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| **Degree Requirements for a BS in Biological Sciences – Conservation Biology & Ecology Option** | | | | | | |
| **2018 - 2019 Catalog** | | **Name:** | | | **Date:** | |
| **Subject/#** | **Course Title** | | **Credits** | **Semester** | | **Year** |
| **Freshman Year** | | |  |  | |  |
| BIOE 103CS | Environmental Science and Society | | 3 | F S Su | |  |
| BIOB 170IN | Principles of Biological Diversity | | 4 | F S (F) | |  |
| CHMY 141 | College Chemistry I *(Level 4 math placement or M121Q prereq\*)* | | 4 | F S Su (F) | |  |
| BIOB 160 | Principles of Living Systems *(CHMY prereq\*)* | | 4 | F S (S) | |  |
| COMX 111US or | Public Speaking | | 3 | F S Su | |  |
| CLS 101US | Knowledge & Community | | 3 | F S | |  |
| WRIT 101W | College Writing I *(semester assigned by MSU)* | | 3 | F S Su | |  |
| M 161Q | Survey of Calculus | | 4 | F S Su | |  |
| PHSX 205 | College Physics I | | 4 | F S Su | |  |
| University Core/Math Prereqs | Check with advisor | | 3-6 | F S Su | |  |
| **\*\*Note:**  Students should maintain an average of 30 credits per academic year **TOTAL:** | | |  |  | |  |
| **Sophomore Year** | | | **Credits** | **Semester** | | **Year** |
| ENSC 110 | Land Resources & Environmental Science | | 3 | F | |  |
| BIOB 375 | General Genetics | | 3 | F S Su (S) | |  |
| CHMY 143 | College Chemistry II | | 4 | F S Su (F) | |  |
| CHMY 211 | Elements of Organic Chemistry | | 5 | F S (S) | |  |
| ECNS 101IS | Economic Way of Thinking | | 3 | F S | |  |
| ERTH 101IN or | Earth System Sciences | | 4 | F S Su | |  |
| ERTH 102CS | Topics in Earth Sciences (take 3 of 16 options) | | 3 | F S | |  |
| WRIT 201 | College Writing II | | 3 | F S Su | |  |
| STAT 216Q | Introduction to Statistics | | 3 | F S Su (F) | |  |
| STAT 217Q | Intermediate Statistical Concepts | | 3 | F S Su (S) | |  |
| **\*\*Note:**  Students should maintain an average of 30 credits per academic year **TOTAL:** | | |  |  | |  |
| **Junior Year** | | | **Credits** | **Semester** | | **Year** |
| BCH 380 or | Biochemistry | | 5 | F S | |  |
| ENSC 245IN | Soils | | 3 | F | |  |
| BIOE 370 | General Ecology | | 3 | F S | |  |
| BIOO 412 or | Animal Physiology | | 3 | F | |  |
| BIOO 433 | Plant Physiology | | 3 | S | |  |
| STAT 411 | Methods for Data Analysis I | | 3 | F S | |  |
| BIOE 375 | Ecological Responses to Climate Change | | 3 | S | |  |
| BIOB 420 | Evolution | | 3 | S | |  |
| Social Sciences Elective |  | | 3 | F S | |  |
| CORE\*\* & Additional Electives |  | | 3-6 | F S Su | |  |
| **\*\*Note:**  Students should maintain an average of 30 credits per academic year **TOTAL:** | | |  |  | |  |
| **Senior Year** | | | **Credits** | **Semester** | | **Year** |
| BIOE 440R | Conservation Biology | | 3 | F | |  |
| Take two of the following: |  | |  |  | |  |
| BIOE 428 | Freshwater Ecology | | 3 | F | |  |
| BIOO 475 | Mammalogy *(BIOO 310 prereq\*)* | | 3 | F | |  |
| BIOE 445 | Macrosystems Ecology | | 3 | S | |  |
| BIOE 455 | Plant Ecology | | 3 | S | |  |
| BIOO 415 | Icthyology *(BIOO 310 prereq\*)* | | 3 | S | |  |
| BIOO 470 | Ornithology *(BIOO 310 prereq\*)* | | 3 | S | |  |
| Social Sciences Elective |  | | 3 | F S | |  |
| CORE\*\* & Additional Electives |  | | 3-6 | F S Su | |  |
| **\*\*Note:**  Students should maintain an average of 30 credits per academic year **TOTAL:** | | |  |  | |  |

\* Most required courses have prerequisites; however, we have only listed those that are often overlooked. Please check the course catalog for current prerequisites or speak with your academic advisor. ( ) Indicates Semester Suggestion

\*\* SEE MORE INFORMATION ON DEGREE REQUIREMENTS ON BACK PAGE

\*\*\*For admission to upper division (numbered 300 or higher) Biology (BIOB, BIOE, BIOO) and Fish & Wildlife Management (WILD) courses, students must have completed at least 45 total university credits with a cumulative GPA of at least 2.5 for all courses and have also earned a "C-"or better for any prerequisite courses. Limited exceptions may be made by consent of instructor. Any student who obtains enrollment in an upper division biology course without satisfying these requirements will be required to withdraw from the course. Individual courses may have additional pre-requisites as listed in the catalog.

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| **Degree Requirements for a BS in Biological Sciences – Conservation Biology & Ecology Option** | | | | |
| **2018 - 2019 Catalog Suggested Additional Electives** | | | | |
| **Subject/#** | **Course Title** | **Credits** | **Semester** | **Year** |
| **Ecology & Evolution** | | | | |
| BIOB 480 | Conservation Genetics | 3 | F |  |
| BIOB 484 | Population Genetics (check availability) |  |  |  |
| BIOE 405 | Behavioral & Evolutionary Ecology | 3 | S |  |
| BIOE 408 | Rocky Mountain Vegetation *(senior standing in BIO major\*)* | 3 | F |  |
| BIOE 427RN | Research in Freshwater Ecology *(BIOE 428 prior or concurrent\*)* | 3 | F |  |
| BIOM 415 | Microbial Diversity, Ecology & Evolution *(BIOM 360, BCH 380, or consent of instructor\*)* | 3 | S (even yrs.) |  |
| BIOO 435 | BIOO 435 Plant Systematics *(BIOO 230 prereq\*)* | 3 | F (even yrs.) |  |
| **Environmental Science** | | **Credits** | **Semester** | **Year** |
| ENSC 245IN | Soils | 3 | F |  |
| ENSC 272CS | Water Resources | 3 | F S |  |
| ENSC 353 | Environmental Biogeochemistry *(ENSC 245IN prereq\*)* | 3 | F |  |
| ENSC 410R | Biodiversity Methods *(suggested GPHY 284 and BIOO 230)* | 3 | F |  |
| ENSC 448 | Stream Restoration Ecology | 3 | F |  |
| ENSC 468 | Ecosystem Biogeochem and Global Change *(ENSC 353 prereq\*)* | 3 | S |  |
| **Fish and Wildlife Management** | | **Credits** | **Semester** | **Year** |
| WILD 301 | Principles of Fish & Wildlife Management *(junior standing\*)* | 3 | S |  |
| **Geography and Earth Science** | | **Credits** | **Semester** | **Year** |
| ERTH 212RN | Yellowstone: Scientific Lab | 4 | F |  |
| ERTH 303 | Weather and Climate *(ERTH 101IN\*)* | 3 | F |  |
| GPHY 284 | Introduction to GIS Science & Cartography | 3 | F S |  |
| GPHY 411 | Biogeography | 3 | S (odd yrs.) |  |
| GPHY 426 | Remote Sensing *(junior standing or consent of instructor\*)* | 3 | S |  |
| **Logic and Statistics** | | **Credits** | **Semester** | **Year** |
| PHL 236Q | Logic | 3 | F S |  |
| STAT 412 | Methods for Data Analysis II | 3 | S |  |
| **Social Sciences** | | **Credits** | **Semester** | **Year** |
| A minimum of six (6) credits of electives must be taken in the social sciences, including subjects such as economics, sociology, political science, history, philosophy (or language). It is acceptable to select electives broadly, or to focus them in one area. The intention is to develop a better understanding of the ways that conservation biology and ecology are related to broader issues in society, and to develop additional areas of expertise that are useful in the formulation and implementation of conservation policy. If any of the courses selected have the IS suffix, they will simultaneously satisfy a requirement of the University CORE. Social Science elective courses may be lower or upper division. | | | | |
| \*additional prerequisites needed that are not required for degree | | | | |

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| **CORE 2.0 REQUIREMENTS - Must be a grade C- or better** | **Course** | **Semester** | **Year** |
| Seminar (US)\* | COMX 111US or CLS 101US or CLS 201US |  |  |
| College Writing (W)\* | WRIT 101W |  |  |
| Quantitative Reasoning (Q)\* | M 161Q or STAT 216Q/217Q |  |  |
| Diversity (D) |  |  |  |
| Contemporary Issues in Science (CS)\* | BIOE 103CS |  |  |
| Arts (IA or RA) |  |  |  |
| Humanities (IH or RH) |  |  |  |
| Social Sciences (IS or RS)\* | ECNS 101IS |  |  |
| Natural Science (IN or RN)\* | BIOB 170IN |  |  |
| Research & Creative Experience (R, RA, RH, RN or RS)\* | BIOE 440R | F |  |

\*Satisfied by departmental requirements

**Information on Core 2.0 can be found at** [**www.montana.edu/core2/students.html**](http://www.montana.edu/core2/students.html)

ELECTIVES & GRADUATION REQUIREMENTS

* A minimum of 120 credits is required for graduation; 42 of these credits must be in upper division courses (those numbered 300 and above). The curriculum, including 6 in the Social Sciences elective block, includes 37-41 upper division credits so additional courses must be selected.
* You have some flexibility in the classes that you select to fill your Junior and Senior years. It is intended that you use these credits to develop strength in an area of emphasis that matches your interests and goals. We recommend that you consult the list of suggested electives (above) and speak to your advisor.
* Any courses that you did not select from choice blocks in the primary curriculum may also be used as electives.
* Students are expected to be aware of all requirements for graduation, including **university CORE** requirements, and to ensure that they meet these requirements (**D, IA, and IH** are not included in the above program).
* MSU requires a cumulative GPA of at least 2.0 (C average) to graduate.