

College of Natural Resources and Environment
Department of Fish and Wildlife Conservation
Bachelor of Science in Fish and Wildlife Conservation
Major in Fish Conservation
Freshwater Fisheries Conservation Option
For students graduating in calendar year 2021

APPROVED
University Registrar

Name _____ Student ID _____
Advisor _____ Expected graduation _____

Minimum hours for degree is 120. A minimum GPA of 2.0 is required for all work applied to the major.

Curriculum for Liberal Education Requirements – 36 credits

Area 1: Writing and Discourse (6 credits)

- ENGL 1105 First-Year Writing (3)
- ENGL 1106 First-Year Writing (3)

Area 2: Ideas, Cultural Traditions, and Values (6 credits)

- CLE Area 2 course: _____ (3)
- CLE Area 2 Ethics elective (3) (choose one):
 - FREC 2554 Leading Global Sustainability (3)
 - PHIL 1304 Morality and Justice (3)
 - PHIL 2304 Global Ethics (3)
 - UAP 4264 Environmental Ethics (3)

Area 3: Society and Human Behavior (6 credits)

- CLE Area 3 course: _____ (3)
- CLE Area 3 Economics elective (3) (choose one):
 - AAEC 1005 or 1006 Economics of Food and Fiber Systems (3)
 - ECON 2005 or 2006 Principles of Economics (3)

Area 4: Scientific Reasoning and Discovery (8 credits)

- BIOL 1105 Principles of Biology (3)
- BIOL 1106 Principles of Biology (3)
- BIOL 1115 Principles of Biology Laboratory (1)
- BIOL 1116 Principles of Biology Laboratory (1)

Area 5: Quantitative and Symbolic Reasoning (6 credits)

- MATH 1025 Elementary Calculus (3)
- MATH 1026 Elementary Calculus (Pre: 1025) (3)

Area 6: Creativity and Aesthetic Experience (1 credit)

- CLE Area 6 course: _____ (3)

Area 7: Critical Issues in a Global Context (3 credits)

- FIW 2114 Principles of Fish and Wildlife Conservation (3)

Degree Core Requirements

Fundamentals of Science – 11 credits

- ___ CHEM 1035 General Chemistry (3)
- ___ CHEM 1036 General Chemistry (Pre: 1035 or 1055 or 1055H) (3)
- ___ CHEM 1045 General Chemistry Laboratory (Co: 1035) (1)
- ___ CHEM 1046 General Chemistry Laboratory (Pre: 1045 or 1065; Co: 1036) (1)
- ___ STAT 3615 Biological Statistics (Pre: MATH 1205 or 1225 or 1025 or 1525 or ISC 1105) (3)

Degree Core requirements – 21-24 credits

- ___ BIOL 2704 Evolutionary Biology (Pre: 1005 or 1105 or 1205H, 1006 or 1106 or 1206H) (3)
- ___ FIW 4414 Population Dynamics and Estimation (Pre: 2324, waived for Fish Conservation and non-Wildlife Conservation students) (3)
- ___ FIW 4464 Human Dimensions of Fisheries and Wildlife (Pre: 2114) (3)
- ___ NR 1234 FYE Natural Resources and Environment (3) – or – NR 2234 FSE for Transfer
- ___ Experiential Learning Requirement (1-3) (choose one):
 - ___ FIW 2974 Independent Study (1-3)
 - ___ XXXX 3954 Study Abroad (1-3)
 - ___ FIW 3964 Internship through Directed Field Study (1-3)
 - ___ FIW 4974 Independent Study (1-3)
 - ___ FIW 4994 Undergraduate Research (1-3)
- ___ Legal Foundation Restricted Elective (3) (choose one):
 - ___ AAEC 3314 Environmental Law (3)
 - ___ FREC 4434 Natural Resource Policy (Pre: 4014 or 4424) (3)
 - ___ UAP 3354 Introduction to Environmental Policy and Planning (3)
 - ___ UAP 4344 Law of Critical Environmental Areas (3)
- ___ Speaking Restricted Elective (3) (choose one):
 - ___ ALCE 3634 Communicating Agriculture and Life Sciences in Speaking (3)
 - ___ COMM 2004 Public Speaking (3)
 - ___ FREC 3524 Environmental Interpretation (Pre: 2554) (3)
- ___ Writing Restricted Elective (3) (choose one):
 - ___ ALCE 3624 Communicating Agriculture and Life Sciences in Writing (3)
 - ___ ENGL 3764 Technical Writing (Junior standing required) (3)
 - ___ ENGL 3774 Business Writing (Junior standing required) (3)

Major Requirements – 29 credits

- ___ BIOL 2804 Ecology (Pre: 1005 or 1105, 1006 or 1106) (3)
- ___ CHEM 2514 Survey of Organic Chemistry (Pre: 1035 or 1055 or 1055H, 1036 or 1056 or 1056H, 1045 or 1065, 1046 or 1066) (3) or
- ___ CHEM 2535 Organic Chemistry (Pre: 1036 or 1036H or 1056 or 1056H) (3)
- ___ FIW 4324 Genetics of Natural and Managed Populations (Pre: BIOL 1105, 1106, STAT 3005 or 3615 or FREC 3214) (3)
- ___ FIW 4424 Ichthyology (4)
- ___ FIW 4614 Fish Ecology (Pre: BIOL 1006) (3)
- ___ FIW 4714 Fisheries Management (Pre: 3514) (4)

- ___ GEOS 3034 Oceanography (Pre: MATH 1026 or 1226 or 2015 or 1026) (3)
- ___ STAT 3616 Biological Statistics (Pre: 3615) (3)
- ___ Geographic Information Systems Restricted Elective (3) (choose one):
 - ___ FREC 4114 Information Technology for Natural Resources Management (Pre: 2214 or GEOG 2314) (3)
 - ___ FREC 4214 Forest Photogrammetry (3)
 - ___ GEOG 2084 Principles of Geographic Information Systems (3)
 - ___ GEOG 4354 Introduction to Remote Sensing (3)

Freshwater Fisheries Conservation Option Requirements – 16-17 credits

- ___ FIW 3514 Fisheries Techniques (Pre: 2114) (3)
- ___ Physical Science Restricted Elective (3) (choose one):
 - ___ CSES 3134 Soils in the Landscape (3)
 - ___ GEOS 1004 Introduction to Earth Science (3)
 - ___ GEOS 1024 Earth Resources, Society, & Environment (3)
 - ___ PHYS 2205 General Physics (Pre: MATH 1025 or 1026 or 1205 or 1205H or 1525 or 1535 or 1225) (3)
 - ___ PHYS 2206 General Physics (Pre: 2205) (3)
- ___ Biology Restricted Elective (3) (choose one):
 - ___ BIOL 2304 Plant Biology (Pre: 1005 or 1105, 1006 or 1106) (3)
 - ___ BIOL 2504 General Zoology (Pre: 1005 or 1105, 1006 or 1106) (3)
- ___ Aquatic Ecology Restricted Elective (choose two):
 - ___ BIOL 4004 Freshwater Ecology (Pre: 2804) (4)
 - ___ BIOL 4454 Invertebrate Zoology (Pre: 2504) (3)
 - ___ ENT 4354 Aquatic Entomology (Pre: BIOL 1005 or 1105, 1015 or 1115, 1006 or 1106, 1016 or 1116) (4)

Free electives – 3-7 credits

___ _____
___ _____

Foreign Language¹

- ___ 2 years of one language in high school – or – FL 1105 and 1106

Notes:

1. University Requirements—Foreign Language Policy

The university requires two units of a single foreign language (or American Sign Language) during high school. Students who do not satisfy the foreign language requirement in high school may do so by taking six credits of college-level foreign language (classical language or American Sign Language). These six credits do not count toward the total minimum hours required of the declared degree program.

2. Major Requirements:

To earn a B.S. degree in Fish Conservation, a student must pass the following courses, or their equivalents, with a **grade of C - or better**: BIOL 1105, BIOL 1106, BIOL 1115, BIOL 1116, CHEM 1035, CHEM 1036, CHEM 1045, CHEM 1046; MATH 1026, and FIW 2114.

There are no hidden prerequisites on this check sheet; however, course requirements may change over time, and students should always check for prerequisite for classes they select.

Students should consult www.fishwild.vt.edu/experiential_learning.html for more details on how to fulfill the experiential learning requirement.

To remain in good standing, a student must achieve and maintain an overall and in-major GPA of at least 2.0. Courses used for the in-major GPA computation include all those designated as FIW, FREC, GEOG, NR, and SBIO. To graduate, a student must achieve an overall and in-major GPA of at least 2.0.

STUDENTS NOT MEETING THESE CRITERIA WILL NOT BE ALLOWED TO ENROLL IN 3xxx and 4xxx LEVEL FIW CLASSES.

3. In accordance with university guidelines, courses satisfying degree core requirements may not be double counted to satisfy other areas of a degree (e.g., CLE).

4. **Satisfactory Progress**

By the end of the semester in which they have attempted 60 hours (including transfer, advanced placement, advanced standing, and credit by examination), students must pass the courses listed in item number 2 above (or their equivalents).