# MAJOR IN FISH, WILDLIFE, AND CONSERVATION BIOLOGY, WILDLIFE BIOLOGY CONCENTRATION

## Requirements
## Effective Fall 2024

**A minimum grade of C (2.000) is required in all biological, mathematical/statistical, physical science, fish, wildlife and conservation biology, and natural resource courses used to meet graduation requirements for the Fish, Wildlife, and Conservation Biology major. The minimum applies to courses taken as substitutions for meeting these requirements.**

**Freshman**

| | | AUCC | Credits |
|---|---|---|---|
| CO 150 | College Composition (GT-CO2) | 1A | 3 |
| FW 104 | Wildlife Ecology and Conservation (GT-SC2) | 3A | 3 |
| FW 179 | New-to-the-Major Seminar | | 1 |
| Select one group of courses from the following: | | | 8 |
| Group A: | | | |
| BZ 110 | Principles of Animal Biology (GT-SC2) | 3A | |
| BZ 111 | Animal Biology Laboratory (GT-SC1) | 3A | |
| BZ 120 | Principles of Plant Biology (GT-SC1) | 3A | |
| Group B: | | | |
| LIFE 102[1] | Attributes of Living Systems (GT-SC1) | 3A | |
| LIFE 103[1] | Biology of Organisms-Animals and Plants (GT-SC1) | 3A | |
| Select one set of chemistry and physics courses from the following: | | | 13-15 |
| Group A: | | | |
| CHEM 107 | Fundamentals of Chemistry (GT-SC2) | 3A | |
| CHEM 108 | Fundamentals of Chemistry Laboratory (GT-SC1) | 3A | |
| PH 121 | General Physics I (GT-SC1) | 3A | |
| PH 122 | General Physics II (GT-SC1) | 3A | |
| Group B: | | | |
| CHEM 111 | General Chemistry I (GT-SC2) | 3A | |
| CHEM 112 | General Chemistry Lab I (GT-SC1) | 3A | |
| CHEM 113 | General Chemistry II | | |
| CHEM 114 | General Chemistry Lab II | | |
| PH 110 | Physics of Everyday Phenomena (GT-SC2) | 3A | |
| PH 111 | Physics of Everyday Phenomena Laboratory (GT-SC1) | 3A | |
| Diversity, Equity, and Inclusion (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion) | | 1C | 3 |
| | **Total Credits** | | **31-33** |

**Sophomore**

| | | | |
|---|---|---|---|
| FW 260 | Principles of Wildlife Management | | 3 |
| LIFE 320 | Ecology | | 3 |
| MATH 155 or 160 | Calculus for Biological Scientists I (GT-MA1)<br>Calculus for Physical Scientists I (GT-MA1) | 1B | 4 |
| STAT 301 or 307 | Introduction to Applied Statistical Methods<br>Introduction to Biostatistics | | 3 |
| Select one Plant Biology course from the following: | | | 3-4 |
| BZ 223 | Plant Identification | | |

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|---|---|---|---|
| BZ 325 | Plant Systematics | | |
| BZ 331 | Developmental Plant Anatomy | | |
| BZ 333 | Introductory Mycology | | |
| BZ 440 | Plant Physiology | | |
| F 311 | Forest Ecology | | |
| RS 300 | Rangeland Conservation and Stewardship | | |
| RS 313/F 313 | Dendrology and Herbaceous Plant ID | | |
| Select one course from the following: | | | 3 |
| HONR 499[2] | Senior Honors Thesis | | |
| SPCM 200[2] | Public Speaking | | |
| Arts and Humanities (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities) | | 3B | 6 |
| Social and Behavioral Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences) | | 3C | 3 |
| | **Total Credits** | | **28-29** |
| **Summer** | | | |
| NR 220 | Natural Resource Ecology and Measurements | | 5 |
| | **Total Credits** | | **5** |
| **Junior** | | | |
| FW 370 | Design of Fish and Wildlife Projects | 4A,4B | 3 |
| Select one course from the following: | | | 3-4 |
| BZ 330 | Mammalogy | | |
| BZ 335 | Ornithology | | |
| Select one group from the following: | | | 4-7 |
| Group A: | | | |
| BSPM 302 | Applied and General Entomology | | |
| BSPM 303A | Entomology Laboratory: General | | |
| Group B: | | | |
| BZ 212 | Animal Biology-Invertebrates | | |
| NR 312 | Applied Insect Ecology | | |
| Select one course or course pair not taken elsewhere from the following:[3] | | | 3-4 |
| BZ 214 | Animal Biology-Vertebrates | | |
| BZ 329 | Herpetology | | |
| BZ 330 | Mammalogy | | |
| BZ 335 | Ornithology | | |
| FW 300 & FW 301[3] | Biology and Diversity of Fishes | | |
| Select one course from the following: | | | 3-4 |
| BZ 220 | Introduction to Evolution | | |
| BZ 350 | Molecular and General Genetics | | |
| SOCR 330 | Principles of Genetics | | |
| Select one course from the following: | | | 3 |
| CO 300 | Writing Arguments (GT-CO3) | 2 | |
| CO 301A | Writing in the Disciplines: Arts and Humanities (GT-CO3) | 2 | |
| CO 301B | Writing in the Disciplines: Sciences (GT-CO3) | 2 | |
| CO 301C | Writing in the Disciplines: Social Sciences (GT-CO3) | 2 | |
| CO 301D | Writing in the Disciplines: Education (GT-CO3) | 2 | |
| JTC 300 | Strategic Writing and Communication (GT-CO3) | 2 | |
| Select one course from the following: | | | 3-4 |
| FW 310 | Mapping Diverse Perspectives in Conservation | | |
| NR 319 | Introduction to Geospatial Science | | |
| FW 325 | Spatial Ecology--Applications with R | | |

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| Historical Perspectives (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives) | | 3D | 3 |
| | **Total Credits** | | **25-32** |

**Senior**

| | | | |
|---|---|---|---|
| FW 471 | Wildlife Data Collection and Analysis | 4C | 4 |
| Select one Biology/Botany course not taken elsewhere from the following: | | | 3-4 |
| Biology Options | | | |
| ANEQ 320[4] | Principles of Animal Nutrition | | |
| BZ 220 | Introduction to Evolution | | |
| BZ 300 | Animal Behavior | | |
| BZ 310 | Cell Biology | | |
| BZ 401 | Comparative Animal Physiology | | |
| BZ 415 | Marine Biology | | |
| BZ 471 | Stream Biology and Ecology | | |
| ESS 474 | Limnology | | |
| FW 400 | Conservation of Fish in Aquatic Ecosystems | | |
| FW 430 | Waterfowl Ecology and Management | | |
| FW 568/BZ 568 | Sustaining River Ecosystems in Changing World | | |
| MIP 300 | General Microbiology | | |
| MIP 315 | Pathology of Human and Animal Disease | | |
| NR 367 | Concepts in Vertebrate Nutrition | | |
| NR 370 | Coastal Environmental Ecology | | |
| Botany Options | | | |
| BZ 325 | Plant Systematics | | |
| BZ 331 | Developmental Plant Anatomy | | |
| BZ 333 | Introductory Mycology | | |
| BZ 440 | Plant Physiology | | |
| BZ 450 | Plant Ecology | | |
| F 311 | Forest Ecology | | |
| RS 300 | Rangeland Conservation and Stewardship | | |
| RS 313/F 313 | Dendrology and Herbaceous Plant ID | | |
| Select one Wildlife course not taken elsewhere from the following: | | | 3-4 |
| FW 310 | Mapping Diverse Perspectives in Conservation | | |
| FW 325 | Spatial Ecology--Applications with R | | |
| FW 375 | Field Wildlife Studies | | |
| FW 430 | Waterfowl Ecology and Management | | |
| FW 455 | Principles of Conservation Biology | | |
| FW 465 | Managing Human-Wildlife Conflicts | | |
| FW 467 | Wildlife Disease Ecology | | |
| FW 468 | Bird Ecology and Conservation | | |
| FW 469 | Conservation and Management of Large Mammals | | |
| FW 472 | Issues in Animal Conservation and Management | | |
| FW 475 | Conservation Decision Making | | |
| FW 477 | Wildlife Habitat Use and Management | | |
| FW 544 | Ecotoxicology | | |
| FW 573 | Travel Abroad-Wildlife Ecology/Conservation | | |
| FW *** Travel Abroad Upper-Division[5] | | | |
| Select one Human Dimensions course not taken elsewhere from the following: | | | 3 |
| FW 310 | Mapping Diverse Perspectives in Conservation | | |
| FW 472 | Issues in Animal Conservation and Management | | |
| HIST 355[4] | American Environmental History | | |

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| NR 320 | Natural Resources History and Policy | |
| NR 400 | Public Communication in Natural Resources | |
| NRRT 320 | International Issues-Recreation and Tourism | |
| NRRT 330 | Social Aspects of Natural Resource Management | |
| NRRT 400[4] | Environmental Governance | |
| NRRT 440[4] | Applications in Environmental Communication | |
| PHIL 320 | Ethics of Sustainability | |
| PHIL 345 | Environmental Ethics | |
| POLS 361 | U.S. Environmental Politics and Policy | |
| SOC 320 | Population-Natural Resources and Environment | |
| SOC 322 | Environmental Justice | |
| SOC 460 | Environmental and Natural Resource Sociology | |
| SOC 461 | Water and Social Justice | |
| Guided Electives[6] | | 9 |
| Elective | | 0-3 |
| | **Total Credits** | **25-27** |
| | **Program Total Credits:** | **120** |

1 Students taking this biology selection should choose a botany-related course in the department elective options to meet botany/plant course requirements for certain federal positions related to wildlife, fisheries, and/or conservation biology.

2 Students in the Honors Track 1 program must take HONR 499.

3 FW 300 and FW 301 count together as one selection in this choice.

4 Students will need to obtain a registration override from the appropriate department to take this course.

5 Restricted to FW subject code, department travel abroad courses, taught by FWCB faculty. No transfer or substitute courses will be accepted.

6 Guided Electives are courses intended to expand a student's depth and breadth in wildife biology and include any 300- or 400-level regular course with a BC, BMS, BSPM, BZ, CHEM, ESS, F, FW, GES, MATH, MIP, NR, NRRT, PH, RS, SOCR, STAT, or WR subject code (excluding courses ending in -80 to -99); CHEM 245 and CHEM 246; SOCR 240; other courses with prior approval by department and advisor. Courses may not double-count as Guided Electives and for other requirements in the major.

7 Select enough elective credits to bring program total to a minimum of 120 credits, of which at least 42 must be upper-division (300- to 400-level).