

# FISH CONSERVATION MAJOR WITH MARINE FISHERIES CONSERVATION OPTION

## Program Curriculum

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

Code	Title	Credits
<b>Degree Core Requirements</b>		
BIOL 1115	Principles of Biology Laboratory	1
BIOL 1116	Principles of Biology Laboratory	1
BIOL 2704	Evolutionary Biology	3
FIW 2114	Principles of Fish and Wildlife Conservation	3
FIW 4414	Population Dynamics and Estimation	3
FIW 4464	Human Dimensions of Fisheries and Wildlife	3
Select one of the following:		4
FIW 4314	Conservation of Biological Diversity (Wildlife Majors)	
or FIW 4714	Fisheries Management	
Select one of the following:		
NR 1234	First Year Experience In Natural Resources and Environment	2-3
or NR 2234	1st Semester Experience-Transfer Students in Natural Resources and Environment	
Subtotal		20-21
<b>Major Requirements</b>		
BIOL 2804	Ecology	3
FIW 3514	Fisheries Techniques	3
FIW 4424	Ichthyology	4
FIW 4614	Fish Ecology	3
<i>Geographic Information Systems Restricted Elective</i>		
Select one of the following:		3
FREC 4114	Information Technologies for Natural Resource Management	
FREC 4214	Forest Photogrammetry and Spatial Data Processing	
GEOG 2084	Principles of Geographic Information Systems	
GEOG/GEOS 4354	Introduction to Remote Sensing	
GEOS 3034	Oceanography	3
Subtotal		19
<b>Additional Degree Requirements</b>		
CHEM 1035	General Chemistry	3
CHEM 1036	General Chemistry	3
CHEM 1045	General Chemistry Laboratory	1
CHEM 1046	General Chemistry Laboratory	1
<i>Experiential Learning Requirement</i>		
Select one of the following: (requires department approval)		1
FIW 2974	Independent Study	
FIW 2994	Undergraduate Research	

FIW 3964	Internship Through Directed Field Study	
FIW 4974	Independent Study	
FIW 4994	Undergraduate Research	
XXXX	3954 Study Abroad	
<i>Legal Foundation Restricted Elective</i>		
Select one of the following:		3
AAEC 3314	Environmental Law	
FIW 2514	Fish and Wildlife Conservation Policy	
FREC 4434	Natural Resource Policy	
UAP 3354	Introduction to Environmental Policy and Planning	
UAP 4344	Law of Critical Environmental Areas	
<i>Writing Restricted Elective</i>		
Select one of the following:		3
ALCE 3624	Communicating Ag and Life Sciences in Writing	
ENGL 3764	Technical Writing	
ENGL 3774	Business Writing	
Subtotal		15
<b>Option Required Courses</b>		
FIW/FREC 4324	Genetics of Natural and Mangaged Populations	3
FIW 4624	Marine Ecology	3
STAT 3616	Biological Statistics	3
Select approved marine science courses at a collaborating institution (minimum of 10 credits)		10
Subtotal		19
<b>Free Electives</b>		
Select free electives to total 120 credits		1-2
Subtotal		1-2
<b>Pathways to General Education</b>		
<i>Pathways Concept 1 - Discourse</i>		
ENGL 1105	First-Year Writing (1F)	3
ENGL 1106	First-Year Writing (1F)	3
ALCE 3634	Communicating Ag and Life Sciences in Speaking (1A)	3
or COMM 2004	Public Speaking	
<i>Pathways Concept 2 - Critical Thinking in the Humanities</i>		
Select three credits in Pathway 2 ( <a href="https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G02">https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G02</a> )		3
Select one of the following:		3
FREC/LAR/NR 2554	Leadership for Global Sustainability	
PHIL 1304	Morality and Justice	
PHIL 2304	Global Ethics	
<i>Pathways Concept 3 - Reasoning in the Social Sciences</i>		
Select three credits in Pathway 3 ( <a href="https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G03">https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G03</a> )		3
Select one of the following:		3
AAEC 1005	Economics of the Food and Fiber System	
or AAEC 1006	Economics of the Food and Fiber System	
ECON 2005	Principles of Economics	
or ECON 200	Principles of Economics	
<i>Pathways Concept 4 - Reasoning in the Natural Sciences</i>		
BIOL 1105	Principles of Biology	3
BIOL 1106	Principles of Biology	3

*Pathways Concept 5 - Quantitative and Computational Thinking*

Select one of the following: 6

MATH 1025 Elementary Calculus (5F)  
or MATH 1226 Calculus of a Single VariableMATH 1026 Elementary Calculus (5F)  
or MATH 1226 Calculus of a Single Variable

STAT 3615 Biological Statistics (5A) 3

*Pathways Concept 6 - Critique and Practice in Design and the Arts*Select three credits in Pathway 6a ([https://catalog.vt.edu/course-search/?attrs\\_pathways=attrs\\_pathways\\_G06A](https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G06A)) 3Select three credits in Pathway 6d ([https://catalog.vt.edu/course-search/?attrs\\_pathways=attrs\\_pathways\\_G06D](https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G06D)) 3*Pathways Concept 7 - Critical Analysis of Identity and Equity in the United States*Select three credits in Pathway 7 ([https://catalog.vt.edu/course-search/?attrs\\_pathways=attrs\\_pathways\\_G07](https://catalog.vt.edu/course-search/?attrs_pathways=attrs_pathways_G07)) 3

Subtotal 45

**Total Credits 119-121****Notes:****1. University Requirements—Foreign Language Policy**

A sequence of two (2) foreign language courses is required for graduation unless two (2) high school units of the same foreign language or six (6) transfer credit hours of foreign language have been earned. These credits do not count toward graduation. See catalog section on “Graduation Requirements”.

**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 Principles of Biology, BIOL 1106 Principles of Biology, BIOL 1115 Principles of Biology Laboratory, BIOL 1116 Principles of Biology Laboratory, CHEM 1035 General Chemistry, CHEM 1036 General Chemistry, CHEM 1045 General Chemistry Laboratory, CHEM 1046 General Chemistry Laboratory; MATH 1026 Elementary Calculus or MATH 1226 Calculus of a Single Variable, and FIW 2114 Principles of Fish and Wildlife Conservation.

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

Students should consult [www.fishwild.vt.edu/experiential\\_learning.html](http://www.fishwild.vt.edu/experiential_learning.html) ([http://www.fishwild.vt.edu/experiential\\_learning.html](http://www.fishwild.vt.edu/experiential_learning.html)) for more details on how to fulfill the experiential learning requirement. Note that you will not receive credit for your experiential learning until **all** the documents related to the experience are completed and submitted, in addition to being registered for the experience. Students enrolling in FIW 2974 Independent Study, FIW 3964 Internship Through Directed Field Study, or FIW 4974 Independent Study should use the P/F option; FIW 2994 Undergraduate Research, FIW 4994 Undergraduate Research and XXXX 3954 may be taken P/F or A/F.

To remain in good standing, a student must achieve and maintain an overall and in-major cumulative 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 cumulative GPA of at least 2.0.

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., Pathways).

**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).

## Foreign Language Requirements

No Credits Count Toward the Degree

Complete an 1105-1106 foreign language (e.g., FR, GR, SPAN) grouping or the equivalent.