

MAJOR IN FISH, WILDLIFE, AND CONSERVATION BIOLOGY, FISHERIES AND AQUATIC SCIENCES CONCENTRATION

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. Students choosing the Fisheries and Aquatic Sciences concentration are also required to complete at least 80 clock hours in an internship experience related to fishery and aquatic biology.

Requirements Effective Spring 2023

A minimum grade of C (2.000) is required in all biological, mathematical/statistical, physical science, fish, wildlife, and conservation biology,

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 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 group 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 | |
| Arts and Humanities (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities) | | | 3 |

Total Credits

31-33

Sophomore

| | | | |
|-----------------|--|--|---|
| CHEM 245 | Fundamentals of Organic Chemistry | | 4 |
| CHEM 246 | Fundamentals of Organic Chemistry Laboratory | | 1 |
| FW 204 | Introduction to Fishery Biology | | 3 |
| FW 260 | Principles of Wildlife Management | | 3 |
| LIFE 320 | Ecology | | 3 |
| STAT 301 or 307 | Introduction to Applied Statistical Methods | | 3 |
| | Introduction to Biostatistics | | |

Select one course from the following:

3-4

2 Major in Fish, Wildlife, and Conservation Biology, Fisheries and Aquatic Sciences Concentration

| | | | |
|--|--|-------|--------------|
| BZ 220 | Introduction to Evolution | | |
| BZ 346 ² | Population and Evolutionary Genetics | | |
| BZ 350 | Molecular and General Genetics | | |
| SOCR 330 | Principles of Genetics | | |
| Select one course from the following: | | | 3 |
| HONR 499 ³ | Senior Honors Thesis | | |
| SPCM 200 ³ | Public Speaking | | |
| Select one course from the following: | | | 4 |
| MATH 155 | Calculus for Biological Scientists I (GT-MA1) | 1B | |
| MATH 160 | Calculus for Physical Scientists I (GT-MA1) | 1B | |
| Social and Behavioral Sciences (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences) | | | 3C 3 |
| Total Credits | | | 30-31 |
| Summer | | | |
| NR 220 | Natural Resource Ecology and Measurements | | 5 |
| Total Credits | | | 5 |
| Junior | | | |
| FW 300 | Biology and Diversity of Fishes | | 2 |
| FW 301 | Ichthyology Laboratory | | 1 |
| FW 370 | Design of Fish and Wildlife Projects | 4A,4B | 3 |
| FW 487 ⁴ | Internship | | 1 |
| Select one group from the following: | | | 4 |
| Group A: | | | |
| BSPM 302 | Applied and General Entomology | | |
| BSPM 303A | Entomology Laboratory: General | | |
| Group B: | | | |
| BSPM 445 | Aquatic Insects | | |
| Group C: | | | |
| BZ 212 | Animal Biology-Invertebrates | | |
| Select one course from the following: | | | 3-4 |
| BZ 214 | Animal Biology-Vertebrates | | |
| BZ 329 | Herpetology | | |
| BZ 330 | Mammalogy | | |
| BZ 335 | Ornithology | | |
| Select one Plant Biology course from the following: | | | 3-4 |
| BZ 223 | Plant Identification | | |
| BZ 325 | Plant Systematics | | |
| BZ 332 | Introductory Phycology | | |
| BZ 450 | Plant Ecology | | |
| F 310/RS 310 | Forest and Rangeland Ecogeography | | |
| F 311 | Forest Ecology | | |
| 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 four credits from the following: ⁵ | | | 4 |
| GEOL 120 | Exploring Earth - Physical Geology (GT-SC2) | 3A | |
| GEOL 121 | Introductory Geology Laboratory (GT-SC1) | 3A | |

| | | | |
|--|---|----|--------------|
| GEOL 122 | The Blue Planet - Geology of Our Environment (GT-SC2) | 3A | |
| GEOL 124 | Geology of Natural Resources (GT-SC2) | 3A | |
| GEOL 150 | Physical Geology for Scientists and Engineers | 3A | |
| GR 204/WR 204 | Sustainable Watersheds (GT-SC2) | 3A | |
| NR 319 | Geospatial Applications in Natural Resources | | |
| Historical Perspectives (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives) | | 3D | 3 |
| Total Credits | | | 27-29 |
| Senior | | | |
| FW 401 | Fishery Science | 4C | 3 |
| Select one group not taken elsewhere from the following: | | | 3-4 |
| Group A: | | | |
| BZ 471 | Stream Biology and Ecology | | |
| BZ 472 | Stream Biology and Ecology Laboratory | | |
| Group B: | | | |
| ESS 474 | Limnology | | |
| Group C: | | | |
| FW 304 | Conservation of Marine Megafauna | | |
| Group D: | | | |
| FW 430 | Waterfowl Ecology and Management | | |
| Group E: | | | |
| FW 568/BZ 568 | Sustaining River Ecosystems in Changing World | | |
| Group F: | | | |
| NR 370 | Coastal Environmental Ecology | | |
| Select two courses from the following: | | | 6-7 |
| FW 400 ¹ | Conservation of Fish in Aquatic Ecosystems | | |
| FW 402 | Fish Culture | | |
| FW 405 | Fish Physiology | | |
| 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 ² | American Environmental History | | |
| NR 320 | Natural Resources History and Policy | | |
| NR 400 | Public Communication in Natural Resources | | |
| NRRT 330 | Social Aspects of Natural Resource Management | | |
| NRRT 400 ² | Environmental Governance | | |
| NRRT 440 ² | 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 | | |
| Arts and Humanities (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities) | | 3B | 3 |
| Diversity, Equity, and Inclusion (http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion) | | 1C | 3 |
| Guided Electives ⁶ | | | 3 |

Electives⁷

0-3

Total Credits

26-27

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

³ Students in the Honors Track 1 program must take HONR 499.

⁴ Take 1 credit of FW 487 during the semester in which you are completing the 80 h work experience requirement.

⁵ Students selecting GR 204/WR 204 only need select three credits. Students selecting one of the geosciences lecture courses (GEOL 120, GEOL 122, GEOL 124) also need to take GEOL 121.

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); 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 the program total to 120, of which at least 42 must be upper-division (300- to 400-level).