

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

## Major Completion Map

**Distinctive Requirements for Degree Program:** The curriculum for the Fish, Wildlife and Conservation Biology major – Fisheries and Aquatic Sciences concentration assumes students enter college prepared to take calculus. Students who have not met the prerequisites for calculus, will be required to successfully complete the prerequisites in their first year. 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 degree requirements. NR 220 is a summer course in which students reside at CSU's Mountain Campus. Students must choose ONE of two CHEM + PH paths: (Path A) CHEM 107/CHEM 108 and PH 121/PH 122 OR (Path B) CHEM 111, CHEM 112, CHEM 113, CHEM 114 and PH 110/PH 111. Students must also choose ONE biology group A) BZ 110/BZ 111/BZ 120 or B) LIFE 102/LIFE 103. 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. Students must sign up for 1 credit of FW 487 during the semester in which they are completing their internship or work experience requirement.

### Freshman

Semester 1		Critical	Recommended	AUCC	Credits
CO 150	College Composition (GT-CO2)	X		1A	3
FW 104	Wildlife Ecology and Conservation (GT-SC2)	X		3A	3
FW 179	New-to-the-Major Seminar	X			1
Select one group from the following:		X			4
Group A:					
BZ 110	Principles of Animal Biology (GT-SC2)			3A	
BZ 111	Animal Biology Laboratory (GT-SC1)			3A	
Group B:					
LIFE 102	Attributes of Living Systems (GT-SC1)			3A	
Select one group from the following:		X			5
Group A:					
PH 121	General Physics I (GT-SC1)			3A	
Group B:					
CHEM 111	General Chemistry I (GT-SC2)			3A	
CHEM 112	General Chemistry Lab I (GT-SC1)			3A	
<b>Total Credits</b>					<b>16</b>
Semester 2		Critical	Recommended	AUCC	Credits
Select one course from the following:		X			4
BZ 120	Principles of Plant Biology (GT-SC1)			3A	
LIFE 103	Biology of Organisms-Animals and Plants (GT-SC1)			3A	
Select one group from the following:		X			8-10
Group A:					
CHEM 107	Fundamentals of Chemistry (GT-SC2)			3A	
CHEM 108	Fundamentals of Chemistry Laboratory (GT-SC1)			3A	
PH 122	General Physics II (GT-SC1)			3A	
Group B:					
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 ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#diversity-equity-inclusion</a> )			X	1C	3
<b>Total Credits</b>					<b>15-17</b>

**Sophomore**

<b>Semester 3</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
FW 204	Introduction to Fishery Biology	X			3
Select one course from the following:		X			3-4
BZ 220	Introduction to Evolution				
BZ 350	Molecular and General Genetics				
SOCR 330	Principles of Genetics				
Select one course from the following:		X			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 ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#social-behavioral-sciences</a> )			X	3C	3

**Total Credits****13-14**

<b>Semester 4</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
FW 260	Principles of Wildlife Management	X			3
LIFE 320	Ecology	X			3
Select one course from the following:		X			3
HONR 499	Senior Honors Thesis				
SPCM 200	Public Speaking				
Select one course from the following:		X			3
STAT 301	Introduction to Applied Statistical Methods				
STAT 307	Introduction to Biostatistics				

**Total Credits****12**

<b>Semester 5</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
NR 220	Natural Resource Ecology and Measurements	X			5

**Total Credits****5****Junior**

<b>Semester 6</b>		<b>Critical</b>	<b>Recommended</b>	<b>AUCC</b>	<b>Credits</b>
FW 487	Internship	X			1
Select four credits from the following:		X			4
FW 325	Spatial Ecology--Applications with R				
GEOL 120	Geology and Society (GT-SC2)			3A	
GEOL 121	Experiential Geoscience Laboratory (GT-SC1)			3A	
GEOL 122	Geoscience--Climate and Environmental Change (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	Introduction to Geospatial Science				
SOCR 240	Introductory Soil Science				
Select one course from the following:		X			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 group from the following:		X			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  
 STAT 301 or STAT 307, FW 260, and LIFE 320 must be completed by the end of Semester 6. X

Total Credits				12-15
Semester 7		Critical	Recommended AUCC	Credits
FW 300 (Spring only)	Biology and Diversity of Fishes	X		2
FW 301	Ichthyology Laboratory	X		1
FW 370	Design of Fish and Wildlife Projects	X	4A,4B	3
Select one course from the following:		X		3-4
BZ 214	Animal Biology-Vertebrates			
BZ 329	Herpetology			
BZ 330	Mammalogy			
BZ 335	Ornithology			
Select one Plant Biology course from the following:		X		3-4
BZ 223	Plant Identification			
BZ 325	Plant Systematics			
BZ 450	Plant Ecology			
F 311	Forest Ecology			
RS 300	Rangeland Conservation and Stewardship			
RS 313/F 313	Dendrology and Herbaceous Plant ID			
Historical Perspectives ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#historical-perspectives</a> )			X 3D	3

Total Credits				15-17
Senior Semester 8		Critical	Recommended AUCC	Credits
FW 401 (Fall only)	Fishery Science	X	4C	3
Select one group from the following:		X		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 430	Waterfowl Ecology and Management			
Group D:				
FW 568/ BZ 568	Sustaining River Ecosystems in Changing World			
Group E:				
NR 370	Coastal Environmental Ecology			
Select one course from the following:		X		3-4
FW 400	Conservation of Fish in Aquatic Ecosystems			
FW 402 (Spring only)	Fish Culture			
FW 405 (Spring of odd years only)	Fish Physiology			
Human Dimensions Elective (See Department List on Concentration Requirements tab)		X		3
BSPM 302 /BSPM 303A, or BZ 212 / NR 312 must be completed by the end of Semester 8.		X		

Total Credits

12-14

Semester 9	Critical	Recommended	AUCC	Credits
Select one course from the following:	X			3-4
FW 400 (Fall only) Conservation of Fish in Aquatic Ecosystems				
FW 402 Fish Culture				
FW 405 (Odd years only) Fish Physiology				
Arts and Humanities ( <a href="http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities">http://catalog.colostate.edu/general-catalog/all-university-core-curriculum/aucc/#arts-humanities</a> )		X	3B	6
Guided Elective (See Department List on Concentration Requirements tab.)	X			3
Electives		X		0-3
The benchmark courses for the 9th semester are the remaining courses in the entire program of study.	X			
<b>Total Credits</b>				<b>12-16</b>
<b>Program Total Credits:</b>				<b>120</b>