complete EDU 397 Methods: Early Numeracy K-4 (3 credits) and EDU 397 Methods: PK-3 Early Reading (3 credits).

EDU 222	Educational Psych Child Dev	3
EDU 338	Academic Interventions	3
EDU 395	Clinical Experience	1
EDU 397	Methods: Teaching & Assessing (two courses)	6
Total Hours		13

Minimum Required Grade: C-

Level 2

Rule: All courses must be completed concurrently.

Note: Students are required to complete EDU 397 Methods: PK-8 Language Arts (3 credits).

EDU 346	Exceptionalities	3
EDU 370	IntegTech into Educ	3
EDU 395	Clinical Experience	1
EDU 397	Methods: Teaching & Assessing	3
EDU 407E	Ethics & Policy Issues	3
ENST 472	Gen Sci: Conservation Education	3
Total Hours		16

Minimum Required Grade: C-

Level 3

Rule: All courses must be completed concurrently.

Note: Students must complete EDU 495 Clinical Experience: Level 3 (1 credit).

Students must complete four EDU 497 methods courses, including

- 5-8 Mathematics (3 credits),
- K-8 Social Studies (3 credits),
- K-8 Science (3 credits),
- 4-8 Reading (3 credits).

EDU 340	Classroom Management	3
EDU 495	Student Teaching	1
EDU 497	Teaching and Assessing (complete four courses)	12
Total Hours		16

Minimum Required Grade: C-

Level 4

Rule: All courses must be completed concurrently.

Note: EDU 494 is completed for 1 credit and EDU 495 is completed for 14 credits.

EDU 494	Seminar:Refl Pract & App Rsrch	1
EDU 495	Student Teaching	14
Total Hours		15

Minimum Required Grade: C-

Secondary Licensure

Students preparing to teach at the middle or high school levels (license for grades 5-12) will declare a major in the subject area(s) they wish to teach, e.g., English, mathematics, or any other of the state-approved major content endorsement areas listed previously. They are advised within their major department(s) and, upon admission to the Teacher

Education Program, they also are advised within the Department of Curriculum and Instruction regarding the requirements necessary to earn secondary licensure. All secondary licensure students seek admission to the Teacher Education Program, usually at the end of the sophomore year, and complete course work required for licensure in Curriculum and Instruction and in their major content area(s).

Applicants for Montana teaching licensure must:

1. satisfy all degree and licensure requirements as outlined below; and
2. be at least 18 years of age.

Information about the Teacher Education Program is available in the department office or on our website (http://www.coehs.umt.edu) at: http://www.coehs.umt.edu/

Teaching Licensure - Secondary Certification

College of ED & Human Sciences

Degree Specific Credits: 38

Required Cumulative GPA: 2.75

Catalog Year: 2017-2018

Note: Teacher Education Program coursework is completed in addition to a teaching major and leads to secondary (5-12) or K-12 teaching licensure in that content area. Individuals must be admitted to the Teacher Education Program to enroll in any EDU courses. See the Curriculum and Instruction website for additional information regarding admission.

Summary

Teacher Education Program Prerequisite	3
Additional Licensure Requirements	3
Education Coursework	15
Education Field Experiences	2
Student Teaching Field Experience	15
Total Hours	38

Teacher Education Program Prerequisite

Rule: This course must be completed before applying to the Teacher Education Program.

WRIT 101	College Writing I	3
Total Hours		3

Minimum Required Grade: C-

Additional Licensure Requirements

Rule: Complete all of the following courses.

Note: Students may take any NASX course to fulfill this requirement. If you choose to take a course with a Native American focus outside of the Native American Studies Department, please consult with your C&I advisor for approval.

NASX 105H	Intro Native Amer Studies	3
Total Hours		3

Minimum Required Grade: C-

Education Coursework

Rule: Admission to the Teacher Education Program is required to enroll in the following courses.

Note:

- Math and Business majors are not required to complete EDU 370. They meet the technology requirement through departmental requirements.
- Music majors do not complete EDU 370 nor EDU 481. They meet the technology and literacy requirements through departmental requirements.
- English majors do not complete EDU 481. They meet the literacy requirement through departmental requirements.

All students must complete major and/or minor teaching methods courses specific to their content areas. These methods course requirements are listed within the requirements for each program of study.

EDU 221	Ed Psych & Measuremnt	3
EDU 345	Excptnlty & Clsrm Mgmt	3
EDU 370	IntegTech into Educ	3
EDU 407E	Ethics & Policy Issues	3
EDU 481	Content Area Literacy	3
Total Hours		15

Minimum Required Grade: C-

Education Field Experiences

Rule: Admission to the Teacher Education Program is required to enroll in the following courses.

Note: EDU 202 is a prerequisite to EDU 395. EDU 395 is taken concurrently with the content-specific methods course.

EDU 202	Early Field Experience	1
EDU 395	Clinical Experience	1
Total Hours		2

Minimum Required Grade: Pass

Student Teaching Field Experience

Rule: All content, methods, and education courses must be completed prior to enrolling in the student teaching semester.

Note: An application is required to determine student teaching eligibility. See Teacher Education Services or the Office of Field Experiences for deadlines. The EDU 494 course is completed for 1 credit and the EDU 495 course is completed for 14 credits.

EDU 494	Seminar:Refl Pract & App Rsrch	1
EDU 495	Student Teaching	14
Total Hours		15

Minimum Required Grade: C-

Teaching ESL Licensure

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Teaching Licensure - Education; Track: Teaching ESL

College of ED & Human Sciences

Degree Specific Credits: 24

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Note: Individuals completing a teaching minor must also complete a teaching major in another content area. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information. A minor GPA of 2.75 is required to be eligible for student teaching.

Summary

Core Courses	16
Required Courses	
Core Options	
Elective Courses	6
Total Hours	22

Core Courses

Rule: Must complete the following subcategories

16 Total Credits Required

Required Courses

Rule: All courses are required

Note: Those completing the teaching minor in ESL must take LING 495 for 3 credits.

LING 470	Linguistic Analysis	3
LING 471	Phonetics and Phonology	3
LING 472	Generative Syntax	3
LING 480	Tchg Engl as For Lang	3
LING 495	ESL Practicum	1-3
Total Hours		13-15

Minimum Required Grade: C-

Core Options

Rule: Complete 1 of the following courses

LING 477	Bilingualism	3
or LING 478	Learner Language	
Total Hours		3

Minimum Required Grade: C-

Elective Courses

Note: LING 477 or LING 478 may be taken as an Elective if not taken as a Required Course.

Must take all courses:		6
LING 473	Language and Culture	
LING 489	Morphology	
Total Hours		6

Minimum Required Grade: C-

Teaching Library Media Licensure

Teaching Licensure - Education; Track: Teacher Librarian Endorsement

College of ED & Human Sciences

Degree Specific Credits: 27

Required Cumulative GPA: 2.75

Catalog Year: 2017-2018

Note: This program of study can only be completed as a teaching minor for those pursuing a teaching major in another content area or by currently licensed teachers. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Teaching and Learning in the College of Education and Human Sciences for more information. This program is offered jointly online with UM-Missoula and UM-Western. Some courses will be taken through UM-Western.

Summary

Library Media Minor Courses	12
Library Media Practicum	2
Total Hours	14

Library Media Minor Courses

Rule: Complete all of the following courses.

Note: Students will also complete LIBM 461 through UM-Western. Students may choose to substitute EDU 391 online through UM-Western in place of EDU 331 and EDU 432.

EDU 331	Lit & Literacy for Children	3
EDU 432	Lit & Literacy for Yng Adlts	3

LIBM 464	Reference Resources	3
LIBM 468	Admin & Assess of Library Programs	3
Total Hours		12

Minimum Required Grade: C-

Library Media Practicum

Rule: Complete the following course.

Note: All library media coursework must be completed prior to enrolling in the library media practicum.

LIBM 495	Practicum	2
Total Hours		2

Minimum Required Grade: C-

To sign up for this option, you need to contact the Curriculum and Instruction Department. Do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this option must come from the Curriculum and Instruction Department.

Teaching Reading Licensure

Teaching Licensure - Education; Track: Teaching Reading

College of ED & Human Sciences

Degree Specific Credits: 25

Required Cumulative GPA: 2.75

Catalog Year: 2017-2018

Note: This program of study can only be completed as a teaching minor for those pursuing a teaching major in another content area or by currently licensed teachers. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information.

Summary

Reading Teaching Minor Courses	19
Reading Teaching Minor Practicum	6
Total Hours	25

Reading Teaching Minor Courses

Rule: Complete all of the following courses.

Note: The EDU 397 course number is used for multiple courses. Students should register for EDU 397 Teaching and Assessing PK-8 Language Arts. The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Teaching and Assessing K-8 Reading.

EDU 331	Lit & Literacy for Children	3
EDU 397	Methods: Teaching & Assessing	3
EDU 432	Lit & Literacy for Yng Adlts	3
EDU 438	Ltrcy Asmnt, Diagnosis & Instr	3
EDU 481	Content Area Literacy	3
EDU 497	Teaching and Assessing	4
Total Hours		19

Minimum Required Grade: C-

Reading Teaching Minor Practicum

Rule: Complete the following course.

Note: All reading coursework must be complete prior to enrolling in the reading practicum.

EDU 456	Applictn of Literacy Modls K12	6
Total Hours		6

Minimum Required Grade: C-

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Teaching Special Education Licensure

Teaching Licensure - Education; Track: Teaching Special Education

College of ED & Human Sciences

Degree Specific Credits: 34

Required Cumulative GPA: 3.0

Catalog Year: 2017-2018

Note: This program of study can only be completed as a teaching minor for those pursuing a teaching major in another content area or by currently licensed teachers. Students must be formally admitted to the Teacher Education Program and complete all of the professional education licensure requirements. See the Department of Curriculum & Instruction in the College of Education and Human Sciences for more information.

Summary

Early Childhood Special Education	3
Special Education Requirements	21
Special Education Student Teaching	10
Total Hours	34

Early Childhood Special Education

Rule: Select one of the following courses.

EDSP 401	Intro Early Intervention	3
or EDSP 403	Curric/Mthds Early Spec Educ	
Total Hours		3

Minimum Required Grade: B

Special Education Requirements

Rule: Complete all of the following courses.

EDSP 405	Assess of Students with Excep	3
EDSP 426	Intro Transition & Community	3
EDSP 454	Adv Academic Interventions	3
EDSP 456	Intro Mthds Low Incidence Dis	3
EDSP 461	Positive Behavior Supports	3
EDSP 462	Spec Ed Law, Policy, Practice	3
EDU 438	Ltrcy Asmnt, Diagnosis & Instr	3
Total Hours		21

Minimum Required Grade: B

Special Education Student Teaching

Rule: Complete the following course.

Note: All special education coursework must be completed prior to the special education student teaching experience. An application is required to determine special education student teaching eligibility. See Teacher Education Services or the Office of Field Experiences for deadlines.

EDSP 495	Student Teaching: Special Educ	10
Total Hours		10

Minimum Required Grade: B

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

Technology in Education Licensure

Teaching Licensure - Education; Track: Technology in Education

College of ED & Human Sciences

Degree Specific Credits: 21

Required Cumulative GPA: 2.75

Catalog Year: 2017-2018

Note: Technology in Education is an Area of Permissive Special Competency. This minor leads to an area of permissive special competency in technology in education for those holding or attaining a Montana teaching license. It does not qualify as a teaching endorsement in Montana. See the Department of Curriculum and Instruction in the College of Education and Human Sciences for additional information.

Summary

Technology in Education Requirements	21
Total Hours	21

Technology in Education Requirements

Rule: Complete all of the following courses.

Note: Equivalent courses from MSU-Bozeman, MSU-Billings and MSU-Northern may substitute. Please consult a C&I advisor for approved courses.

C&I 515	Computer/Tchnlgcl Appl in Educ	3
C&I 570	Instructional Technology Found	3
C&I 571	Educ Tech Media	3
C&I 580	Dist Lrng Theory & Implem	3
C&I 581	Plng & Mgt for Tech in Edu	3
C&I 582	Ed Tech Trends & Issues	3
C&I 584	Authentic App Inst Design	3
Total Hours		21

Minimum Required Grade: C-

This is an advising track only and not an official program as recognized by the University of Montana (UM) or the Montana University System. This information will not appear on your UM transcript, diploma, university lists, student data system, or university publication. You do not fill out a major change for a track.

W.A Franke College of Forestry and Conservation

Tom DeLuca, Dean

Mike Patterson, Associate Dean

The undergraduate curricular programs at the W.A Franke College of Forestry and Conservation (FCFC) provide the knowledge and skills for students to become effective natural resource professionals. They offer a sequence of learning experiences that build the necessary confidence and critical thinking capabilities to help solve some of humanity's most pressing problems in the stewardship of our shared natural heritage.

Undergraduate programs at the W.A Franke College of Forestry and Conservation have evolved into a unique action-oriented, interdisciplinary experience where students integrate real-world issues into their coursework. Students will utilize the latest technologies in the assessment and analysis of natural resource challenges, and they will simultaneously apply this learning in multiple field settings across the unparalleled natural settings of Montana.

The five undergraduate majors in the College are science degrees, leading to a Baccalaureate of Science (B.S.) degree. These majors are:

- Forestry (p. 116);
- Parks, Tourism, and Recreation Management (p. 120);
- Wildlife Biology (p. 130);
- Resource Conservation (p. 123); and
- Ecosystem Science and Restoration (p. 108).

These majors provide a strong foundation in knowledge about natural systems, science, analytical skills, and policy, but each is tailored to the specialized needs of a particular career track or research discipline in the natural resources management professions. Students have an opportunity to emphasize the disciplinary concentration of their choosing, but all students will receive a balance of ecological, physical, and social sciences.

Students uncertain about which specific major best meets their interests and needs will find that the ability to move between majors early in their student career is facilitated by a common foundational core of coursework. Each major's curricular program is designed to fulfill the broad educational goals for all graduates of the University of Montana, as well as the specific disciplinary requirements of civil service and professional accrediting organizations.

Preparation to Enter the W.A Franke College of Forestry and Conservation

Students planning to enter the W.A Franke College of Forestry and Conservation should attain a sound background in English, social studies, mathematics, biology, and other sciences. Entering freshmen and non-resident transfer students will be admitted in accordance with general university admission requirements (p. 22) listed previously in this catalog. Resident transfer students or current UM students wanting to change their major to the W.A Franke College of Forestry and Conservation must have a grade point average of 2.0 or higher to be admitted.

Educational Framework at the W.A Franke College of Forestry and Conservation

Students at the W.A Franke College of Forestry and Conservation are expected to demonstrate a range of capabilities before graduation so they can better address the multiple demands facing modern natural resource managers. The College fosters learning through a combination of innovative teaching and scholarship with a focus on state of the art knowledge in the major fields and emerging natural resource challenges. Each major's curriculum follows a similar seven part structure that encourages the sequenced development of foundational knowledge, applied skills, and creative problem-solving. The following description illustrates how the curricula are organized to present the most efficient and engaging pathway to the full development of student capabilities.

Foundations of Science

Students will be required to have a solid understanding of the primary physical, chemical, and biological drivers of natural systems. Required for all students are an introductory course in inorganic chemistry and a basic biological science course (there are several introductory biology classes that will apply, depending on a student's major). Students in the Ecosystem Science and Restoration major and the Forest Operations option within the Forest Management major will also take an introductory course in physics. Parks, Tourism, and Recreation Management majors will take introductory coursework in psychology or sociology to understand social drivers in relation to natural systems. Additionally, all students are encouraged to take one of the four introductory courses offered by the College that draw together multiple disciplines to demonstrate the historical and cultural dimensions of conservation: The Nature of Montana (NRSM 121S); Careers in Natural Resources (WILD 180); Wildlife and People (WILD 105N); or International Forestry (NRSM 170). In the sophomore year most students will take an introductory course in soils to become familiar with the cycling of energy and nutrients in terrestrial ecosystems while students in the Wildlife Biology major will take coursework in molecular biology and genetics. In their junior year all students take an upper division ecology class. The University's general education requirements and specific College majors ensure all students take additional natural and social science classes to provide the foundations necessary to understand and manage the natural and social systems underlying human uses of natural resources.

Quantitative and Analytical Skills

All students at the College will attain the quantitative analytical and measurement foundations needed for their professional or research career path. The freshmen level quantitative requirement rests on a proficiency in mathematics that is obtained through one of two routes depending on major: a college algebra/linear math/probability track or an introductory calculus track. All sophomore students take a statistics class which many fulfill through a special course in the analysis of multiple forms of measurement of natural resource characteristics, called Biometrics. Although not required for all majors, most students decide to take a special course in mapping that combines the common applications of geographic information systems (GIS) and the basic attributes of spatial analysis.

Applied Field Skills

A tremendous advantage of an education at the W.A Franke College of Forestry and Conservation is the proximity of an unlimited field laboratory in both the managed and untrammeled landscapes of Montana. All undergraduates will have multiple opportunities to learn in field settings as a part of lab sections associated with many of FCFC's courses. Some specific academic opportunities, such as the College's Wilderness and Civilization Program, will take students on extended backcountry trips to gain first-hand knowledge of wild settings. Exceptional hands-on learning experiences are provided at the College's Lubrecht Experimental Forest located less than 30 miles from campus on the Blackfoot River. Since students must demonstrate competency and confidence in outdoor field work to be a successful natural resource professional, students are required to select a sophomore-level field measurements course within their major. Although advanced transfer students (>59 transfer credits) to the College; Parks, Tourism, and Recreation Students; and Wildlife Biology students may apply other relevant experiences to their field training requirement, completion of a field measurements course is expected before students may enroll in upper division courses, as the needed skills to succeed in subsequent, more advanced field labs depend on a solid core of field capabilities.

Communication

Effectiveness in addressing our shared problems in natural resource management depends on a person's ability to communicate. W.A Franke College of Forestry and Conservation students will graduate with considerable training in written communication with both lower-division requirements at the 200-level and a series of upper division courses where writing constitutes the major part of course expectations. Each major in the College provides a "distributed writing" menu for students entering into upper-division courses, such that each student will take at least three classes where writing skills are evaluated. All students take a public speaking class. Students wishing to gain more experience in public speaking and communication can also take a special class Natural Resources Interpretation (PTRM 310).

Professional Specialization

Each academic major in the College contains a sequence of courses and learning experiences tailored to the student's specific professional aspirations. Clusters of courses within a major prepare students to obtain the necessary knowledge and professional competencies to perform the tasks of a modern resource manager or research scientist. Course work combines biophysical and social science training to allow students to recognize and navigate the complexities and context of conservation sciences and natural resources management. Thus, each major has courses representing both ecological and policy development processes, as well as a progression of classes covering the knowledge areas and topics of major natural resources disciplines. Students will take a core of required courses (described in the sections below) as well as a balanced selection of "professional electives" to acquire sufficient balance and depth in their chosen field to emerge with an identified professional specialty.

Work Experience and Service Learning

Students at the W.A Franke College of Forestry and Conservation will apply what they have learned in real-world settings prior to graduation. This work experience can be obtained in many ways, via internships, summer employment, study abroad opportunities, or specially designed "service learning" courses. Service experiences will allow students to obtain credit, learn new material, and offer critical work to established organizations to advance conservation goals. In general, requirements for work experience or internships will be counted based on the number of hours worked over the course of a student's entire undergraduate career, with 400 hours or more of work necessary for graduation.

Capstone Experience

Each academic major in the College offers an opportunity for students to synthesize previous learning in a real-world project via either an undergraduate research project or the completion of a special, integrative "capstone" course. Undergraduate research projects are designed through close supervision of a student's academic advisor, while the capstone courses bring together a team of faculty who facilitate student oriented problem solving through a focus on an applied management problem or real world case studies that offer vital experience in the preparation of students for their professional careers.

Other University-wide Requirements for Academic Achievement

The University of Montana has established standards for graduation of all students that include demonstrated proficiencies in oral and written communication and symbolic systems as well as a selection of diverse learning experiences identified as "general education courses." The College's expectations for writing and quantitative skills more than fulfill university-wide requirements for communication and symbolic systems, and many of the courses offered by FCFC also fulfill the categories within general education requirements. All FCFC majors also offer sufficient opportunity for students to choose among the full range of UM courses as "free electives," such that each person might be able to explore new areas of learning at their own discretion.

Student Advising

All W.A Franke College of Forestry and Conservation students will have a full-time faculty advisor as well as the extensive advising support provided by the College's Office of Student Services. Students are paired with a faculty advisor who matches their academic and professional interests and serves as a mentor and advocate for students as they progress through individual academic achievements. Students may change their advisor at any time as their specific interests develop or change. New students needing an advisor and current students who wish to change advisors should contact the College's Office of Student Services. Students are required to consult with their advisors before each registration period but remain responsible for ensuring they fulfill the published requirements for graduation.

Graduation Auditing

All students will complete a graduation audit in the semester prior to their graduation to make sure that they have a sure pathway for successful completion of their chosen major.

Climate Change Studies

Steven Running, Director

Climate Change Studies is an inter-disciplinary program open to all majors. The program educates students in three areas of the climate change issue: science, society, and solutions. Coursework in the minor provides a foundation that enables students to engage the scientific, societal, and political dimensions of global climate change. Further, the focus on solutions with its orientation toward applied learning will help students develop critical thinking and problem solving skills. Participating students will enhance their major field of study. They will be better prepared to enter a broad range of professions and graduate programs where they can meet the emerging challenges and opportunities arising from climate change. Climate Change Studies is a joint program between the W.A Franke College of Forestry and Conservation, College of Arts and Sciences, and Missoula College's Energy Technology program.

Undergraduate Minors

- Climate Change Studies (p. 107)

Climate Change Studies Minor

Nicky Phear, Director

Climate Change Studies is an interdisciplinary program open to all majors. The program educates students in three areas of the climate change issue: science, society, and solutions. Coursework in the minor provides a foundation that enables students to engage the scientific, societal, and political dimensions of global climate change. Further, the focus on solutions with its orientation toward applied learning will help students develop critical thinking and problem solving skills. Participating students will enhance their major field of study. They will be better prepared to enter a broad range of professions and graduate programs where they can meet the emerging challenges and opportunities arising from climate change. Climate Change Studies is a joint program between the Davidson Honors College, W.A Franke College of Forestry and Conservation, College of Humanities and Sciences, and Missoula College.

Minor - Climate Change Studies (Minor)

Davidson Honors College

Degree Specific Credits: 21

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Summary

Required Course	3
Climate Change Science	6
Climate Change and Society	6
Climate Change Solutions	6
Total Hours	21

Required Course

Rule: must take the following course

CCS 103X	Intro Climate Change:Sci & Soc	3
Total Hours		3

Minimum Required Grade: C-

Climate Change Science

Select at least 6 credits from the following:		6
NRSM 418	Ecosystem Climatology	
ERTH/CCS 303N	Weather and Climate	
NRSM 281	Science of Climate Change	
NRSM/CCS 408	Global Cycles and Climate	
Total Hours		6

Minimum Required Grade: C-

Climate Change and Society

Select at least 6 credits from the following:		6
COMX/CCS 349	Comm Consump & Climate	
ECNS/CCS 445	Int Env Econ & Clim Change	
ENST 367	Environmental Politics & Policies	
ENST 427	Social Issues:The Mekong Delta	
NRSM 426	Climate and Society	
NRSM 449E	Climate Change Ethics/Policy	
PHL 112E	Intro Ethics and Environment	
PSCI 468	Public Policy Cycle and the Climate	
Total Hours		6

Minimum Required Grade: C-

Climate Change Solutions

Rule: Must take at least 1 course but a total of 6 credits between both categories A and B

Category A: Practical Application

Select three credits from the following:		3
CCS 395	Special Topics	
CCS 398	Clmt Change Internship/SERV	
ENST 476	Environmental Citizenship	
Total Hours		3

Minimum Required Grade: C-

Category B

Select 3 credits from the following:		3
BGEN 160S	Issues in Sustainability	
BGEN 445	Sustainability Reporting	
BMGT 410	Sustainable Business Practices	
CCS 352	Climate Field Studies	
ENST 291	Special Topics/Experimental Courses (Energy and Climate)	
ENST 437	Climate Change: Mekong Delta	
GPHY/CCS 421	Sustainable Cities	
Total Hours		3

Minimum Required Grade: C-

Ecosystem Science and Restoration

Bachelor of Science in Ecosystem Science and Restoration

Ecological restoration # the process of assisting in the repair of damaged ecosystems# is one of the fastest growing areas of natural resource management. With increasing interest, there is a corresponding need for trained professionals who understand not only the science of restoration ecology but also the management practices and social factors that lead to successful project implementation. The W.A Franke College of Forestry and Conservation offers a Bachelor of Science and a minor in Ecosystem Science and Restoration. For more information see the Ecosystem Science and Restoration website (http://www.cfc.umt.edu/undergrad/restoration/default.php).

Degree Concentrations

Bachelor of Science in Ecosystem Science and Restoration (Aquatic and Terrestrial Concentrations)

The major in Ecosystem Science and Restoration prepares students to tackle the complex challenges associated with repairing degraded ecosystems. Students select one of two concentrations:

- the *Terrestrial Concentration*, which focuses on restoration of forests, grasslands, and other terrestrial ecosystems; or
- the *Aquatic Concentration* which focuses on stream, wetland, and groundwater restoration.

Both concentrations provide in-depth training in the science of restoration ecology and the management activities and human dimensions of restoration practice. Students engage in field-based learning, contribute to cutting-edge restoration projects, and are challenged to apply ecological theory to restoration practice. The major requires completion of a nine-credit restoration capstone, during which students gain hands-on real-world experience planning and implementing restoration projects in partnership with natural resource management agencies and organizations in western Montana.

A degree in Ecosystem Science and Restoration prepares students for careers as restoration practitioners with non-profit, private, or governmental agencies and for graduate school in ecology or natural resource management. Students who graduate with this major may qualify for the following federal civil service jobs:

- biological technician (Series 0404),
- ecologist (Series GS-408),
- forester (Series G-0460),
- hydrologist (Series GS-1315),
- range technician (Series GS-0455), and
- soil conservationist (Series GS-0457).

More information can be found on the federal civil service requirements website (http://www.opm.gov/qualifications/standards/indexes/alph-ndx.asp).

Minor in Ecological Restoration

In addition to the major, the Ecosystem Science and Restoration program also offers a minor for students who wish to gain basic competency in restoration while pursuing another UM major.

Undergraduate

- Ecological Sciences & Restoration B.S., Aquatic Ecosystem Sciences and Restoration Concentration (p. 109)
- Ecological Sciences & Restoration B.S., Terrestrial Ecosystem Sciences and Restoration Concentration (p. 112)

Undergraduate Minors

- Ecological Restoration (p. 111)

Aquatic Ecosystem Science and Restoration

The major in Ecosystem Science and Restoration prepares students to understand how ecosystems work to solve pressing environmental problems or help restore degraded ecosystems. Students can select one of two options:

- the terrestrial concentration, which focuses on the understanding and repair of terrestrial ecosystems; and
- the aquatic concentration, which focuses on aquatic ecosystem function and watershed restoration.

Students engage in field-based learning, contribute to cutting-edge restoration or ecosystem science projects, and are challenged to apply ecological theory to restoration practice. The major requires completion of a nine-credit restoration capstone, during which students gain hands-on real-world experience planning and implementing restoration projects in partnership with natural resource management agencies and organizations in western Montana.

A degree in Ecosystem Science and Restoration prepares students for careers as ecologists or restoration practitioners with non-profit, private, or governmental agencies and for graduate school in ecology or natural resource management. Students who graduate with this major may qualify for the following federal civil service jobs:

- biological technician (Series 0404),
- ecologist (Series GS-408),
- forester (Series G-460),
- hydrologist (Series GS-1315) and
- soil conservationist (Series GS-457).

More information on federal civil service requirements (http://www.opm.gov/qualifications/standards/indexes/alph-ndx.asp) can be found at: http://www.opm.gov/qualifications/standards/indexes/alph-ndx.asp.

Bachelor of Science - Ecosystem Science & Restoration; Aquatic Concentration

W.A Franke College of Forestry & Conservation

Degree Specific Credits: 89

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

Major Required Courses	9
Outside Major Required Courses	39-40
Major Required Courses	21
Outside Major Required Courses	8
Restoration Aquatic Electives	9
Social Science Elective Courses	3
Writing Requirements	15
Math Requirements for Major	8
Exception to the Modern/Classical Languages Requirement	3-4
Expressive Arts Requirement for Major	3
Social Science	3
Ethical & Human Values Elective within Major	3
Natural Sciences within Major	7
Total Hours	131-133

Major Required Courses

Rule: Must take all courses

NRSM 121S	Nature of Montana	3
or NRSM 170	International Envir. Change	
NRSM 200	Nat.Resource Professional Wrtg	3
NRSM 265	Elements of Ecological Restora	3
Total Hours		9

Minimum Required Grade: C-

Outside Major Required Courses

Rule: Must take all courses

BIOB 160N	Principles of Living Systems	3
BIOB 161N	Prncpls of Living Systems Lab	1
BIOB 260	Cellular and Molecular Biology	4
BIOB 272	Genetics and Evolution	4
CHMY 121N	Introduction to General Chemistry	3
CHMY 123	Introduction to Organic and Biochemistry	3
COMX 111A	Intro to Public Speaking	3
or THTR 120A	Introduction to Acting I	
GEO 101N	Introduction to Physical Geology	3
GEO 102N	Introduction to Physical Geology Lab	1
M 171	Calculus I	4
M 172	Calculus II	4
WRIT 101	College Writing I	3
Select one of the following:		3-4
STAT 216	Introduction to Statistics	
FORS 201	Forest Biometrics	
WILD 240	Intro to Biostatistics	
Total Hours		39-40

Minimum Required Grade: C-

Major Required Courses

Rule: Must take all courses

NRSM 344	Ecosystem Science and Restoration Capstone	5
NRSM 385	Watershed Hydrology	3
NRSM 422	Nat Res Policy/Administration	3
NRSM 465	Foundations of Restoration Ecology	3
or BIOE 447	Terrestrial Ecosystem Ecology	
NRSM 389E	Ethics Forestry & Conservation	3
NRSM 494	Ecosystem Science and Restoration Seminar	1
NRSM 495	Ecosystem Science and Restoration Practicum	3
Total Hours		21

Minimum Required Grade: C-

Outside Major Required Courses

Rule: Must take all courses

BIOE 370	General Ecology	3
BIOE 428	Freshwater Ecology	5
Total Hours		8

Minimum Required Grade: C-

Restoration Aquatic Electives

Select at least 9 credits from the following:		9
BIOE 342	Field Ecology	
BIOE 439	Stream Ecology	
BIOE 451	Landscape Ecology	
BIOE 447	Terrestrial Ecosystem Ecology	
BIOE 453	Ecology of Small & Large Lakes	
BIOO 340	Biology and Mgmnt of Fishes	
FORS 250	Intro to GIS for Forest Mgt	
GEO 318	Climate System Dynamics	
GEO 420	Hydrogeology	
GEO 421	Hydrology	
GEO 460	Process Geomorphology	
NRSM 210N	Soils, Water and Climate	
NRSM 408	Global Cycles and Climate	
NRSM 418	Ecosystem Climatology	
NRSM 455	Riparian Ecology & Management	
NRSM 465	Foundations of Restoration Ecology	
WILD 485	Aquatic Invertebrate Ecology	
Total Hours		9

Minimum Required Grade: C-

Social Science Elective Courses

Rule: must take at least 3 credits

Select at least one of the following:		3
ECNS 433	Economics of the Environment	
FORS 320	Forest Environmental Economics	
GPHY 335	Water Policy	
NRSM 379	Collab in Nat Res Decisions	
NRSM 426	Climate and Society	
NRSM 475	Environment & Development	
Total Hours		3

Minimum Required Grade: C-

Writing Requirements

Rule: Must complete the following subcategories

Lower Division Writing

Rule: Complete all courses

NRSM 200	Nat.Resource Professional Wrtg	3
Total Hours		3

Minimum Required Grade: C-

Upper Division Writing

Rule: Must take at least three courses

Select at least 9 credits from the following:		9
BIOE 428	Freshwater Ecology	
FORS 330	Forest Ecology	
NRSM 344	Ecosystem Science and Restoration Capstone	
NRSM 379	Collab in Nat Res Decisions	
NRSM 495	Ecosystem Science and Restoration Practicum	

NRSM 499	Senior Thesis	
Total Hours		9

Minimum Required Grade: C-

Math Requirements for Major

Rule: Must take all courses

M 171	Calculus I	4
M 172	Calculus II	4
Total Hours		8

Minimum Required Grade: C-

Exception to the Modern/Classical Languages Requirement

Rule: The Ecosystem Science and Restoration major has been granted an exception to the Modern/Classical Language Requirement. Must take one of the following courses to will satisfy this requirement.

Select one of the following:		3-4
FORS 201	Forest Biometrics	
STAT 216	Introduction to Statistics	
WILD 240	Intro to Biostatistics	
Total Hours		3-4

Minimum Required Grade: C-

Expressive Arts Requirement for Major

Rule: must take one of the following courses

COMX 111A	Intro to Public Speaking	3
or THTR 120A	Introduction to Acting I	
Total Hours		3

Minimum Required Grade: C-

Social Science

Rule: May take the following course

NRSM 121S	Nature of Montana	3
Total Hours		3

Minimum Required Grade: C-

Ethical & Human Values Elective within Major

Rule: must take one of the following courses

NRSM 449E	Climate Change Ethics/Policy	3
or NRSM 389E	Ethics Forestry & Conservation	
Total Hours		3

Minimum Required Grade: C-

Natural Sciences within Major

Rule: Must take all courses

BIOB 160N	Principles of Living Systems	3
BIOB 161N	Prncpls of Living Systems Lab	1
CHMY 121N	Introduction to General Chemistry	3
Total Hours		7

Minimum Required Grade: C-

Ecological Restoration Minor

Minor - Ecological Restoration (Minor)

W.A Franke College of Forestry & Conservation

Degree Specific Credits: 24

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Summary

Major Required Course	9-10
Required Courses	9-11
Natural Science Electives	3-5
Social Science Electives	3
Ethical & Human Values Elective Within Minor	6
Natural Sciences Within Minor	3
Total Hours	33-38

Major Required Course

Rule: must take the following course

Note: FORS 201 can be substituted for either STAT 216 OR WILD 240

Select one of the following:		3-4
FORS 201	Forest Biometrics	
STAT 216	Introduction to Statistics	
WILD 240	Intro to Biostatistics	
NRSM 210N	Soils, Water and Climate	3
NRSM 265	Elements of Ecological Restora	3
Total Hours		9-10

Minimum Required Grade: C-

Required Courses

Rule: Must complete all of the following courses

Note: FORS 330 can be substituted for either BIOE 370 OR BIOE 428 OR NRSM 462; NRSM 385 can be substituted for BIOO 335

Select one of the following:		3-5
FORS 330	Forest Ecology	
BIOE 370	General Ecology	
BIOE 428	Freshwater Ecology	
NRSM 462	Rangeland Ecology	

NRSM 385	Watershed Hydrology	3
or BIOO 335	Rocky Mountain Flora	
NRSM 465	Foundations of Restoration Ecology	3
Total Hours		9-11

Minimum Required Grade: C-

Natural Science Electives

Rule: Must take one of the following courses, but not a course already used for a core or above requirement

Select one of the following:		3-5
BIOE 342	Field Ecology	
BIOE 370	General Ecology	
BIOE 416	Alpine Ecology	
BIOE 428	Freshwater Ecology	
BIOE 439	Stream Ecology	
BIOE 448	Terrestrial Plant Ecology	
BIOE 451	Landscape Ecology	
BIOE 453	Ecology of Small & Large Lakes	
BIOE 458	Forest and Grassland Ecol	
BIOO 335	Rocky Mountain Flora	
BIOO 340	Biology and Mgmnt of Fishes	
BIOO 433	Plant Physiology	
FORS 202	Forest Mensuration	
FORS 330	Forest Ecology	
FORS 331	Wildland Fuel Management	
FORS 333	Fire Ecology	
FORS 347	Multiple Resource Silviculture	
GEO 420	Hydrogeology	
GEO 460	Process Geomorphology	
NRSM 385	Watershed Hydrology	
NRSM 408	Global Cycles and Climate	
NRSM 415	Environmental Soil Science	
NRSM 418	Ecosystem Climatology	
NRSM 455	Riparian Ecology & Management	
NRSM 462	Rangeland Ecology	
WILD 470	Conserv of Wildlife Populatns	
WILD 485	Aquatic Invertebrate Ecology	
Total Hours		3-5

Minimum Required Grade: C-

Social Science Electives

Rule: take at least one course from the following, but if one of these courses are required for the major a second elective must be taken

Select at least one of the following:		3
ECNS 433	Economics of the Environment	
FORS 320	Forest Environmental Economics	
GPHY 335	Water Policy	
NRSM 379	Collab in Nat Res Decisions	
NRSM 422	Nat Res Policy/Administration	
NRSM 426	Climate and Society	
NRSM 449E	Climate Change Ethics/Policy	
NRSM 475	Environment & Development	
NRSM 389E	Ethics Forestry & Conservation	
PTRM 482	Wilderness & Protctd Area Mgt	
Total Hours		3

Minimum Required Grade: C-

Ethical & Human Values Elective Within Minor

Rule: Can take the elective courses

Note: can take these courses for Social Science Electives in the minor and will work for this General Education Requirement

NRSM 449E	Climate Change Ethics/Policy	3
NRSM 389E	Ethics Forestry & Conservation	3.000
Total Hours		6

Minimum Required Grade: C-

Natural Sciences Within Minor

Rule: must take the following course

NRSM 210N	Soils, Water and Climate	3
Total Hours		3

Minimum Required Grade: C-

Terrestrial Ecosystem Science and Restoration

The major in Ecosystem Science and Restoration prepares students to understand how ecosystems work to solve pressing environmental problems or help restore degraded ecosystems. Students can select one of two options:

- the terrestrial concentration, which focuses on the understanding and repair of terrestrial ecosystems; and
- the aquatic concentration, which focuses on aquatic ecosystem function and watershed restoration.

Students engage in field-based learning, contribute to cutting-edge restoration or ecosystem science projects, and are challenged to apply ecological theory to restoration practice. The major requires completion of a nine-credit restoration capstone, during which students gain hands-on real-world experience planning and implementing restoration projects in partnership with natural resource management agencies and organizations in western Montana.

A degree in Ecosystem Science and Restoration prepares students for careers as ecologists or restoration practitioners with non-profit, private, or governmental agencies and for graduate school in ecology or natural resource management. Students who graduate with this major may qualify for the following federal civil service jobs:

- biological technician (Series 0404),
- ecologist (Series GS-408),

- forester (Series G-460),
- hydrologist (Series GS-1315) and
- soil conservationist (Series GS-457).

More information on federal civil service requirements can be found at (https://www.opm.gov/policy-data-oversight/classification-qualifications/general-schedule-qualification-standards/#url=List-by-Title): https://www.opm.gov/policy-data-oversight/classification-qualifications/general-schedule-qualification-standards/#url=List-by-Title.

Bachelor of Science - Ecosystem Science & Restoration; Terrestrial Concentration

W.A Franke College of Forestry & Conservation

Degree Specific Credits: 88

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

Major Required Courses	12
Outside Major Required Courses	34-35
Major Required Courses	19-24
Outside Major Required Courses	9
Restoration Terrestrial Electives	9
Restoration Social Science Elective Courses	3
Writing Required for the Major	15
Lower Division Writing	
Upper Division Writing	
Math Requirement for Major	4
Exception to the Modern/Classical Languages Requirement	3-4
Expressive Arts Requirement for Major	3
Social Sciences	3
Ethical & Human Values Elective within Major	3
Natural Sciences within Major	7
Total Hours	124-131

Major Required Courses

Must take all courses

NRSM 121S	Nature of Montana	3
or NRSM 170	International Envir. Change	
NRSM 200	Nat.Resource Professional Wrtg	3
NRSM 210N	Soils, Water and Climate	3
NRSM 265	Elements of Ecological Restora	3
Total Hours		12

Minimum Required Grade: C-

Outside Major Required Courses

Must take all courses

BIOB 160N	Principles of Living Systems	3
BIOB 161N	Prncpls of Living Systems Lab	1
BIOB 260	Cellular and Molecular Biology	4
BIOB 272	Genetics and Evolution	4
BIOO 105N	Introduction to Botany	3
CHMY 121N	Introduction to General Chemistry	3
CHMY 123	Introduction to Organic and Biochemistry	3
COMX 111A	Intro to Public Speaking	3
or THTR 120A	Introduction to Acting I	
M 162	Applied Calculus	4
WRIT 101	College Writing I	3
Select one of the following:		3-4
STAT 216	Introduction to Statistics	
FORS 201	Forest Biometrics	
WILD 240	Intro to Biostatistics	
Total Hours		34-35

Minimum Required Grade: C-

Major Required Courses

Must take all courses

NRSM 344	Ecosystem Science and Restoration Capstone	5
NRSM 385	Watershed Hydrology	3
NRSM 389E	Ethics Forestry & Conservation	3
or NRSM 449E	Climate Change Ethics/Policy	
NRSM 422	Nat Res Policy/Administration	3
NRSM 465	Foundations of Restoration Ecology	3
or BIOE 447	Terrestrial Ecosystem Ecology	
NRSM 494	Ecosystem Science and Restoration Seminar	1
NRSM 495	Ecosystem Science and Restoration Practicum	1-6
Total Hours		19-24

Minimum Required Grade: C-

Outside Major Required Courses

Note: Can take BIOE 448 OR FORS 330 OR NRSM 462

Must take all courses

BIOE 370	General Ecology	3
BIOO 335	Rocky Mountain Flora	3
Total Hours		6

Minimum Required Grade: C-

Restoration Terrestrial Electives

Note: No Double Dipping with CORE courses

Select at least 9 credits from the following:		9
BIOE 342	Field Ecology	
BIOE 416	Alpine Ecology	
BIOE 447	Terrestrial Ecosystem Ecology	
BIOE 448	Terrestrial Plant Ecology	
BIOE 451	Landscape Ecology	
BIOE 458	Forest and Grassland Ecol	
BIOO 320	General Botany	
BIOO 433	Plant Physiology	
FORS 202	Forest Mensuration	
FORS 250	Intro to GIS for Forest Mgt	
FORS 330	Forest Ecology	
FORS 331	Wildland Fuel Management	
FORS 333	Fire Ecology	
FORS 347	Multiple Resource Silviculture	
GEO 318	Climate System Dynamics	
NRSM 360	Rangeland Mgt (equiv 260)	
NRSM 408	Global Cycles and Climate	
NRSM 415	Environmental Soil Science	
NRSM 418	Ecosystem Climatology	
NRSM 465	Foundations of Restoration Ecology	
NRSM 462	Rangeland Ecology	
WILD 470	Conserv of Wildlife Populatns	
Total Hours		9

Minimum Required Grade: C-

Restoration Social Science Elective Courses

Select at least one of the following:		3
ECNS 433	Economics of the Environment	
FORS 320	Forest Environmental Economics	
NRSM 379	Collab in Nat Res Decisions	
NRSM 426	Climate and Society	
NRSM 475	Environment & Development	
Total Hours		3

Minimum Required Grade: C-

Writing Required for the Major

Rule: Must complete the following subcategories

Lower Division Writing

NRSM 200	Nat.Resource Professional Wrtg	3
Total Hours		3

Minimum Required Grade: C-

Upper Division Writing

Select at least three of the following:		9
BIOE 428	Freshwater Ecology	
FORS 330	Forest Ecology	
NRSM 344	Ecosystem Science and Restoration Capstone	
NRSM 379	Collab in Nat Res Decisions	
NRSM 495	Ecosystem Science and Restoration Practicum	
NRSM 499	Senior Thesis	
Total Hours		9

Minimum Required Grade: C-

Math Requirement for Major

Rule: Must take all courses

M 162	Applied Calculus	4
Total Hours		4

Minimum Required Grade: C-

Exception to the Modern/Classical Languages Requirement

Rule: The Ecosystem Science and Restoration major has been granted an exception to the Modern/Classical Language Requirement. Must take one of the following courses to will satisfy this requirement.

Select one of the following:		3-4
FORS 201	Forest Biometrics	
STAT 216	Introduction to Statistics	
WILD 240	Intro to Biostatistics	
Total Hours		3-4

Minimum Required Grade: C-

Expressive Arts Requirement for Major

Rule: must take one of the following courses

COMX 111A	Intro to Public Speaking	3
or THTR 120A	Introduction to Acting I	
Total Hours		3

Minimum Required Grade: C-

Social Sciences

Rule: May take the below course

NRSM 121S	Nature of Montana	3
Total Hours		3

Minimum Required Grade: C-

Ethical & Human Values Elective within Major

Rule: must take one of the following courses

NRSM 449E	Climate Change Ethics/Policy	3
or NRSM 389E	Ethics Forestry & Conservation	
Total Hours		3

Minimum Required Grade: C-

Natural Sciences within Major

Rule: Must take all courses

BIOB 160N	Principles of Living Systems	3
BIOB 161N	Prncpls of Living Systems Lab	1
CHMY 121N	Introduction to General Chemistry	3
Total Hours		7

Minimum Required Grade: C-

Fire Sciences and Management

Undergraduate Minors

- Fire Sciences & Management (p. 115)

Fire Sciences and Management Minor

Minor - Fire Sciences & Management (Minor)

W.A Franke College of Forestry & Conservation

Degree Specific Credits: 24

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

Summary

Major Required Course	3
Required Course	3
Ecology Courses	3
Practicum or Planning Course	3
Meteorology or Climate Course	3
Measurements & Analysis Electives	3
Natural/Management Science Electives	3
Social Science Electives	3
Total Hours	24

Major Required Course

Rule: must take the following course

FORS 230	Fire Management & Environmental Change	3
Total Hours		3

Minimum Required Grade: C-

Required Course

Rule: must take the following course

FORS 333	Fire Ecology	3
Total Hours		3

Minimum Required Grade: C-

Ecology Courses

Select one of the following:		3
BIOE 370	General Ecology	
FORS 330	Forest Ecology	
NRSM 462	Rangeland Ecology	
Total Hours		3

Minimum Required Grade: C-

Practicum or Planning Course

Note: FORS 498 must be approved by fire minor advisor prior to registration and taken for 3 credits

Select one of the following:		3
FORS 440	Forest Stand Management	
FORS 495	Wildland RxFire Practicum	
FORS 498	Internship (must be approved by fire minor advisor)	
NRSM 495	Ecosystem Science and Restoration Practicum	
PTRM 485	Recreation Planning	
WILD 480	The Upshot--Appld Wildlife Mgt	
Total Hours		3

Minimum Required Grade: C-

Meteorology or Climate Course

Rule: Must take one of the following courses

ERTH 303N	Weather and Climate	3
or NRSM 418	Ecosystem Climatology	
Total Hours		3

Minimum Required Grade: C-

Measurements & Analysis Electives

Select one of the following:		3
FORS 202	Forest Mensuration	
FORS 350	Forestry Apps of GIS	
FORS 351	Env Remote Sensing	
Total Hours		3

Minimum Required Grade: C-

Natural/Management Science Electives

Rule: Take at least one course from the following, but if one of these courses is required for the major a second elective must be taken

Select at least one of the following:		3
BIOE 449	Plant Biogeography	
FORS 331	Wildland Fuel Management	
FORS 347	Multiple Resource Silviculture	
FORS 349	Practice of Silviculture	
GPHY 317	Geomorphology	
NRSM 385	Watershed Hydrology	
NRSM 465	Foundations of Restoration Ecology	
WILD 370	Wildlife Habitat Cons & Mgmt	
Total Hours		3

Minimum Required Grade: C-

Social Science Electives

Rule: Take at least one course from the following, but if one of these courses is required for the major a second elective must be taken

Select at least one of the following:		3
FORS 320	Forest Environmental Economics	
NASX 303E	Ecol Persp in Nat Amer Trad	
NRSM 379	Collab in Nat Res Decisions	
NRSM 389E	Ethics Forestry & Conservation	
NRSM 422	Nat Res Policy/Administration	
PTRM 482	Wilderness & Protctd Area Mgt	
Total Hours		3

Minimum Required Grade: C-

Forestry

In addition to special degree requirements listed previously, students selecting the BS Forestry degree must complete the following required courses or their equivalent, if transferred from another college or university. Transference and equivalency will be determined by the University, W.A Franke College of Forestry and Conservation, and Forestry program. Electives may be taken at any time, keeping in mind these requirements as well as the University's General Education requirements for graduation.

Undergraduate

- Forestry B.S., Forest Operations Concentration (p. 116)
- Forestry B.S., Forest Resources Management Concentration (p. 118)

Forest Operations

In addition to special degree requirements listed previously, students selecting the BS Forestry degree must complete the following required courses or their equivalent, if transferred from another college or university. Transference and equivalency will be determined by the University, W.A Franke College of Forestry and Conservation, and Forestry program. Electives may be taken at any time, keeping in mind these requirements as well as the University's General Education requirements for graduation.

Bachelor of Science - Forestry; Forest Operations Concentration

W.A Franke College of Forestry & Conservation

Degree Specific Credits: 82

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

Major Required Courses	22
Outside Major Courses Required	24-27
Major Required Courses	30
Forest Management Elective	2-3
Resource Protection Electives	3
Ethics and Social Science Elective	3
Writing within Major	15
Math within Major	4-6
Exception to the Modern/Classical Languages Requirement	3-4
Expressive Arts within Major	3
Social Science within Major	3
Ethical & Human Values Elective within Major	3
Natural Science within Major	6
Total Hours	121-128

Major Required Courses

Rule: Must take all courses

FORS 130	Intro Forestry Field Skills	2
FORS 201	Forest Biometrics	3
FORS 202	Forest Mensuration	3
FORS 240	Tree Biology	2
FORS 241N	Dendrology	3
FORS 250	Intro to GIS for Forest Mgt	3
NRSM 200	Nat.Resource Professional Wrtg	3
NRSM 210N	Soils, Water and Climate	3
Total Hours		22

Minimum Required Grade: C-

Outside Major Courses Required

Rule: Must take all courses

BIOB 160N	Principles of Living Systems	3
BIOB 161N	Prncpls of Living Systems Lab	1

CHMY 121N	Introduction to General Chemistry	3
COMX 111A	Intro to Public Speaking	3
or THTR 120A	Introduction to Acting I	
ECNS 201S	Principles of Microeconomics	3
Select one of the following:		4-6
M 151	Precalculus	
M 121 & M 122	College Algebra and College Trigonometry	
Select one of the following:		4-5
M 162	Applied Calculus	
PHSX 205N	College Physics I	4
WRIT 101	College Writing I	3
Total Hours		28-31

Minimum Required Grade: C-

Major Required Courses

Rule: Must take all courses

FORS 320	Forest Environmental Economics	3
FORS 330	Forest Ecology	3
FORS 340	Forest Product Manufacturing	2
FORS 341	Timber Harvesting & Roads	3
FORS 349	Practice of Silviculture	3
FORS 434	Advanced Forest Roads	3
FORS 435	Advaced Timber Harvesting	3
FORS 436	Project Appraisal	3
FORS 440	Forest Stand Management	3
NRSM 385	Watershed Hydrology	3
NRSM 422	Nat Res Policy/Administration	3
Total Hours		32

Minimum Required Grade: C-

Forest Management Elective

Select at least one of the following:		2-3
FORS 230	Fire Management & Environmental Change	
FORS 232	Forest Insects & Diseases	
NRSM 265	Elements of Ecological Restora	
PTRM 217S	Parks & Outdoor Rec. Mgmt.	
WILD 275	Wildlife Conservation	
Total Hours		2-3

Minimum Required Grade: C-

Resource Protection Electives

Select one of the following:		3
FORS 331	Wildland Fuel Management	
NRSM 360	Rangeland Mgt (equiv 260)	
NRSM 415	Environmental Soil Science	
NRSM 455	Riparian Ecology & Management	
Total Hours		3

Minimum Required Grade: C-

Ethics and Social Science Elective

Select one of the following:		3
NASX 303E	Ecol Persp in Nat Amer Trad	
NRSM 379	Collab in Nat Res Decisions	
NRSM 424	Community Forestry & Conservtn	
NRSM 425	Nat Res & Envir Economics	
NRSM 389E	Ethics Forestry & Conservation	
Total Hours		3

Minimum Required Grade: C-

Writing Within Major

Rule: Must complete the following subcategories

15 Total Credits Required

Lower Division Writing

Rule: Need to take all listed

NRSM 200	Nat.Resource Professional Wrtg	3
WRIT 101	College Writing I	3
Total Hours		6

Minimum Required Grade: C-

Upper Division Writing

Select at least three of the following:		9
FORS 330	Forest Ecology	
FORS 341	Timber Harvesting & Roads	
FORS 349	Practice of Silviculture	
FORS 440	Forest Stand Management	
Total Hours		9

Minimum Required Grade: C-

Math within Major

Rule: All are required

Select one of the following:		4-6
M 151	Precalculus	
M 121 & M 122	College Algebra and College Trigonometry	
Total Hours		4-6

Minimum Required Grade: C-

Exception to the Modern/Classical Languages Requirement

Rule: The Forestry major has been granted an exception to the Modern/Classical Language Requirement. Must take one of the following courses to will satisfy this requirement.

FORS 201	Forest Biometrics	3-4
or STAT 216	Introduction to Statistics	
Total Hours		3-4

Minimum Required Grade: C-

Expressive Arts within Major

Rule: Must take one of the following courses

COMX 111A	Intro to Public Speaking	3
or THTR 120A	Introduction to Acting I	
Total Hours		3

Minimum Required Grade: C-

Social Science within Major

Rule: Must take the following course

ECNS 201S	Principles of Microeconomics	3
Total Hours		3

Minimum Required Grade: C-

Ethical & Human Values Elective within Major

Rule: Can take the following elective course

NRSM 389E	Ethics Forestry & Conservation	3
Total Hours		3

Minimum Required Grade: C-

Natural Science within Major

Rule: Must take all courses

CHMY 121N	Introduction to General Chemistry	3
NRSM 210N	Soils, Water and Climate	3
Total Hours		6

Minimum Required Grade: C-

Forest Resources Management B.S.

Bachelor of Science - Forestry; Forest Resources Mgmt Concentration

W.A Franke College of Forestry & Conservation

Degree Specific Credits: 90

Required Cumulative GPA: 2.0

Catalog Year: 2017-2018

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

Major Required Courses	22
Outside Major Courses Required	24-27
Major Required Courses	26
Professional Electives	18
Biophysical Sciences	
Management Application	
Policy and Social Science	
Measurement and Analysis	
Writing within Major	14-15
Math within Major	4-6
Exception to the Modern/Classical Languages Requirement	3-4
Expressive Arts Requirement	3
Social Science within Major	3
Ethical & Human Values Elective within Major	3
Natural Sciences within Major	6
Total Hours	126-133

Major Required Courses

Rule: Must take all courses

FORS 130	Intro Forestry Field Skills	2
FORS 201	Forest Biometrics	3
FORS 202	Forest Mensuration	3
FORS 240	Tree Biology	2
FORS 241N	Dendrology	3
FORS 250	Intro to GIS for Forest Mgt	3
NRSM 200	Nat.Resource Professional Wrtg	3
NRSM 210N	Soils, Water and Climate	3
Total Hours		22

Minimum Required Grade: C-

Outside Major Courses Required

Rule: Must take all courses

BIOB 160N	Principles of Living Systems	3
BIOB 161N	Prncpls of Living Systems Lab	1
CHMY 121N	Introduction to General Chemistry	3
COMX 111A	Intro to Public Speaking	3
or THTR 120A	Introduction to Acting I	
ECNS 201S	Principles of Microeconomics	3
Select one of the following:		4-6
M 151	Precalculus	

M 121 & M 122	College Algebra and College Trigonometry	
Select one of the following:		4-5
M 162	Applied Calculus	
PHSX 205N & PHSX 206N	College Physics I and College Physics I Laboratory	
WRIT 101	College Writing I	3
Total Hours		24-27

Minimum Required Grade: C-

Major Required Courses

Rule: Must take all courses

FORS 320	Forest Environmental Economics	3
FORS 330	Forest Ecology	3
FORS 340	Forest Product Manufacturing	2
FORS 341	Timber Harvesting & Roads	3
FORS 349	Practice of Silviculture	3
FORS 440	Forest Stand Management	3
FORS 481	Forest Planning	3
NRSM 385	Watershed Hydrology	3
NRSM 422	Nat Res Policy/Administration	3
Total Hours		26

Minimum Required Grade: C-

Professional Electives

Rule: Must take at least 18 total credits from the combined subcategories

Note: Must take 6 credits beyond major requirements to earn a minor

Minimum Required Grade: C-

18 Total Credits Required

Biophysical Sciences

Select at least one of the following:		3
BIOE 370	General Ecology	
BIOO 335	Rocky Mountain Flora	
BIOO 433	Plant Physiology	
FORS 333	Fire Ecology	
FORS 342	Wood Anatomy, Properties, & ID	
NRSM 418	Ecosystem Climatology	
WILD 370	Wildlife Habitat Cons & Mgmt	
Total Hours		3

Minimum Required Grade: C-

Management Application

Select at least two of the following:		4-6
FORS 230	Fire Management & Environmental Change	
FORS 232	Forest Insects & Diseases	
FORS 331	Wildland Fuel Management	
FORS 434	Advanced Forest Roads	
FORS 435	Advaced Timber Harvesting	
NRSM 360	Rangeland Mgt (equiv 260)	
WILD 275	Wildlife Conservation	
Total Hours		4-6

Minimum Required Grade: C-

Policy and Social Science

Select at least one of the following:		3
ENST 230H	Nature and Society	
FORS 436	Project Appraisal	
NASX 303E	Ecol Persp in Nat Amer Trad	
NRSM 370S	Wildland Conserv Pol/Govrnance	
NRSM 379	Collab in Nat Res Decisions	
NRSM 389E	Ethics Forestry & Conservation	
NRSM 424	Community Forestry & Conservtn	
NRSM 425	Nat Res & Envir Economics	
NRSM 426	Climate and Society	
NRSM 475	Environment & Development	
PTRM 217S	Parks & Outdoor Rec. Mgmt.	
PTRM 300	Recreation Behavior	
PTRM 310	Nat Res Interp and Comm	
PTRM 380	Rec Admin & Leadership	
PTRM 451	Tourism & Sustainability	
PTRM 482	Wilderness & Protctd Area Mgt	
Total Hours		3

Minimum Required Grade: C-

Measurement and Analysis

Select at least one of the following:		2-3
FORS 350	Forestry Apps of GIS	
FORS 351	Env Remote Sensing	
GEO 421	Hydrology	
Total Hours		2-3

Minimum Required Grade: C-

Writing within Major

Rule: Must complete the following subcategories

15 Total Credits Required

Lower Division Writing

Rule: All are required

NRSM 200	Nat.Resource Professional Wrtg	3
WRIT 101	College Writing I	3
Total Hours		6

Minimum Required Grade: C-

Upper Division Writing

Select at least three of the following:		8-9
FORS 330	Forest Ecology	
FORS 340	Forest Product Manufacturing	

FORS 341	Timber Harvesting & Roads	
FORS 349	Practice of Silviculture	
Total Hours		8-9

Minimum Required Grade: C-

Math within Major

Select one of the following:		4-6
M 151	Precalculus	
M 121 & M 122	College Algebra and College Trigonometry	
Total Hours		4-6

Minimum Required Grade: C-

Exception to the Modern/Classical Languages Requirement

Rule: The Forestry major has been granted an exception to the Modern/Classical Language Requirement. Must take one of the following courses to will satisfy this requirement.

FORS 201	Forest Biometrics	3-4
or STAT 216	Introduction to Statistics	
Total Hours		3-4

Minimum Required Grade: C-

Expressive Arts Requirement

COMX 111A	Intro to Public Speaking	3
or THTR 120A	Introduction to Acting I	
Total Hours		3

Minimum Required Grade: C-

Social Science within Major

Rule: Must take the following course

ECNS 201S	Principles of Microeconomics	3
Total Hours		3

Minimum Required Grade: C-

Ethical & Human Values Elective within Major

Rule: Can take the elective course

NRSM 389E	Ethics Forestry & Conservation	3
Total Hours		3

Minimum Required Grade: C-

Natural Sciences within Major

Select at least two of the following including a lab course:		6
BIOB 160N	Principles of Living Systems	
BIOB 161N	Prncpls of Living Systems Lab	
CHMY 121N	Introduction to General Chemistry	
FORS 241N	Dendrology	
NRSM 210N	Soils, Water and Climate	
Total Hours		6

Minimum Required Grade: C-

Geographic Information Systems

Undergraduate Certificates

- Geographic Information Systems Certificate (p. 236)

Parks, Tourism, and Recreation Management

The B.S. in Parks, Tourism & Recreation Management degree is designed to prepare students for professional positions developing and managing nature-based recreation experiences and park resources for public land management agencies, nonprofit organizations, and the nature-based tourism industry. Students pursuing this degree must choose between an concentration in Recreation Resources Management or Nature-Based Tourism. The Recreation Resources Management concentration provides the educational background necessary for evaluating and managing wild lands to protect their recreational, heritage, and ecological values. The Nature-Based Tourism concentration is designed to combine an understanding of social, cultural, political, environmental, and economic contexts surrounding tourism in a natural resource setting. All students learn the processes and conceptual skills needed to determine alternative management strategies, make management decisions, and carry out management programs. Included are courses leading to an understanding of the basic ecological characteristics of recreational lands. Students also take courses dealing with human behavior and management. Emphasis is placed on presenting problems that would be encountered while managing national parks and forests, state and regional parks, wilderness areas, and other recreation resources of international and national significance.

Undergraduate Degrees

- Parks, Tourism & Recreation Management B.S. (p. 120)

Parks, Tourism, and Recreation Management B.S.

The B.S. in Parks, Tourism & Recreation Management degree is designed to prepare students for professional positions developing and managing nature-based recreation experiences and park resources for public land management agencies, nonprofit organizations, and the nature-based tourism industry. Students pursuing this degree must choose between a concentration in Recreation Resources Management or Nature-Based Tourism. The Recreation Resources Management concentration provides the educational background necessary for evaluating and managing wild lands to protect their recreational, heritage, and ecological values. The Nature-Based Tourism option is designed to combine an understanding of social, cultural, political, environmental, and