

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 2020

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 Nature and American Values (3)
 - PHIL 1304 Morality and Justice (3)
 - PHIL 2304 Global Ethics (3)
 - UAP 4264 Environmental Ethics (Pre: 3344 or 3354) (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 Management (Pre: BIOL 1006 or 1116) (3)

Degree Core Requirements

Fundamentals of Science – 11 credits

- ___ CHEM 1035 General Chemistry (3)
- ___ CHEM 1036 General Chemistry (3)
- ___ CHEM 1045 General Chemistry Laboratory (1)
- ___ CHEM 1046 General Chemistry Laboratory (1)
- ___ STAT 3615 Biological Statistics (3)

Degree Core requirements – 21-24 credits

- ___ NR 1234 FYE Natural Resources and Environment (3) – or – NR 2234 FSE for Transfer Students in CNRE (2)
- ___ 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)
- ___ BIOL 2704 Evolutionary Biology (Pre: 1005 or 1105 or 1205H, 1006 or 1106 or 1206H) (3)
- ___ 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

- ___ GEOS 3034 Oceanography (Pre: MATH 1026) (3)
- ___ FIW 4324 Genetics of Natural and Managed Populations (Pre: BIOL 1105, 1106, STAT 3005 or 3615 or FREC 3214) (3)
- ___ FIW 4424 Ichthyology (Pre: BIOL 2504 or 2704) (4)
- ___ FIW 4614 Fish Ecology (Pre: BIOL 1006) (3)
- ___ FIW 4714 Fisheries Management (Pre: 3514) (4)
- ___ 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)

- ___ 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 Physical Geology (3)
 - GEOS 1024 Resources Geology (3)
 - PHYS 2205 General Physics (Pre: MATH 1025, 1026) (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)
 - ENT 4354 Aquatic Entomology (Pre: BIOL 1005 or 1105, 1015 or 1115, 1006 or 1106, 1016 or 1116) (4)
 - BIOL 4454 Invertebrate Zoology (Pre: 2504) (3)

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 45 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).